



**THE EFFECT OF STUDENTS' TEAMS ACHIEVEMENT DIVISION (STAD) ON
STUDENTS' READING COMPREHENSION AT GRADE X SMA N 7
PADANGSIDIMPUAN**

A THESIS

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

By:

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THE STATE INSTITUTE FOR ISLAMIC STUDIES
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2018**

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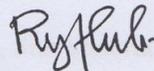
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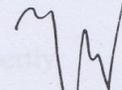
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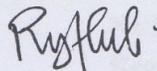
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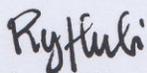
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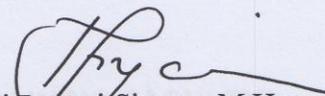
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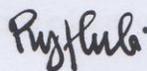


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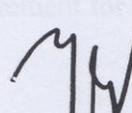


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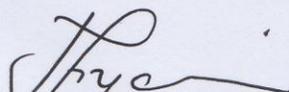
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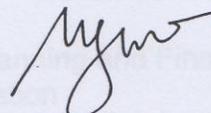
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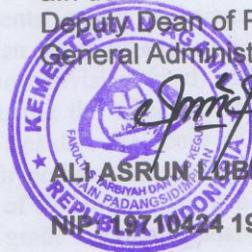
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ABSTRACT

This research focused on the effect of students' teams achievement division (STAD) on students' reading comprehension at grade X SMA N 7 Padangsidempuan. The students' problems in reading comprehension were: 1) Students do not understand what they have read; 2) they can not express the purpose of a text; 3) they are not able to identify main idea ; 4) they can not identify the vocabulary ; 5) they can not get the conclusion of the text that they have read. Beside the students' problem, teacher's technique also became a problem in learning reading descriptive text. The teacher did not use suitable technique in teaching reading descriptive text. The purpose of this research was to examine whether there was significant effect of the effect of students' teams achievement division (stad) on students' reading comprehension at grade x sma n 7 padangsidempuan

The method was used in this research was experimental research. Two classes were chosen randomly as the sample. They were XI MIA-2 as the experimental class that consisted of 25 students and XI MIA-3 as the control class that consisted of 25 students. It was taken after conducting normality and homogeneity test. The data was derived from pre-test and post-test. To analyze the data, the researcher used t-test formula.

After analyzing the data, the researcher found that mean score of experimental class after using the effect of students' teams achievement division (stad) strategy was higher than control class. Mean score of experimental class before using the effect of students' teams achievement division (stad) strategy was 55.64 and mean score of experimental class after using the effect of students' teams achievement division (stad) strategy was 73.84. Besides, the score of t_{count} was higher than t_{table} ($4.14 > 2.021$). It meant that the hypothesis alternative (H_a) was accepted. It was concluded that there was the effect of students' teams achievement division (stad) on students' reading comprehension at grade x sma n 7 padangsidempuan

Key Words: STAD, reading comprehension, Descriptive Text

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CHAPTER I

INTRODUCTION

A. Background

Reading is a complex process that includes the physical and mental process. The physical activities occur by stimulation of the eyes. This activity is begun by observing pictures or sounds of the written language. Reading is one of the important skills in learning language as in English, students can get information and they can increase their knowledge and their experiences through reading.

Reading is one basic of language skills that should be mastered by students. This is because reading useful for getting information, knowledge and value. Reading is a process getting idea and information from a written source. Many people believe that reading is the most affective way to get information from a text clearly. By reading, people can get information in a text and make meaning from it. In other word, reading is a process of getting information and vocabulary from a text.

Based on information said by the teacher to researcher that the ability of the students' reading comprehension at SMA Negeri 7 Padangsidempuan are still poor.¹ The Minimum Mastery Criterium (KKM) English. But in fact some of students still have score under the KKM.

Reading is starting step of many things, which builds more solid stairs to climb up achieving something big out there. Reading is a most

¹ Elis Erita, English Teacher SMA Negeri 7 Padangsidempuan, *Private Interview*. (November 15, 2017 at 10.00 am)

important skill for language learners. by reading, the readers can explore new things, improve themselves, gain experience from other people, connect their brain, and boost imagination and activity. These important are explained in the following paragraphs.

The first, readers can explore new things. Through reading they explore new information, new ways to solve a problem, new ways to achieve one thing. They also might find their hobbies within it. It means reader get much information through exploring new information to improve their hobbies.

The second, the reader can increase their self. Through reading they understand more, get to understand more on a topic that interest. For example: how to build self confidence, to make a better planning before action, and how to memorize things better and more. In other word the reader able to prepare appropriate plan of activity.

The third, the reader can gain experience from other people. When reading they are actually gaining knowledge and experience of someone. For instance, So, reading is a great part to get to know them and learn from these great people.

The fourth, the reader can connect their brain. When reading, they in full silence, where reading connects directly to brain. In silence, the brain is clear and focuses, learn and grow. Therefore they feel and see from the point of view of the author about everything in life

The last, the reader can boost imagination and activity. Reading exposes to a world of imagination, showing that nothing is impossible in this world. Books are imagination. It is like a huge spider web, where the readers keep linking more and more, to think they knew, and structuring a new solution and answer.

From the explanation above, reading is essential skills for learners. It is the most important skills to be mastered in order to ensure success in learning maximally. So, learners must pay attention and do not underestimate it. There are some strategies and methods that can be used in teaching and learning process. Such as the strategies of cooperative learning there are jigsaw, circ, and STAD

Strategy is everything that teachers do or should do in order to help their learners learn. As Linda and Marry say “Research seems to indicate that many efficient strategies for learning reading comprehension are available for used.”² It means that strategy is one of the factors that affect reading comprehension. The strategy means here is students team achievement division (STAD).

Students team achievement division (STAD) is one of simple cooperative learning method. This method is adaptable to most subject and grade level. This method have some qualities, they are : STAD can motivate students to encourage help each other master skills presented by the teacher, make learning becomes fun and learning material to be easily

²Marry M. Dupuis And Linda H. Merchant, *Reading Across The Curriculum: A Research Report For Teacher*, (Bloomington, Indiana: Edinfo Press, 1993) p.17

to understand, a good method to begin for the teacher who are new cooperative approach. These qualities are explained in the following paragraph.

There some factors give effect on reading comprehension, such as students' interesting, media, material and strategy.. Strategy STAD is a fun way to teach reading to senior high school students', it means they can comprehend the text easily. STAD is one of an affective in reading comprehension. According to Rai " STAD is one of the many strategies in cooperative learning, which helps promote collaboration and self regulating learning interpersonal skills."³

From the strategies that above, the researcher interested on STAD strategy. While, STAD is cooperative learning strategy that the students are assigned to four member learning teams that the mixed in performance level, gender, and ethnicity. The teacher presents lesson, and then students work within their teams to make sure all teams members have mastered the lesson. then, all students take individual quizzes on the material. Why researcher choose STAD a method, below:

The first, STAD can motivate students to encourage and help each other master skills presented by their teacher. They discuss the material together. Students' make learning becomes fun and learning material to be easily to understand.

³Rai, *cooperative learning*,(yogyakarta: pustaka belajar, 2012)

The second, STAD is one of tipe from cooperative learning modes by using small group that contain 4-5 students every group in heterogen way.⁴

The STAD is one of cooperative learning strategy that more simple, and also more better mode for beginning for teacher that use cooperative approach.⁵

The next, STAD is a good method to begin for the teachers who are new to cooperative approach. Here, teachers can use their own matter to complete the lesson.⁶Based on the explanation above, the researcher interest to do a research that tittle:

“ The Effect Of Student’s Team Achievement Division(STAD) on students’ Reading Comprehension at Grade X SMA N 7 Padangsidempuan”.

B. The Identification of the Problem

Based on the background of the problems above there are some factors that influence the students’ reading comprehension; students interested and intelligent , media and teacher strategy.

The problems of this research are students do not understand what they have read, they can not express purpose of the text, they are not able to identify main idea, they can not get the conclusion in the text.

⁴Trianto, M.Pd, *mendesain model pembelajaran inovatif-progresif*, page.68

⁵Robert E. Slavin, *cooperative learning*, page. 143

⁶Robert E. Slavin, op. Cit., page 13

C. The Limitation of the Research

Based on the identification of the problem above, this research is limited to investigate the causal-effect relationship between STAD method on reading comprehension in descriptive text, students at Grade X SMA N 7 Padangsidempuan.

D. The formulation of the problem

1. Is there significant effect of STAD strategy on Reading Comprehension descriptive text at grade X SMAN 7 Padangsidempuan
2. How far is the students' Reading Comprehension descriptive text after using STAD strategy at grade X SMAN 7 Padangsidempuan?

E. The Objective of the Research

Based on formulation of the problem above the purpose of the research they are:

1. To describe the result of reading comprehension by before use STAD strategy at grade X students of SMA N 7 Padangsidempuan.
2. To describe the result of reading comprehension after use STAD strategy at grade X students of SMA N 7 Padangsidempuan.
3. To know there is a significant effect of STAD method on students' reading comprehension in descriptive text at grade X students of SMA N 7 Padangsidempuan

F. The Significances of the Research

The significances of the research are:

1. For headmaster, to develop and encourage English teacher to use the best strategy for the effect of STAD on students' reading comprehension at grade X SMA Negeri 7 Padangsidempuan
2. For English teachers in teaching learning process especially learning reading comprehension.
3. For readers and the others researchers, as the addition information about teaching reading strategy and also for related researchers.

G. Definition of the Operational Variable

To avoiding ambiguity, this research is consisted of two variables, so the following are defination of variable:

1. Student Team Achievement Division (STAD)

STAD is one of the simplest of all cooperative learning methods. There are some activities in this method. They are: present the lesson, student work on worksheet in their teams to master the material, student take invididual quizzes, student awarding.⁷ In summary, STAD consist regular of intruactional activities. There are: teach, team study, test, and team recognition.

2. Students' Reading Comprehension

According to david nunan "reading is fluent process of readers combining information from a text and their own background

⁷Robert E. Slavin. *Cooperative: Theory, Research, And Practice* (USA: Singapora, 1994), P. 75

knowledge to build meaning”.⁸ Richard state “comprehension is the process by which a person understanding the meaning of written or spoken language clearly”.⁹ So, from the explanation above it can be concluded the students’ reading comprehension is a process in which the students’ try to understand the eaning of their reading text.

⁸David Nunan, *Practical English Language Teaching*, Page. 68

⁹Richard A. Renandya, *Language TeachSing Methodology* (Cambrige University, 2006)

BAB II

THEORITICAL REVIEW

A. THEORETICAL DESCRIPTION

1. STAD (student team achievement)

a. Background of STAD

Teaching is an activity to transfer knowledge which is done by a teacher to the students. So, in teaching a teacher should have intelligence in giving material especially in teaching descriptive text. Method is a tool or way that teachers use to transfer knowledge to the students in teaching and learning process with some steps and designs based on the material and condition in the class room it self. So, the function of method is as a tool or way to transfer knowledge.

STAD is cooperative learning which help promote collaboration and self-regulating learning skills. It means that STAD method help student involve their skill in collaboration or regularing learning in classroom.¹STAD method or student team achievement division is introduced by Robert E. Slavin. He is says that “STAD is one of general cooperative learning method adaptable to most subjects

¹Ray in gulnazir khan article, *the effect of student team achievement division(STAD) on academic achievement of student* (<http://www.social-socience/education>, accessed on 17 februari 2015), p. 10

and grade level”.² STAD is simple method that have some regular activities, they are:

1. Each lesson in STAD begin with class presentation.
2. Student study in their team
3. Individual quizzes
4. Figuring individual improvement scores and team scores, also avoiding certificates or other team reward³, and
5. Team recognition.

According to Slavin in STAD student divided to become some group or team, each of group consisted of 4-5 groups. Every team have individual as heterogenic, likes, gender goodness, race, ethnic, and have ability so bad and good, until event accumulation of characteristic different students.⁴

b. Definition and Concept of STAD

STAD is one the simple of all cooperative learning methods. According to Robert E. Slavin” it is good model to begin for teachers who are new to cooperative approach”.⁵ In addition, STAD according Ray is one of many methods in cooperative learning, which help promote collaboration and self-regulating learning skills. This method

²Robert E. Slavin, *Cooperative : Theory, Research, And Practice* (USA: Singapore, 1994), P.

³Ibid., P. 76-80

⁴Slavin, *Mendesain Model Pembelajaran inovatif-Progresif*, (Jakarta: Kencana, 2010) p. 68

⁵Slavin, *Mendesain Model Pembelajaran Inovati-Progresif*(Jakarta; Kencana, 2012) p.71

is a good interaction among student toward subject, better self-esteem, increased interpersonal skills. STAD also add an extra source of learning within the groups because some high achievers act as a role of tutor. Which in high achievement.⁶

So, the definition of STAD is a cooperative learning method. Here, students work together and interact each other to increased skills of english. If students able to get the improvement score, they will be given reward. Applying of method STAD consist of the phase study bring students at situation of together and cooperation. Phase of activities of type STAD are:

1. Class presentation

Material in STAD is initially introduced in a class presentation, this is most often direct instruction or a lecture discussion conducted by the teacher, but could include audiovisual presentation. Class presentation in STAD differ from usual teaching only in that they must be clearly focused on the STAD unit. In this way, students realize they must pay careful attention during the class presentation, because doing so will help them do well on the quizzes, and their quiz score determine their teams score.

⁶Gul Nazir Khan And Hafiz Muhammad, “ *The Effect Od Stad On Academic Achievementof Student*”, In A Journal Of Social Science, Vol 7,.No 12, December 2012, P. 212

2. Teams

Teams are composed of four five students who represent a cross-section of the class in terms of academic performance, sex, and race ethnicity. The major function of team is to make sure that all the team members are learning, and more specifically, to prepare it is members to do well on the quizzes. After the teacher present the material, the team meets to study worksheets or other materials. Most often, the study involves students discussing problem together, comparing answer, and correcting any misconceptions if teammates make mistake. The team is the important feature of STAD. At every point, emphasis is placed on team members doing their best for the team, and on the team doing its best to help its members. The team provides the peer support for academic performance, and its provide mutual concern and respect that are important for such outcomes as intergroup relations, selfesteem, and acceptance of mainstream students.⁷

3. Quizzes

Afterapproximately one to two periods of teacher presentation and one to two of team practice, the students take individual quizzes. Student are not permitted to help one another

⁷Ibid.p.71

during the quizzes. Thus, every student is individually responsible for knowing the materials.

4. Individual improvement scores

The idea behind the individual improvement scores is to give each student a performance goal that can be attained if she or he works harder and performs better than in the past. Any student can contribute maximum points to his or her team in this scoring system, but not student can do so without doing his or her best work. Each student is given a “base” score, derived from the student’s average past performance on similar quizzes. Students then earn points for their teams based on the degree to which their quiz score exceed their base score.

5. Team confessionion

As confession on team has best value can be given appreciation at present, certificate, and other.⁸

c. Principle of STAD

There are some principle of STAD, they are :⁹

1. In stad, students are assigned to four-member learning team that is mixed in performance level, gender, and ethnicity.

⁸Tukirantaniredja And Dkk, *Model-Model Pembelajaran inovatif*, (Bandung’ Alphabets,2011)P.

⁹Slavin, *Mendesain Model Pembelajaran Inovati-Progresif*(Jakarta; Kencana,2012) P. 5

2. The teacher presents a lesson and then students work within their teams to make sure all team members have mastered the lesson.
3. Student quiz scores are compared to their own past averages, and points are awarded to each team based on the degree to which students meet or exceed their own earlier performance.
4. Although students study together, they may not help each other with quizzes.

Based on some principles above, it can be concluded that the STAD method motivates students to do a good job explaining each other, as the only way for the team to succeed is for all team members to master the information or skill being taught.

d. Goals of STAD

Based on the background of STAD is one of the simplest methods of cooperative learning. So, cooperative learning is developed to achieve three learning goals. Those are academic achievement, receipt, and development of social skills.

The use of the STAD method makes learning fun and learning material easy to understand. Students are given the chance to work together after the learning process, except in quizzes.

Student work in pair in change their answer, to discuss the different of answer. So, every student must master their lesson.¹⁰

e. Learning procedure of STAD

Stad consist of a regular cycle of intruotional activities, as follow:

- 1). Teach: present the lesson
- 2). Team study: student work on worksheet in their teams to master the material.
- 3). Test: students take individual quizzes
- 4). Teams recognition: teams score are computed based on team members improvement scores, and individual certificates, a class newsletter, or a bulletin recognizes high-scoring teams.¹¹

f. Evaluation of stad

There are some important points to evalute stad.¹²

1) Test

The individual quiz are given one quiz per student. There are some determinate of test like in the following explanation:

- a) Distribute the quiz and give the students adequate time to complete it. Don't let students work together on the quiz at this

¹⁰M. Dinihandoko, *Consef Of Stad*, Http:Iqrometro.Co.Id. agustus ,2, 2017.

¹¹Robert Slavin, ¹¹Slavin, *Mendesain Model Pembelajaran Inovati-Progresif*(Jakarta; Kencana,2012)p. 75-76

¹²Ibid. p. 157

point students must show what they have learned as individuals. Have students move their desks apart if this is possible.

- b) Either allow student to exchange papers with members with member of other teams, or collect the quizzes to score after class. Be sure to have the quizzes scored and teamscored and team scores figures in time for the next class.

2) Team recognition

Team score are computed based on team improvement score and individual score.

2. Conventional Method

a. Definition of Conventional Method

Conventional methods are through to be traditional methods. However, they can be found in a daily teaching practice and other new methods originated from them.¹³ Traditional methodology is based largely on a reduction of the integrated process of using a foreign language into sub-sets of discrete skills and areas of knowledge. Conventional teaching methods have been espoused for providing an opportunity for students to learn directly from subject experts such

¹³Karolina Lesiak, *Teaching English To Adolescents*, Ww.Wordscientificnews.Com. Retrieved 8 Mei 2017

method can lack flexibility, do not ensure teaching consistency or accommodate the diverse learning needs of students.¹⁴

b. Classification Of Conventional Method

Conventional method have many teaching method that we can use in teaching and learning process. Conventional method can divide into some method such as; lecture, project, discuss, problem solving, homework, demonstrations and so on.¹⁵ From those method, there is the method that is often used by the teacher, such as discussion method.

c. Discussion Method

Discussion method is one of English teaching strategies where in its process, the students are separate in to some groups. In if the student solve a problem with their groups member, which the aims to get the best answer depend to text. Sharing opinion, participant or other wish in discussion activities are very important.¹⁶

d. Steps Of Discussion

First, watch an experienced discussion teacher teach. Sit in on several classes. Discuss the class, particularly its methodological aspect.

¹⁴Jacqueline Bloomfield, *The Effect Of Computer-Assisted Learning Versus Conventional Teaching Methods On The Acquisition And Retention Of Handwashing Theory And Skills In Prequalification Nursing Students*; A Randomized Controlled Trial, International Journal Of Nursing Studies Journal Homepage: www.elsevier.com/locate/ijns, Retrieved 18 Mei 2017.

¹⁵Syaifulbahridjannah, *Strategibelajarmengajar*. (Jakarta; Pt, Asdimaharsya, 2006). P

¹⁶Sanjaya, Wina, *Strategipembelajaran*, (Bandung; Prenada Media Group, 2008)

Second, get somebody you trust to sit in your classes and give you some honest feedback. To enrich this discussion, have the class videotaped so that you both can see what is happening while you are discussing it.

The next, from a discussion group with other interested faculty to share ideas and to talk out the important teaching issues that are highlighted by the discussion method and by your thinking so deeply about the process of teaching.

The last, seek the feedback of your students, either in formal or informal discussion, or with some well-formulated written mechanism. Find out from them whether they think they are really learning more and enjoying it more.

3. Reading Comprehension

a. Definition of The Reading

Goodman in Otto states that, "Reading comprehension is an interaction between thought and language and bases evaluation of success in comprehension on the extent to which the readers' reconstructed message agree with the writers' intended message".¹⁷ 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.

¹⁷Wayne Otto, et.al., *Op. Cit.* p. 151

Reading is fluent process of the reader combining from a text and their own background knowledge to build meaning. The goal of reading is comprehension.¹⁸ It means reading is the process to get information from written text. Reading is a complex process, it involves much more than adding word meaning together. Reading involves not only understanding ideas, but also recognizing the relationship and structure among ideas.¹⁹

Reading is an activity to get the information or idea from a text which the reader wants to inform to the reader by using deep comprehension. According to M.F patel and Praveen M. jain” reading is an active process which consists of recognition and comprehension skill”.²⁰ It means the reader should have recognition and comprehension skill to read the text.

Further, maria clays on peter s. westwood book state: “reading as a message –getting, problem-solving activity which increases in power and flexibility the more it is practiced. My definition state that within the directional constrains of the printers’ code, language and visual perception are purposefully directed by the reader in some integrated way to the problem of extracting meaning

¹⁸J Michael O, Malley, *Authentic Assessment For Englis Language Learner*, (Usa: Addison-Wesley Publishing Company,1996), p. 94

¹⁹H Douglas Brow.*LanguageAssessment Principle And Classroom Practices*, (Person Educationinc, 2004), p. 186

²⁰M.F Patel And Praveen,*EnglishTeaching* (Jaipur; Sunrise Publisher And Distributor, 2008), p.113

from cuse in a text, in squense , so that the reader brings a maximum of understanding to the authors message”²¹

b. Definition of Comprehension

Comprehension is the ability to understand the meaning from written or spoken language. “Comprehension is the process of deriving meaning from connected text”.²² Next, comprehension is the ability to understand what is read the ultimate goal of reading.²³ It means that the students aren’t only understand the text but also construct the meaning to find more information.

David Nunan says, “Comprehension is essential to successful reading, for success comprehend the reader must use cognitive and metacognitive skills, cognition can be defined as thinking give and metacognitive skill.²⁴ Cognition can be defined as thinking about or thinking. Next, comprehension is interpretation of experience that connecting new information with the prior knowledge, and also to answer the cognitive question.²⁵ So, comprehension is the process to understand what the read.

²¹MareiClays In Peter S. Westwood, *Learning And Learning Difficulties*(Australia :Acer Press.2004), p. 85 S

²²Elizabeth.S.Pang,Atal,“Teachingreading”.[Http://Www.Ibe.Unesco.Org/Fileadmin/User_Up load/Archive/Publications/Educationalpracticesseriespdf/Prac12e.Pdf](http://www.Ibe.Unesco.Org/Fileadmin/User_Upload/Archive/Publications/Educationalpracticesseriespdf/Prac12e.Pdf). Retrieved On 06thagustus 2017.

²³Carolyn Denton, Et Al., “*Effective InstructionFor Middle School Students With Reading Difficulties: Reading Teacher’s Sourcebook*”.

²⁴D,Avid Nunan, *Practical English Language Teaching*, (New York: Mc Grow Hill, 2003)p.7

²⁵Henry Guntur Tarigan, *Metodologi Pengajaran Bahasa 2*, (Bandung: Angkasa, 1991), p. 43

c. Definition of Reading Comprehension

Basically, reading and comprehension cannot be separated. Because, reader in read text must be comprehend to get more information. Reading comprehension is the process of making sense of text, a complex, multifaceted activity that calls on the reader's thinking and problem solving skills.

Goodman in Wayne Otto that stated reading comprehension is interaction between thought and language and bases evaluation of success in comprehension on the extent to which the reader's reconstructed message agrees with the writer's intend message.²⁶ Next, Tarigan gives the definition of reading comprehension it is reading activity that interpreting the experience in connecting new information with the prior knowledge, and also to answer the cognitive questions.²⁷

Based on explanation above, reading comprehension is the process of readers to get comprehension about what the readers want to know and also the information they need by thinking in their mind.

²⁶Wayne Otto, *How To Teach Reading*, (America: Addisen Wesley Publishing, 1979), p. 161

²⁷Henry Guntur Tarigan, *Membaca Sebagai Keterampilan Berbahasa*, (Bandung: Aksara, 1990), p.7.

d. Kinds of Reading

a) Silent Reading

Silent reading is reading activity without voice. Henry Guntur Tarigan said silent reading is reading the text without voice.²⁸ Silent reading is to training students to really pay attention to can understand text. Reading is primarily a silent activity. Then, David Nunan stated that silent reading is generally focus in the classroom should be on getting meaning from print when comprehension was the goal of reading.²⁹

From the explanation above, it can be concluded that silent reading technique is reading the text without voice. It was done by pay attention to reading text. So, the reader will be easier to understand information from the reading text.

b) Loud Reading

Loud reading is reading activity with a voice. Kasihani said loud reading technique is to train students' able to read with good pronunciation or speak.³⁰ The aim of loud reading technique is able to spoke good words, phrase, and sentence of English. Next, Henry Guntur Tarigan said loud reading is a activity which as tool for teacher, students and reader together with another people or listener

²⁸Ibid, P. 29

²⁹Ibid, P. 69.

³⁰Kasihani K.E. Suyanto, *English for Young Learners*, (Jakarta: Bumi Aksara, 2008), p. 64.

to catch and understand information, thinking, and feeling of a writer.³¹

So, loud reading technique is reading the text with voice. The aim of loud reading technique is get information from the reading text and it is must take care improving pronunciation.

e. Assessment of Reading Comprehension

Assessment is a tool to measure how far the students ability and comprehension of material.³²In addition, by comprehending the text the students will find the gist of the text such as an important message or information from the text. As defined by Djuharie, reading comprehension is understanding of written text meaning to get the information which is needed from the text as efficiently as possible.³³ When the students find the difficulties in reading, the teacher should be able to solve this problems.

So, in assessing reading comprehension, there are some indicators. The indicators are students able to:

- 1) Identify the topic from the text.
- 2) Identify main idea from the text.
- 3) Identify information that needed from the text.

³¹ibid, p. 22

³²J. Michael O, Malley and Lorraine Valdez Pierce, *Autentic Assessment for English Language Learners*, (America: Addison-Wesley Publishing Company, 1996), p. 98.

³³O.S. Djuharie, *Intensive Reading Bottom-Up Reading*. (Bandung: Yrama Widya, 2008), p. 112.

- 4) Give conclusions from the text.
- 5) Understand the vocabulary from the text.

There are some techniques to test reading comprehension, they are: multiple choice questions (MCOs), short answer questions, cloze, etc, and to measure students reading comprehension researcher choice multiple choice question. Multiple choice test item is usually set out in such a way that the candidate is required to select the answer from a number of given options. The answer is only one of which is correct.

4. Descriptive text

Descriptive text is a text containing two components identification and description is to identify the object to describe. The description describes parts qualities, and characteristics: of the part the object the function of description is to describe a particular person, place, or thing.³⁴ Then, text can be divided into descriptive text, procedure text, narrative text, recount text, and report text. However descriptive text means to describes things, people, place specifically.

A. Review of Related Findings

There are some findings related to this research. Firs, Samrah Marlija Harahap has done research about “ the effect of reaing comprehension by

³⁴Sanggam Siahaan And Kisno Shinoda, *Generic Text Structure*(Yogyakarta: Graha Ilmu, 2008),P.89

using kwl stertegy Kelas XI MAN Sorkam.³⁵ She found that there is the effect of cooperative learning to writing activity. It is seen from the result $t_{count} > t_{table}$ that is $3,12 > 1,68$.

Second Paujiah, her thesis is “ the effect of reciprocal teaching strategy to student’s reading comprehension at grade VII smp n 5 padangsidimpuan”. The concluding of her research, there is the effect of reciprocal teaching strategy to reading comprehension, where the means score after using reciprocal teaching was 74.96 and mean score before using reciprocal teaching was 73.63, with t_0 is higher than $t(2.18 > 1.67)$. so, the implication of reciprocal strategy is better than conventional startegy.³⁶

The last, Lonni Nur Iffah Nasution has done research about “the effect of reading comprehension by using CIRC at Grade XI of MAN 1 Padangsidimpuan. The researcher took this decision of criteria in doing this research. Hypothesis was accepted since $t_{observed} > t_{table}$ at the level of significant $\alpha 0.05$ for two-tailed test and the degree of freedom $(df) = N_x + N_y - 2 = 61$. From the calculation of t-test, it was found that $t_{observed}$ is higher than t_{table} ($6,33 > 2,00$). It means that hypothesis is accepted at the level of significance $\alpha 0,05$ for two-tailed and the degree of freedom $(df) = N_x + N_y - 2 = 61$.

³⁵Wita Nopianti, “*Pengaruh Model Pengembangan Pembelajaran Cooperative Learning Terhadap Keterampilan Menulis Laporan Proposal Kegiatan Siswa Kelas XI MAN Sorkam*”. 2014.

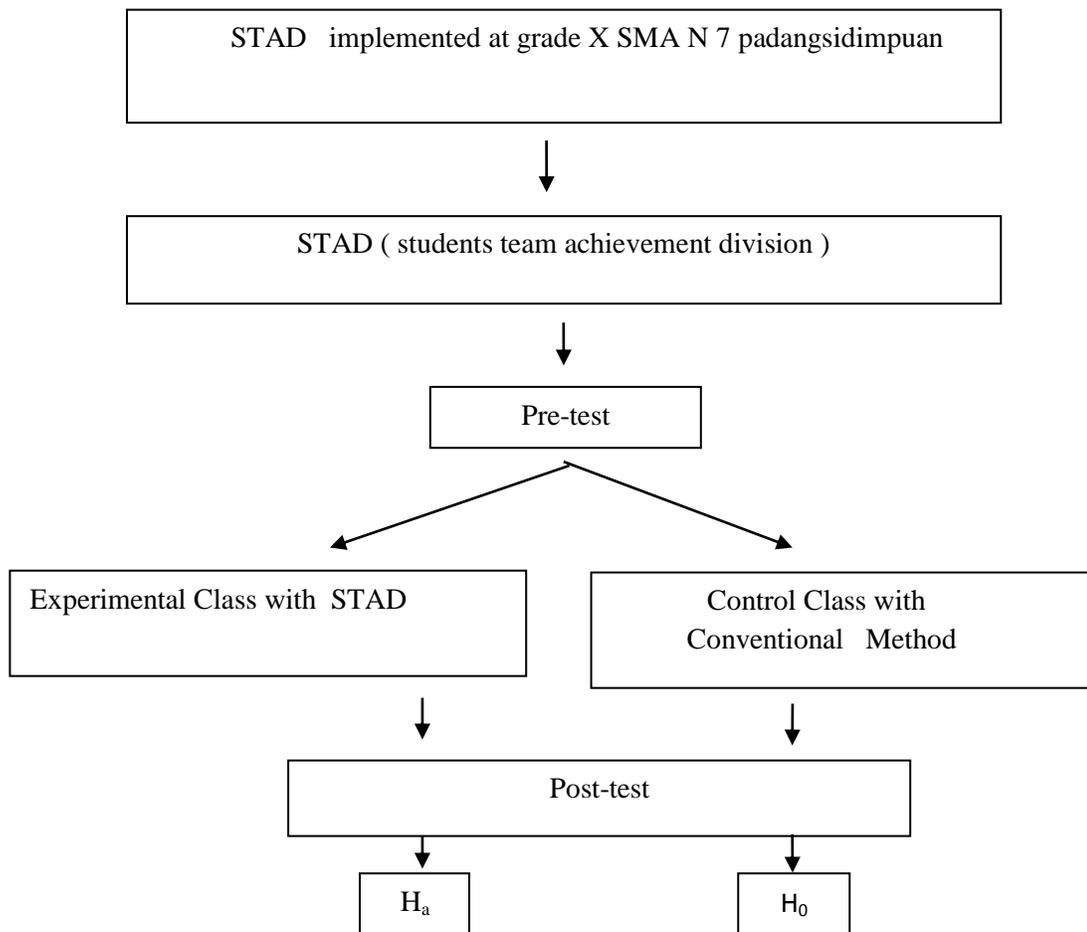
³⁶Paujiah “*The Effect Of Reciprocal Teaching On Student’s Reading Comprehension At Grade VII SMP N 5 Padangsidimpuan*” (Padangsidimpuan,2013), P.59

B. Conceptual Framework

STAD is one of method of the learning activity. STAD is one of the simplest of all cooperative methods. According to Robert E. Slavin “ it is good model to begin for teachers who are new cooperative approach. Stad consist of five major component: class presentations, teams, quizzes, individual improvement scores, and team recognition.

Reading is one of skills is very important. Reading can help students to understand every material, especially in english material. Method is also important term. By using STAD method would make students easier to get information from the text. They would be divided into some teams, so that they can share their knowledge about the text each other. Thus, the researcher assumens that with using of good method students.

can understand about the text easily and quickly. So, the researcher conducts a research based on the framework bellow:



STAD is not implemented in teaching reading comprehension at grade X SMA N 7 padangsidimpuan. So, researcher is intersted to do the research by using STAD method. Before doing STAD, researcher would gave pre-test to experimental and control class. After that, researcher would teach reading comprehension(descriptive text) using STAD method to experimental class,

and with conventional method to control class. Then, researcher gives post-test to both of class. The last, the researcher would compare the students reading comprehension of pre-test between experimental and control class.

C. Hypotheses

Hypothesis are determinad based on the formulation. It is the tentative answer for the research untill get the right result of the research.³⁷So, the hypothesis of this research was “ there is the effect of STAD (student teams achievement division) on students reading comprehension at grade X SMA N 7 Padangsidimpuan”

³⁷S. Nasution, *metode research*(jakarta;bumi aksara, 2003), p. 38

BAB III

METHODOLOGY OF THE RESEARCH

A. Place and time of the research

The location of the research is at SMAN 7 Padangsidempuan. It is located at JL..A.H NASUTION, village ujung gurap, Padangsidempuan of North Sumatra. This research is from november 2017 until finish.

B. Research Design

The kind of this research is the experimental research. Experimental research is the research manipulates the object of the research and controls certain variable. The research purpose to investigate are there the cause-effect, how extend the cause-effect with the treatment to experimental class and control class as a comparing.¹

The research used quantitative research. Quantitative research with experimental research method.L.R Gay said, “Experimental research is the only type of the research that can test hypothesis to establish cause and effect.”²And then, Creswell said, “ experimental research include the experiment with random assignment of subject to treatment condition as well as quasi experimet that use none randomize.”³

¹Ikbal Hasan, Analisis Data Penelitian Dengan Statistik(Jakarta:Bumi Aksara,2004), p.10

²L.R Gay And Peter Airasan, *Educational Research For Analysis And Application*, (America:Prentice Hall, 1992), p. 367.

³Jhon Creswell, *Research Design Qualitative, Quantitativeand Mixed Methods Approaches* Second Edition, (Usa: Prentice Hall.,2000), p.14

Based on the explanation of the characteristic above research aim to empirically examine the causal-effect relationship STAD treatments with students reading comprehension. Experimental classroom implement STAD, and the control classroom implement conventional method. Students reading comprehension is gotten before and after the learning process. The first, both of classes is give pre-test to know the ability and score of student.

Table
Research design

The teaching of reading (X)	Reading comprehension achievement (Y)
Experimental class with use of STAD (X_1)	($X_1 Y$)
Control class with conventional method (X_2)	($X_2 Y$)

In which:

$X_1 Y$ = students reading comprehension in class with STAD.

$X_2 Y$ = students reading comprehension achievement in class with conventional method.

The second, after teaching reading with different implementation, both of the classes are give post-test. It is employe as a basis to calculate whether the difference of reading comprehension with and without STAD is significant or not.

C. Population and Sample

1. Population

According to suharsimi arikunto, “ population is a set or collection of all element possessing one or more attribute of interest”.⁴ This research would be implement in SMA N 7 Padangsidimpuan. The population is grade X student at SMA N 7 Padangsidimpuan In 2017/2018 academic year. There are fourclass and class consist of 109 students, present as follow :

Table

Population of Grade X students of SMA N 7 Padangsidimpuan

No	Class	Male	female	Amount
1	X-1	10	18	40
2	X-2	14	14	40
3	X-3	15	13	39
TOTAL				119

Sources : School Administration data of SMA N 7 Padangsidimpuan

2. Sample

Sample is representative whole of population.⁵ A sample compares the individuals, items, event select from a large group referred to as a population. The porpose of sampling is to gain and to know information about the population by using the sample.⁶

⁴SuharsimiArikunto, *Procedure PenelitianSuatuPendekatanPraktik*. (Jakarta:RinekaCipta, 1993), p.3

⁵Suharsimi Arikunto....., p.112

⁶L.R Gay And Peter Aisan, p. 121

In this research, the researcher use random sampling. Before use random sampling, the research use normality and homogeneity test to get sample that have similar competence. The researcher gave pre-test to three classes of the population. All of classes are homogeneity and normal as the sample.

To determine the appropriate sample of population is test with normality and homogeneity test.

a. Normality test

The function of normality test is to know whether the data of research is normal or not. In this research, the researcher use normality test with using *Chi-Quadrate* formula, as follow.⁷

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

Where:

x^2 = Chi-Quadrate

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

f_h = Frequency is get from the sample as image from frequency is hope from the population.

⁷AnasSudijono, *PengantarStatistik Pendidikan* (Jakarta: Pt. Raja GrafindoPersada. 2005), p.298.

To calculate the result of *Chi-Quadrate*, it is use significant level 5% (0,05) and degree of freedom as big as total of frequency is lessen 3 (dk= k-3). If resul. So, it can be conclude that data is distribute normal.

b. Homogeny test

Homogeneity test is use to know whether control class and experimental class have the same variant or not. If both class are same, it can be call homogenous. To find the homogeneity, the researcher use *Harley test*. The formula is as follow:⁸

$$F = \frac{\text{Thebiggestvariant}}{\text{Thesmallestvariant}}$$

Where :

Hypothesis is accept if $F_{(\text{count})} \leq F_{(\text{table})}$

Hypothesis is reject if $F_{(\text{count})} > F_{(\text{table})}$

Hypothesis is reject if $F \leq F_{\frac{1}{2}}(n_1-1, n_2-1)$, while if $F_{\text{count}} > F_{\text{table}}$

hypothesis is accept. It determine with significant level 5% (0.05) and dk numerator is (n_1-1) , while dkdetominators is (n_2-1)

D. Instrument

A good instrument certify the validity of the data. The researcher use test as instrumentation. Test is some of question or view or other tool use for measure skill, knowledge, intelligence and ability.

In this research, the test consist was multiple choice questions that of 40 questions, in which 20 for pre-test, and 20 for post-test by choosing

⁸Agusirianto, *Statistik konsep dasar dan aplikasinya*. (Padang: P2lptk departemen pendidikan nasional. 2003), p. 276

an answer from the 4 options to prepare the students' reading comprehension. This test gave to both group, experiment and control class. To find out the score of the students' answer, the researcher give 5 score for each item. The maximum score of test is 100.

Table
The indicators reading comprehension test
Pre-test

No	Indicator	Items	Number of items	Score	Total score
1	Able to find the topic of the text	4	3, 9, 13, 16	5	20
2	Able to identify main idea of the text	4	1, 8, 10, 19	5	20
3	Able to identify information need from the text	4	5, 7, 14, 18	5	20
4	Able to give conclusion the text	4	4, 12, 15, 17	5	20
5	Able to understand the vocabulary of the text.	4	2, 6, 11, 20	5	20
Total		20			100

Table
Indicator reading comprehension test
Post-test

No	Indicator	items	Number of items	score	Total score
1	Able to find the topic of the text	4	1, 7, 10, 16	5	20
2	Able to identify main idea of the text	4	8, 9, 15, 19	5	20
3	Able to identify information need from the text	4	3, 6, 13, 17	5	20
4	Able to understand the vocabulary of the text	4	2, 11, 14, 18	5	20
5	Able to give conclusions to the text	4	4, 5, 12, 20	5	20
TOTAL		20			100

E. Validity and Reliability of Instrument

1. Validity

Anas Sudijono state that Validity is a characteristic of the good test.

To get the validity of an achievement test can be use two ways:⁹

- a. Totality of the test validity
- b. Item Validity

In this research, the researcher use item validity to get the validity is the most important characteristic a test or measure instrument can process.¹⁰ Kumar state that validity is the ability of an instrument to measure what it is design to measure.¹¹

There are three types of validity in quantitative research:

- b. Face and content validity
- c. Concurrent and predictive validity
- d. Construct validity.¹²

To know the validity of the each question will be refer to list r biserial with r_t in 5% significant: 0, 361 and 1% significant: 0, 463. So, if $r_{account} > r_{table}$ the test is classify valid.

To get the validity of the test, the formula of *the correlation biserial* can be use as follow:

⁹Anassudijono. *Pengantar Evaluasi Pendidikan* (Jakarta: PT Raja Grafindo persada, 1996), p.163.

¹⁰Gay And Airasan, Op.Cit, p, 161

¹¹Ranji Kumar, Research Methodology. p.178

¹²Ibid, 179

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

Where:

r_{pbi} : number of index correlation point biserial

M_p : re-average of the score of the students answer correctly

M_t : re- average of the total score that achieved success by number of the text

SD_t : Standard Deviation of the total score

p : proportion of the students answer correctly

p : total of the students answer correctly
total of the student

q : proportion of the incorrect answer student

result of calculation by coefficient of the correlation biserial is the determine if $r_{bi} > r_{table}$ with the significant level 5% (0,374) with the table r product moment. So, the item is test Valid.

F. Reliability of Instrument

Reliability is the degree to which a test consistently measure whatever in measures. Realibility is express numerically, usually as a coefficient ranging from 0.0 to 1.0; a high coefficient ranging indicate high reliability.¹³

Testing of instrument reliability is done with the technique of KR.20 (Kurder richardson)

¹³L.R Gay And Peter Airasan. p.155

G. The Procedure of Collecting The Data

In completing the data, the researcher continues to the next step. The next step is collecting the data. The function of data collecting is to determine the result of the research. In collecting data the researcher uses some steps. They are:

1) Pre test

The pre-test is to conducted to find out the homogeneity of the sample. The function of pre-test to find the mean score of STAD conventional teaching before gave treatment.

2) Treatment

After give the pre-test, the researcher gave treatment to students the experimental class taught by using STAD method and the control group in taught by conventional method.

3) Post-test

After giving treatment, the researcher conducted a post-test which different test with the pre-test, and has not been conducted in the previous of the reseacr. This post-test is the final test in the researchh, especially measuring the treatment, whether “ there is an effect or not”. After conducting the post-test, the researcher analyzed the data, and then, the researcher find out the effect of using STAD in the experimental class.

H. Technique of Data Analyzing

I. Requirrement Test

1.Normality test

The function of normality test is to know whether the data of research is normal or not. In this research, the researcher use normality test with using *Chi-Quadrate* formula, as follow.¹⁴

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

Where:

x^2 = Chi-Quadrate

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

f_h = Frequency is get from the sample as image from frequency is hope from the population.

To calculate the result of *Chi-Quadrate*, it is use significant level 5% (0,05) and degree of freedom as big as total of frequency is lessen 3 (dk= k-3). If resul. So, it can be conclude that data is distribute normal.

¹⁴Anas Sudijono, *Pengantar Statistik Pendidikan* (Jakarta: Pt. Raja Grafindo Persada. 2005), p.298.

2. Homogeneity Test

Homogeneity test is used to know whether control class and experimental class have the same variance or not. If both classes are the same, it can be called homogeneous. To find the homogeneity, the researcher uses *Harley test*. The formula is as follows:¹⁵

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

Where :

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

Hypothesis is rejected if $F_{(count)} > F_{(table)}$

Hypothesis is rejected if $F \leq F_{\frac{1}{2} \alpha (n_1-1) (n_2-1)}$, while if $F_{count} > F_{table}$

hypothesis is accepted. It is determined with a significant level of 5% (0.05)

and the numerator is (n_1-1) , while the denominator is (n_2-1)

The data analysis of data that the researcher uses to find out the achievement of the two groups, that have been divided into experimental and control classes. To know the difference between the two classes, the researcher uses t-test as a formula below:

¹⁵Agusirianto, *Statistik konsep dan aplikasinya*. (Padang: P2lptk departemen pendidikan nasional. 2003), p. 276

$$T_t = \frac{M_1 - M_2}{\sqrt{\frac{\sum X_1 + \sum X_2^2}{n_1 + n_2 - 2} \left(\frac{1}{n_1} + \frac{1}{n_2} \right)}}$$

Where

T : The value which the statistical significant

M1 : The average score of the experimental class

M2 : The average score of the control class

X1² : Derivation of experimental class

X2² : Derivation of control class

N1 : Number of experimental

N2 : Number of control class.¹⁶

2. Hypothesis test

Base on the hypothesis, the analysis of the data is to find out the ability of two groups that has been divide into experiment class and control class. The hypothesis is to answer the result of the research. So, the data would be analyze by using the following *t-test* formula:¹⁷

$$H_a : \mu_1 \neq \mu_2$$

$$H_o : \mu_1 = \mu_2$$

If $H_a : \mu_1 > \mu_2$, it is mean the result of students' reading comprehension by using STAD (students teams achievement division) strategy at grade X SMA N 7 Padangsidempuan is better than conventional strategy. But, if the $H_o : \mu_1 \leq \mu_2$ it is

¹⁶Suharsimi Arikunto, *Prosedur Penelitian Suatu Pendekatan Praktek* (Jakarta: RinekaCipta, 1993), p. 275.

¹⁷ Suharsimi Arikunto, *Op. Cit.*, p. 311.

mean the result of students' reading comprehension by using STAD (students teams achievement division) strategy at grade X SMA N 7 Padangsidempuan is not better than conventional strategy. To test the hypothesis, researcher use the formula as follow:¹⁸

$$t = \frac{\bar{x}_1 - \bar{x}_2}{\sqrt{s^2 \left(\frac{1}{n_1} + \frac{1}{n_2} \right)}}$$

Where:

\bar{x}_1 = Mean of experimental class sample

\bar{x}_2 = Mean of control class sample

n_1 = Total of experimental class sample

n_2 = Total of control class sample

and the formula of standard deviation is:

$$s = \sqrt{\frac{(n_1 - 1)s_1^2 + (n_2 - 1)s_2^2}{n_1 + n_2 - 2}}$$

Where:

s = Variant

s_1^2 = Variant of experimental class

s_2^2 = Variant of control class

¹⁸ Sudijono. *Statistika untuk Penelitian*, (Bandung: Alfabeta, 2011), p. 138-139.

To test the criteria of hypothesis is if H_0 is accept by $-t_{table} < t_{count} < t_{table}$. By opportunity $\left(1 - \frac{1}{2}\alpha\right)$ and $dk = (n_1 + n_2 - 2)$ and H_0 is reject if there is t has the other result.

CHAPTER IV

THE RESEARCH RESULT

The description of data was done by calculating the data of pre-test and post-test. The researcher used the formulation of T-test the hypothesis. Next, the researcher described the data as follows:

A. Description of Data

1. Description of Data before Using STAD strategy

The pre-test score obtained before teaching in experimental class and control class is as follow:

a. Score of Pre-test Experimental Class

The score of the pre-test in experimental class before using STAD on Students descriptive text. The reseacher draw the table sum as follow:

Table 6. The Score of Experimental Class in Pre-test

Total	1484
Highest score	78
Lowest score	44
Mean	61.6
Median	71.5
Modus	64.5
Range	34
Interval	7
Standard deviation	10.1
Variant	126.23

Based on students' answer in pre-test the researcher has calculated the students' score. The total score of experimental class in pre-test was 1484, mean was 61.6, median was 71.5, modus was 64.5, range was 34, interval was 7, researcher got the highest score was 78 and the lowest score was 44, and the last standard deviation was 10.1.

Then, the computed of the frequency distribution of the students' score in experimental class can be applied into table frequency distribution as follows:

Table 7. Frequency Distribution of Experimental Class (Pre-test)

No	Interval	Mid-Point	F	Percentages
1	36 –48	42	6	25.19%
2	49– 61	50.5	4	15.54%
3	62– 74	68	4	16.54%
4	75– 87	81	6	25.19%
5	88– 100	94	4	17.54%
$i=13$		-	24	100%

From the table above, the students score that is there in class interval between 36-48 was 6 students (25.19%), class interval between 49-61 was 4 students (15.54%), class interval 62-74 was 4 students (16.54%), class interval 75-87 was 6 students (25.19%), and the class interval 88-100 was 4 students (17.54%).

Based on the table above, it can be draw at histogram as following :

Frequency

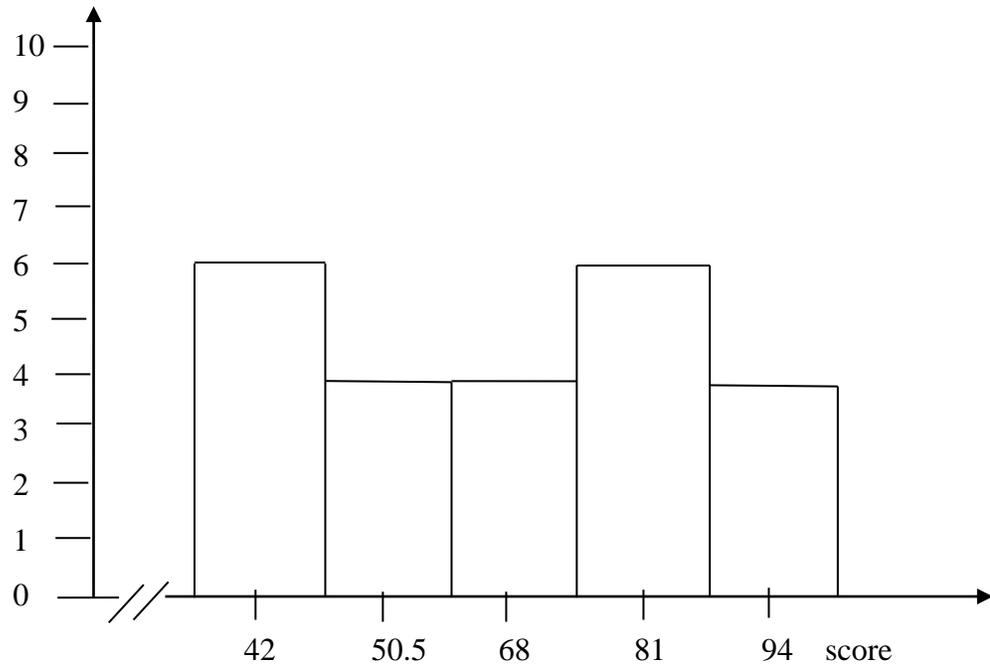


Figure 1: Description of Experimental Class (Pre-Test)

From the histogram above, the students' score from 49 was 6 students, the student score 54 was 4 students, the students' score 61 was 4 students, the students' score 70 was 6 students, and the students' 75 was 4 students.

b. Score of Pre-Test Control Class

The score of pre-test in control class before teaching is as following:

Table 8. The Score of Control Class in Pre-Test

Total	1428
Highest score	80
Lowest score	36
Mean	60.62
Median	63.49
Modus	59.44
Range	44
Interval	9
Standard deviation	10.21
Variant	153.13

In pre-test of control class, the researcher calculated the result that had been gotten from the students' answering in test. Totalscore incontrol class in pre-test was 1428, mean was 60.62,variant was 153.13 range was 44, interval was 9, median was 60.49,and modus was 59.44, researcher got the highest score was 80 and the lowest score was 36, and the last standard deviation was 10.21.

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

Table 9. Frequency Distribution of Control Class (Pre-Test)

No	Interval	Mid Point	Frequency	Percentages
1	36 – 48	42	2	12.59%
2	49– 61	50.5	3	15.13%
3	62– 74	68	9	30.55%
4	75– 87	81	6	25.19%
5	88– 100	94	4	16.54%
<i>i</i> = 13		-	24	100%

Based on the table , it can be shown that the students' score that is there in class interval between 36 – 48 was 2 students (12.59%), class interval between 49-61 was 3 students (15.13%), class interval 62-74 was 9 students (30.55%), class interval 75-87 was 6 students (25.19%), and the last class interval 88-100 was 4 students (16.54%).

From on the table, it can be draw at histogram as below:

Frequency

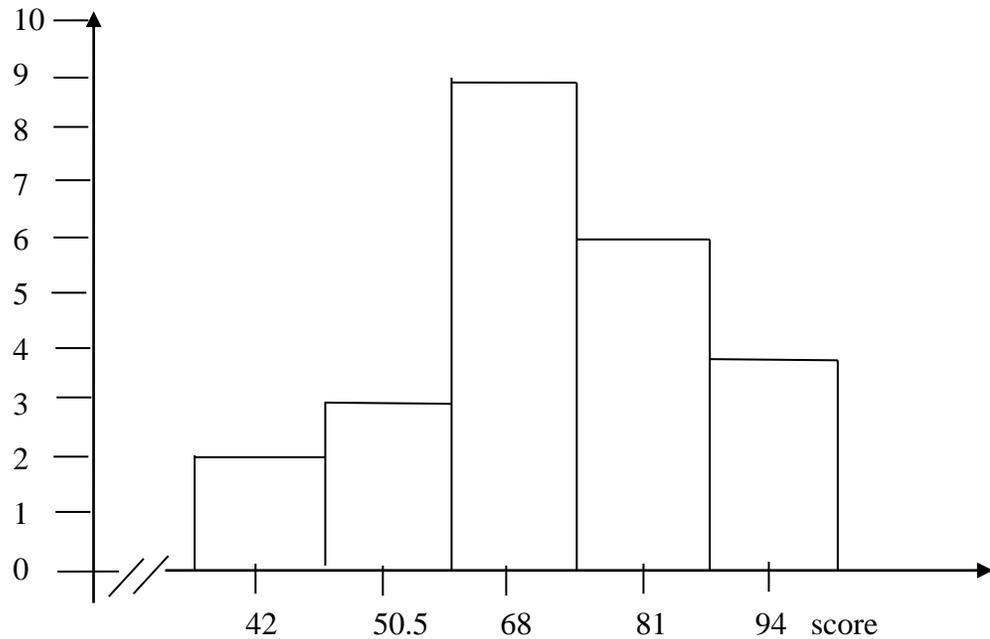


Figure 2: Description of Control Class (Pre-Test)

From the histogram above, the students' score 40 was 2 students, the students' score 49 was 3 students, the students' score 58 was 9 students, the students' score 67 was 6 students, and the students' score 76 was 4 students.

2. Description of Data After Using STAD Strategies

a. Score of Post-Test Experimental Class

In post-test of experimental class, the researcher calculated the result had been gotten by the students in answering the question (test)

after the researcher did the treatment by using STAD Strategies can be seen the table:

Table 10. The Score of Experimental Class in Post Test

Total	1960
Highest score	96
Lowest score	62
Mean	81.91
Median	81.66
Modus	80.75
Range	34
Interval	7
Standard deviation	7.259
Variant	59.62

From on the tablesum of score of experiment class in post-test was 1960, mean was 81.91, standard deviation was 7.259, variant was 59.62, median was 81.66, range was 24, modus was 80.75, and interval was 7, researcher got the highest score was 96 and the lowest score was 62, and the last standard deviation.

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

Table 11. Frequency Distribution of Students' Score

No	Interval	Mid Point	Frequency	Percentages
1	36 – 48	42	1	9.05%
2	49 – 61	50.5	3	10.16%
3	62 – 74	68	9	33.07%
4	75 – 87	81	7	29.86%
5	88 – 100	94	4	21.66%
<i>i</i> = 13		-	24	100%

From the table frequency above, it can be shown that the students score is there in class interval between 36-88 was 1 student (9.05%), class interval between 49-61 was 3 students (10.16%), class interval 62-74 was 9 students (33.07%), class interval 75-87 was 7 students (29.86%), and the class interval 88-100 was 4 students (21.66%).

From the table above, it can be draw at histogram as below:

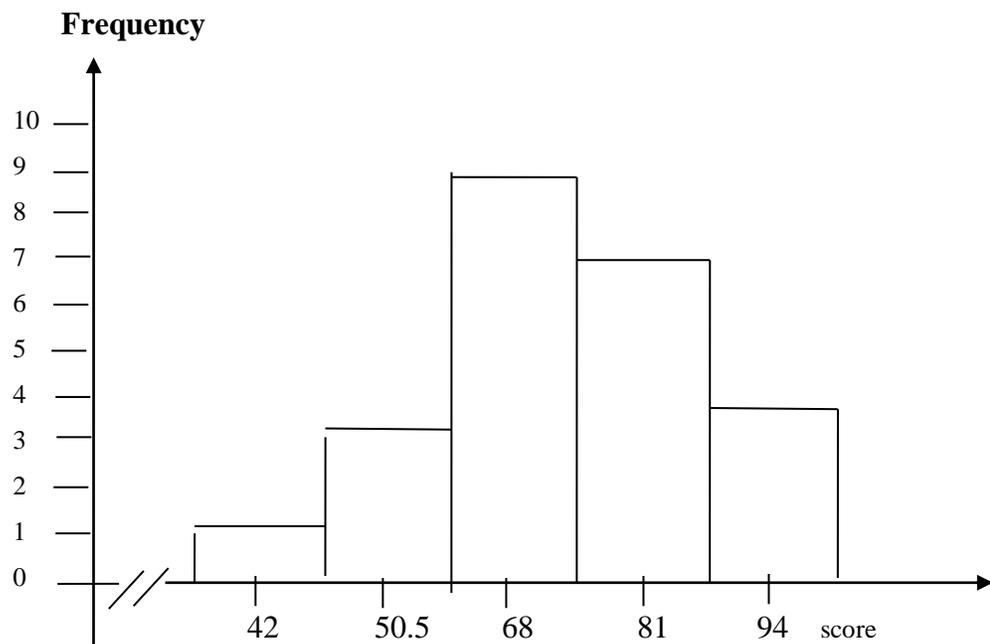


Figure 3: Description of Experimental Class (Post-Test)

From the histogram above, the students' score 65 was 1 student, the students' score 72 was 3 students, the students' score 79 was 9 students, the students' score was 86 was 7 students, and the students' 93 was 4 students.

b. Score of Post-Test Control Class

In post-test of control class, could had been gotten by the students in answering the question (test) after the researcher taught the reading descriptive text by using conventional strategy can be seen the table below:

Table 12. The Score of Control Class in Post-Test

Total	1724
Highest score	88
Lowest score	54
Mean	71.87
Median	71.26
Modus	70.81
Range	34
Interval	7
Standard deviation	6.79
Variant	64.31

From on the tables the score of control class in post-test was 1724, mean was 71.87, variant was 64.31, median was 71.26, range was 34, modus was 70.81, and interval was 7, researcher got the highest score was 88 and the lowest score was 54 and the last standard deviation was 6.79.

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

Table 13. Frequency Distribution of Students' Score

No	Interval	Mid Point	Frequency	Percentages
1	36 – 48	42	1	9.85%
2	49– 61	50.5	4	18.24%
3	62– 74	68	13	42.38%
4	75– 87	81	3	13.93%
5	88– 100	94	3	15.60%
<i>i</i> = 13		-	24	100%

From on the table above, it can be shown that the students score is there in class interval between 36-48 was 1 student (9.85%), class interval between 49-61 was 4 students(18.24%), class interval 62-74 was 13 students (42.38%), class interval 75-87 was 3 students (13.90%), and the class interval 88-100 was 3 students (15.60%).

From on the table above, it can be draw at histogram as below:

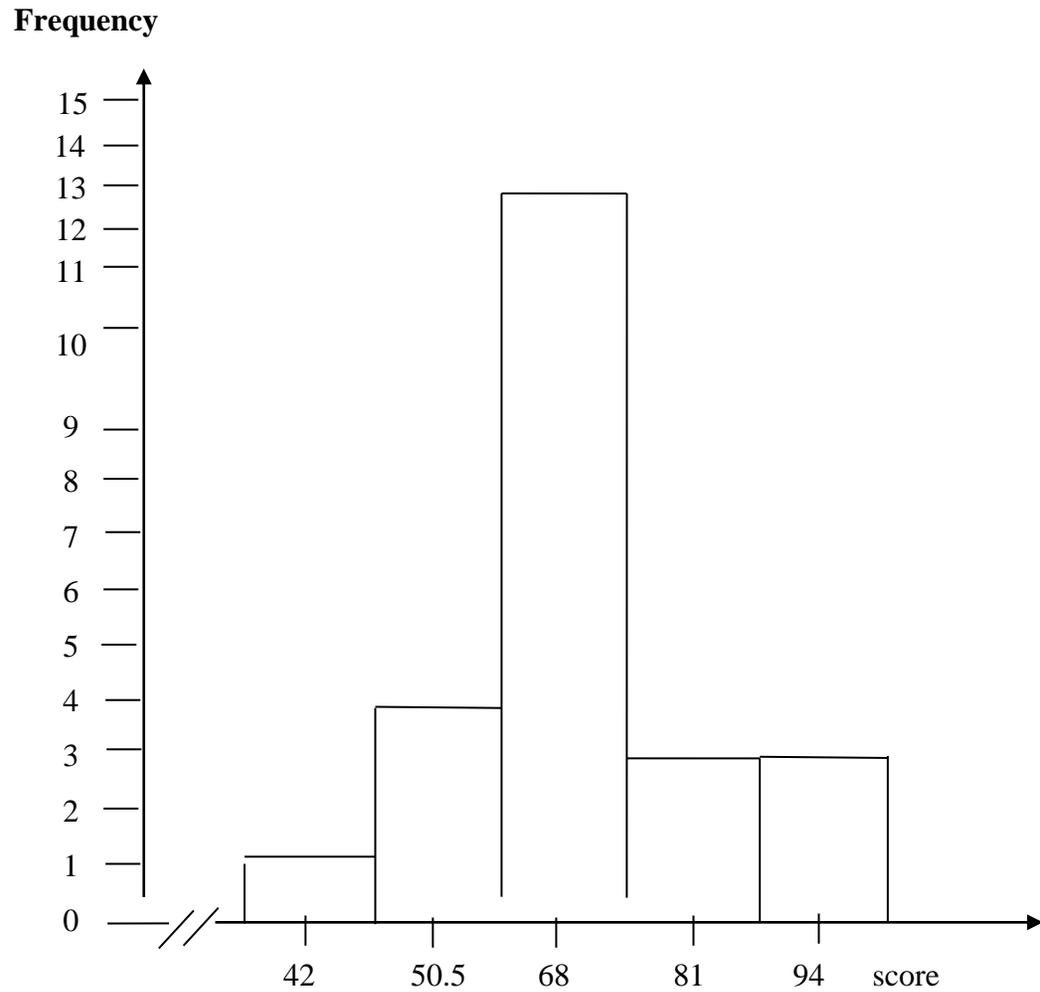


Figure 4: Description of Control Class (Post-Test)

From on the table and the histogram above, the students' score 57 was 1 student, the students' score 64 was 4 students, the students' score 71 was 13 students, the students score 78 was 3 students, and the students' score 85 was 3 students.

B. Description of the Data Comparison between Pre-Test and Post-Test of Experimental and Control Class

1. The Comparison Data between Pre-test and Post-test by using STAD Strategies

Based on students' answers in experimental of pre-test and post-test by using STAD strategies. While the researcher done the research in pre-test, the researcher did not apply treatment to experimental, but in the post test to experimental the researcher gave the treatment.

From on the description data in pre-test of experimental and control class, there was comparison score between pre-test experimental class before and after gave a treatment by using STAD Strategies. It can be seen the table below:

Table 14. The Comparison Score of Students' Reading Comprehension in Pre-test and Post-test (Experimental Class)

Students' Reading Comprehension in Pre-test				
No	Interval	MidPoint	F	Percentages
1	36 – 48	42	6	25.19%
2	49 – 61	50.5	4	15.54%
3	62 – 74	68	5	16.54%
4	75 – 87	81	6	25.19%
5	88 – 100	94	4	17.54%
Students' Reading Comprehension in Post-test				
No	Interval	Mid Point	Frequency	Percentages
1	36 – 48	42	1	9.05%
2	49 – 61	50.5	3	10.16%
3	62 – 74	68	9	33.07%
4	75 – 87	81	7	29.86%
5	88 – 100	94	4	21.66%

From on the table, it can be shown that the students' score is there in class interval between that the highest interval score in pre-test experimental class was 72-78 (4 students/17.54%) and the lowest interval score was 44-50 (6 students/25.19%), meanwhile the highest interval score in post-test was 90-96 (4 students/21.66%) and the lowest score was 62-68 (1 student/9.05%).

From the table, it can be drawn as histogram below:

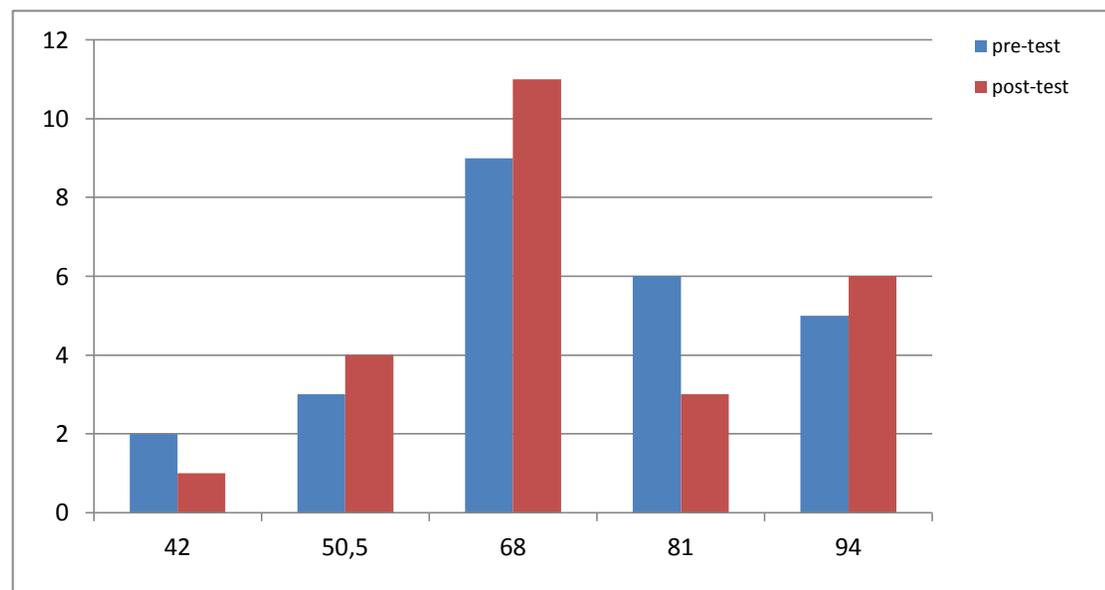


Figure 5. Histogram the Comparison Data of Students' Reading Comprehension in Pre-test and Post-test (Experimental Class)

From on the histogram above, the frequency of students' score of experimental class from 44 up to 50 (6 students/25.19%) in pre-test, and 62 up to 68 (1 student/9.05%) in post-test; 51 up to 57 (4 students/15.54%) in pre-test, and 69 up to 75 (3 students/10.16%) in post-test; 58 up to 64 (4

students/16.54%) in pre-test, and 76 up to 82 (9 students/33.07%) in post-test; 65 up to 71 (6 students/25.19%) in pre-test, and 83 up to 89 (7 students/29.86%) in post-test; 72 up to 78 (4 students/17.54%) in pre-test, and 90 up to 96 (4 students/21.66%) in post-test.

Then, the interval which had highest frequency in pre test was 58-64 (4 students/16.54%) and the interval which had lowest frequency was 34-42 (3 students/12%). In post test of experimental class, the interval which had highest frequency was 70-76 (9 students/36%) and the interval which had lowest frequency was 56-62 (3 students/12%).

2. The Comparison Data between Pre-test and Post-test by Using Conventional Strategy

The comparison data between pre-test and post-test by using conventional strategy. From on the description data in pre-test and post-test of control class, there was the comparison score between pre-test control class before and after gave a treatment by using Conventional strategy. It can be seen in table as below:

Table 15. The Comparison Score of Students' Reading Comprehension in Pre-test and Post-test (Control Class)

Students' Reading Comprehension in Pre-test				
No	Interval	Mid Point	Frequency	Percentages
1	36 – 48	42	2	12.59%
2	459– 61	50.5	3	15.13%
3	62– 74	68	9	30.55%

4	75– 87	81	6	25.17%
5	88– 100	94	5	16.54%
Students' Reading Comprehension in Post-test				
No	Interval	Mid Point	Frequency	Percentages
1	36 – 48	42	1	9.85%
2	459– 61	50.5	4	18.24%
3	62– 74	68	11	42.38%
4	75– 87	81	3	13.93%
5	88– 100	94	6	15.60%

From on the table above, it can be shown that the students score is there in class interval between pretest and pot-test (control class) was 72-80 (4 students/16.54%) and the lowest interval score was 36-48 (2 students/12.59%), meanwhile the highest interval score in post-test was 82-88 (3 students/15.60%), and the lowest score was 54-60(1 student/9.85%).

From on the table above, it can be draw at histogram below:

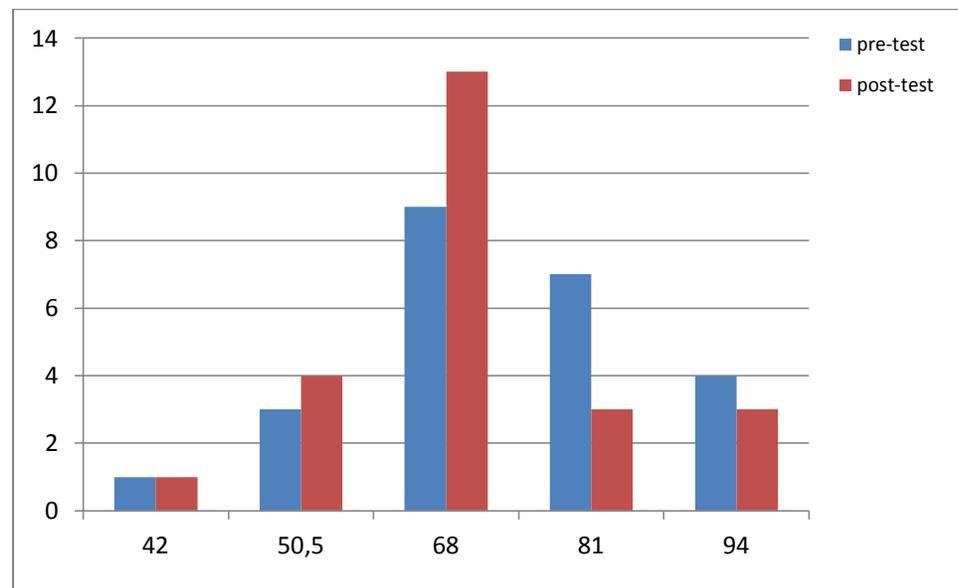


Figure 6. Histogram the Comparison Data of Students' Reading Comprehension in Pre-test and Post-test (Control Class)

From on the figure above, the frequency of students' score of control class from 36 up to 44 (2 students/12.59%) in pre test, and 54 up to 60 (1 student/18.24%) in post-test; 45 up to 53 (3 students/15.13%) in pre-test, and 61 up to 67 (4 students/18.24%) in post-test; 54 up to 62 (9 students/30.55%) in pre-test, and 68 up to 74 (13 students/42.38%) in post-test; 63 up to 71 (6 students/25.19%) in pre-test, and 75 up to 81 (5 students/13.91%) in post-test; 72 up to 80 (4 students/16.54%) in pre-test, and 82 up to 88 (3 students/15.60%) in post-test.

Then, the interval which had highest frequency in pre test was 54-62 (9 students/30.55%) and the interval which had lowest frequency was 36-48 (2 students/12.59%). In post test of control class, the interval which had highest frequency was 68-74 (13 students/42.38%) and the interval which had lowest frequency was 54-60 (1 student 9.85%).

3. Comparison between pre-test and post-test experimental

The comparison data between pre-test and post-test experimental . From on the description data in pre-test and post-test of control class, there was the comparison score between pre-test control class before and after gave experimental class. It can be seen in table as below:

Table 16. The Comparison Score of Students' Reading Comprehension in Experimental and Control Class (Post-test)

Students' Reading Comprehension in Post-test (Experimental Class)				
No	Interval	Mid Point	Frequency	Percentages
1	36 – 48	42	2	12.59%
2	459– 61	50.5	3	15.13%
3	62– 74	68	9	30.55%
4	75– 87	81	6	25.19%
5	88– 100	94	4	16.54%
Students' Reading Comprehension in Post-test (Control Class)				
No	Interval	Mid Point	Frequency	Percentages
1	36 – 48	42	1	9.85%
2	459– 61	50.5	4	18.24%
3	62– 74	68	13	42.38%
4	75– 87	81	3	13.93%
5	88– 100	94	3	15.60%

From on the table above, it can be shown that the highest interval score in post test of experimental class was 90-96 (4 students/21.66%) and the lowest interval score was 62-68 (1 student/9.05%), meanwhile the control class was 82-88 (3 students/15.60%), and the last the lowest interval score was 36-48 (1 student/9.85%).

From on the table above, it can be at histogram as below:

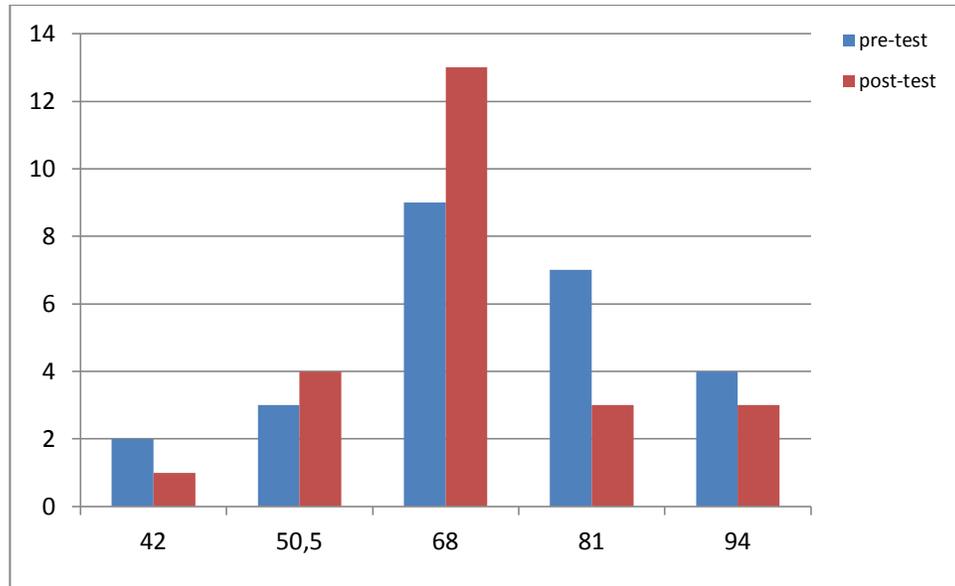


Figure 7. Histogram the Comparison Data of Students' Reading Comprehension in Experimental and Control Class

4. The Comparison Data between Using STAD Strategies and Conventional Strategy in Post-test

Next, after the researcher gave pre-test to both of classes, before researcher giving a treatment to (X-1 as experimental class and X-2 as control class), the researcher knew the ability of students' on reading descriptive text. In pre- test, the researcher did not apply treatment to experimental and control class, but in post test, the researcher giving a treatment in experimental class. In Experimental class by using STAD Strategies and control class by using Conventional Strategy. It can be seen in table below:

Table 17. The Comparison Score of Students' Reading Comprehension in Experimental and Control Class (Post-test)

Students' Reading Comprehension in Post-test (Experimental Class)				
No	Interval	Mid Point	Frequency	Percentages
1	36 – 48	42	1	9.05%
2	459– 61	50.5	3	10.16%
3	62– 74	68	9	33.07%
4	75– 87	81	7	29.86%
5	88– 100	94	4	21.66%
Students' Reading Comprehension in Post-test (Control Class)				
No	Interval	Mid Point	Frequency	Percentages
1	36 – 48	42	1	9.85%
2	459– 61	50.5	4	18.24%
3	62– 74	68	13	42.38%
4	75– 87	81	3	13.93%
5	88– 100	94	3	15.60%

From on the table above, it can be shown that the highest interval score in post test of experimental class was 90-96 (4 students/21.66%) and the lowest interval score was 62-68 (1 student/9.05%), meanwhile the control class was 82-88 (3 students/15.60%), and the last the lowest interval score was 36-48 (1 student/9.85%).

From on the table above, it can be at histogram as below:

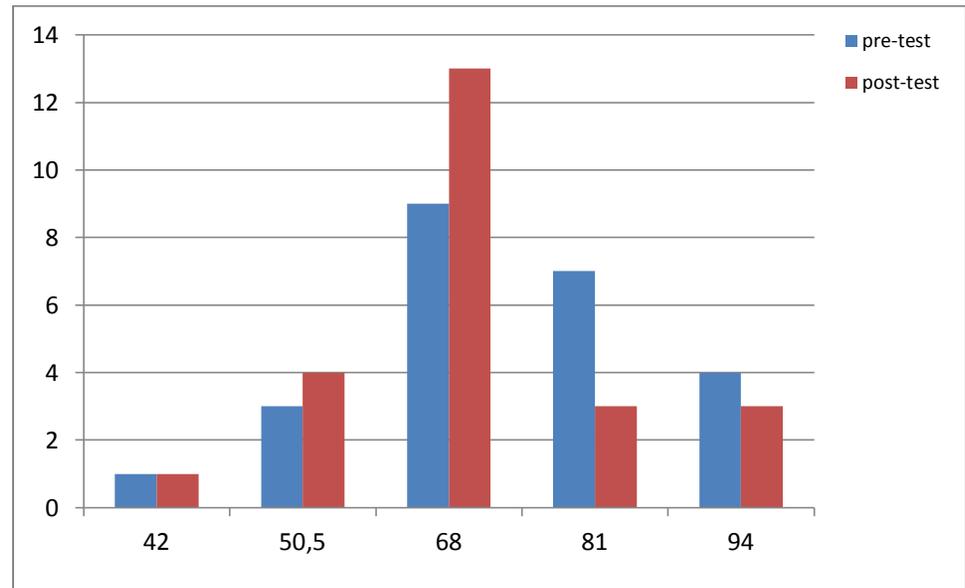


Figure 7. Histogram the Comparison Data of Students' Reading Comprehension in Experimental and Control Class

From on the figure above, it can be shown the frequency of students' score in post test from 62 up to 68 (1 students/9.05%) for experimental class, and 54 up to 60 (1 student/9.85%) for control class; 69 up to 75 (3 students/10.16%) for experimental class, and 61 up to 67 (4 students/18.24%) for control class; 76 up to 82 (9 students/33.07%) for experimental class, and 68 up to 74 (13 students/42.38%) for control class; 83 up to 89 (7 students/29.86%) for experimental class, and 75 up to 81 (3 students/13.93%) for control class; 90 up to 96 (4 students/21.66%) for experimental class, and 82 up to 88 (3 students/15.60%) for control class.

Then, the interval which had highest frequency in post test of experimental class was 90-96(4 students/21.66%) and the interval which had lowest frequency was 62-68 (1 students/9.05%). In post test of control class, the interval which had highest frequency was 82-88 (3 students/13.93%) and the interval which had lowest frequency was 54-60 (1student/9.85%).

From on the description of comparison from the data, it can be shown that the students' scores of experimental class by using STAD Strategies was higher than the students' score of control class by using Conventional strategy.

C. Data Analysis

1. Requirement Test

a. Normality and Homogeneity of Experimental and Control Class in Pre-Test

Table 17. Normality and Homogeneity in Pre-Test

Class	Normality Test		Homogeneity Test	
	χ^2_{count}	χ^2_{table}	f_{count}	f_{table}
Experimental Class	7.636	11.070	1.21 < 1.98	
Control Class	4.802	11.070		

Based on the table above that has been calculated by researcher, the score of experiment class $Lo = 7.636 < Lt = 11.070$ with $n = 24$ and control class $Lo = 4.802 < Lt = 11.070$ with $n = 24$, and real level $\alpha = 0.05$. Cause $Lo < Lt$ in the both class. So, H_a was accepted. It means

that experiment class and control class were distributed normal. Researcher calculation, it can be seen in appendix 18.

The coefficient of $F_{\text{count}} = 1.21$ was compared with F_{table} . Where F_{table} was determined at real $\alpha 0.05$, and the different numerator $dk = N-1 = 24-1=23$ and denominator $dk N-1 = 24-1 = 23$. So, by using the list of critical value at F distribution is got $F_{0.05} = 1.98$. It showed that $F_{\text{count}} 1.21 < F_{\text{table}} 1.98$. So, it can be concluded that the variant from the data the effect of students' teams achievement division (STAD) on students' reading comprehension at grade X SMAN 7 Padangsidempuan by using experimental and control class was homogeny.

b. Normality and Homogeneity of Experimental and Control Class in Post-Test

Table 18. Normality and Homogeneity in Post-Test

Class	Normality Test		Homogeneity Test	
	X^2_{count}	X^2_{table}	f_{count}	f_{table}
Experimental Class	8.763	11.070	1.21 < 1.98	
Control Class	7.042	11.070		

The previous table show that the score of experimental class $Lo = 8.765 < Lt = 11.070$ with $n = 24$ and control class $Lo = 7.042 < Lt = 11.070$ with $n = 24$, and real level $\alpha 0.05$. Because $Lo < Lt$ in the both class, it means H_a was accepted. It meant that experiment class and

control class were distributed normal. Researcher calculation, It can be seen in appendix 21.

The coefficient of $F_{\text{count}} = 1.21$ was compared with F_{table} . Where F_{table} was determined at real $\alpha 0.05$, and the different numerator $dk = N-1 = 24-1 = 23$ and denominator $dk N-1 = 24-1 = 23$. So, by using the list of critical value at F distribution is got $F_{0.05} = 1.21$. It showed that $F_{\text{count}} 1.21 < F_{\text{table}} 1.98$. So, the researcher concluded that the variant from the data of the students' reading comprehension at X grade of SMAN 7 Padangsidimpuan in experimental and control class was homogenous.

2. Hypothesis Test

The data would analyzed to prove the hypothesis. It used formula of t-test. Hypothesis of the research was "STAD strategies has significant effect on reading comprehension in descriptive text at X grade of SMAN 7 Padangsidimpuan". The calculation can be seen on the appendix 23 and 24. The result of t-test was as follow:

Table 19. Result of T-test from the Both Averages

Pre-test		Post-test	
t_{count}	t_{table}	t_{count}	t_{table}
-1.07	1.678	13.38	1.678

The test hypothesis have two criteria. First, if $t_{\text{count}} < t_{\text{table}}$, H_0 is accepted. Second, $t_{\text{count}} > t_{\text{table}}$, H_a is accepted. Based on researcher calculation in pre test, researcher found that $t_{\text{count}} -1.07$ while $t_{\text{table}} 1.678$ with opportunity $(1 - \alpha) = 1 - 5\% = 95\%$ and $dk = n_1 + n_2 - 2 = 24 + 24 - 2 = 44$. Cause

$t_{\text{count}} < t_{\text{table}} (-1.07 < 1.678)$, it means that hypothesis H_a was rejected and H_0 was accepted. So, in pre test, the two classes were same. There is no difference in the both classes. But, in post test, researcher found that $t_{\text{count}} 13.38$ while $t_{\text{table}} 1.678$ with opportunity $(1 - \alpha) = 1 - 5\% = 95\%$ and $dk = n_1 + n_2 - 2 = 24 + 24 - 2 = 44$. Cause $t_{\text{count}} > t_{\text{table}} (13.38 > 1.678)$, it means that hypothesis H_a was accepted and H_0 was rejected. The calculation can be seen on the appendix 23. In this case, the mean score of experimental class by using STAD Strategies 81.91 and mean score of control class was 71.87 that was taught by using conventional strategy. So, there was the significant effect of STAD strategies on Reading comprehension in descriptive text at Grade X SMAN 7 Padangsidempuan

D. Discussion

From an analysis above, it has proven that the STAD strategies are significant on students' reading comprehension. Meanwhile the principles of STAD strategies is teacher who are just beginning to use cooperative approach in the classroom, STAD also an affective strategies of cooperative learning. According to Rai, STAD is one of the many strategies in cooperative learning, which helps promote collaboration and self-regulating learning skills. The reason for selection of STAD is good interaction among students, improve positive attitude towards subject, better self-esteem, increased interpersonal skills. STAD strategies also sees that the four skills: speaking, listening, reading and writing

reinf. First, Lonni Nur Iffah Nasution¹ showed that the experimental group got 61.5. Second, Khoridah² showed that the experimental group got 56.64 for the mean score of pretest. Lonni's pre-test result was higher than Khoridah's result. Third, Rafika Sa'adah Siregar³ showed that the experimental group 70.3 for the mean score of pre-test. the last, Ermita Harianja⁴ showed the experimental group got 60.5. Khoridah's pre-test result was lowest than Ermita's, Lonni's, and Rafika's result.

Meanwhile, the researcher got the mean score of pre-test of experimental group was 61.6 was highest than Khoridah's, Ermita's and Lonni's result but lowest pre-test than Rafika's of the related findings. from the above description, it can be seen that the highest mean score of pre-test of the experimental group was gotten by Rafika's result where the mean score of pre-test was 70.3 and the lowest mean score of pre-test of the experimental group was gotten b Khoridah in his thesis where the mean score of pre-test was 56.64. it means, before using

¹ Lonni Nur Iffah Nasution, The Effect of Cooperative Integrated Reading and Composition (CIRC) Strategy on Students' Reading Comprehension at XI Grade of MAN 1 Padangsidempuan in Academic Year 2014/2015, *Unpublished Thesis*, Padangsidempuan: Faculty and Teacher Training, STAIN PADangsidempuan, 2015.

² Khoridah, The Effect of STAD (Student Team Achievement Division) On Students' Reading Comprehension at Grade VIII N 5 Padangsidempuan in Academic Year 2014/2015, *Unpublished Thesis*, Padangsidempuan: Faculty and Teacher Training, STAIN PADangsidempuan, 2015.

³ Rafika Sa'adah Siregar, The Effect of Determining Main Ideas Strategy On Students' Reading Comprehension at Grade VIII SMP Negeri 5 Padangsidempuan in Academic Year 2015/2016, *Unpublished Thesis*, Padangsidempuan: Faculty and Teacher Training, STAIN PADangsidempuan, 2016.

⁴ Ermita Harianja, The Influence of Critical Reading Strategies Mastery On Students Reading Comprehension at English Aducation Study Program State Collage for Islamic Studies Padangsidempuan in Academic Year 2011/2012, *Unpublished Thesis*, Padangsidempuan: Faculty and Teacher Training, STAIN Padangsidempuan, 2012.

Critical Reading Strategies, students' score was low and for the researcher, the mean score of pre-test of experimental group was under the standardization the standardization mark is 75.

Then, for the post-test result, Lonni Nur Iffah Nasution⁵ got the experimental class' score was 80.95. Khoridah⁶ got the experimental class' score was 80.5, and it was lower than Lonni's result. Rafika Sa'adah Siregar⁷ got the experimental class' score was 81.15, and it was higher than Lonni's and Khoridah's result, and Ermita Harianja⁸ got the experiential class' score was 75.47. it was lower than Lonni's and Khoridah's and Rafika's result. beside, the researcher got the mean score for experimental class after using Critical Reading Strategies was 81.91 and was the highest score among the related findings.

from the description, it can be seen that the highest mean score of post-test of the experimental group was gotten by researcher where the mean score of post-test was 81.91 and the lowest mean score of post test was gotten by Khoridah in her thesis where the mean score of post-test 56.64. So, among the mean score of post-test, the mean scores have increased than pre-test. where, for the researcher result, the

⁵ Lonni Nur Iffah Nasution, The Effect of Coerative Integrated Reading and Composition (CIRC) Strategy on Students' Reading Comprehension at XI Grade of MAN 1 Padangsidimpuan, *Op.Cit.*

⁶ Khoridah, The Effect of STAD (Student Team Achievement Division) On Students' Reading Comprehension at Grade VIII N 5 Padangsidimpuan, *Op.Cit.*

⁷ Rafika Sa'adah Siregar, The Effect of Determining Main Ideas Strategy On Students' Reading Comprehension at Grade VIII SMP Negeri 5 Padangsidimpuan. *Op.Cit.*

⁸ Harianja, The Influence of Critical Reading Strategies Mastery On Students Reading Comprehension at English Aducation Study Program State Collage for Islamic Studies Padangsidimpuan. *OP.Cit.*

mean score of post-test was passed the standardization where Beside that, the researcher also found that t_0 is higher than t_t where t_0 was 4.14 and t_t was 2.021 ($4.14 > 2.021$). Where, the researcher result of t-test was the highest among the related findings result. So, the result of t-test of students teams achievement division (STAD) Strategy highest than the result t-test of related findings. It can be seen that among the researches, the using of students teams achievement division (STAD) Strategy gave the effect on students' reading comprehension in descriptive text especially at grade X in SMA N 7 Padangsidempuan where it is suitable with the theory from Roehl, definition of reading comprehension is an ability to understand what the readers read where words have context and texts have meaning.⁹ Besides that, the students could active in their class, so that students easy in remembering what students were learned. This proofs show that students teams achievement division (STAD) strategy is suitable to be applied in teaching reading because it has been proven by the previous researches and the theory. So, students teams achievement division (STAD) strategy has given the significant effect on the research that has been done by the researcher or the other researcher who mentioned in related finding.

From the result of the research that is previously stated, it was proved that the students of the experimental group who were taught reading comprehension by using , students teams achievement division (STAD) strategy got better result than the control group that were taught reading comprehension by using conventional strategy.

⁹ K.M. Roehl, *Developing Reading Comprehension Skill in EFL*, (Taiwan: St. Jhon's University, 2003), p.177.

E. Threats of the Research

The researcher found the threat of this research as follow:

1. The students needed more time for answering the test.
2. There were some of students that were noisy while teaching and learning process. So, it can disturb the concentration of the others.
3. There were some students that were lack of serious to answer the test in pre-test and post-test. It can be threats of the research. So, the researcher can not reach the validity of trustworthiness data.

CHAPTER V

CONCLUSION AND SUGGESTION

A. Conclusion

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

1. The result mastery Before using students' teams achievement division (STAD) strategy, the mean score of experimental was 55,64 and the mean score of control class was 54,28.
2. The result after using students' teams achievement division (STAD) strategy , the mean score of experimental class was 73,84 . Then the mean score of control class 61,24.
3. The result of research showed that the students' score in the experimental class was higher than control class. Even though it was not a high difference, the result prove that t_0 was higher than t_t . t_0 was 4.14 and t_t was 2.021 ($4.14 > 2.021$). It means that there was a significant effect of students' teams achievement division (stad) strategy on students' reading comprehension in descriptive text at grade XI in SMA N 7 Padangsidempuan. So the hypothesis was accepted.

B. Suggestion

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

1. The headmaster of SMA N 7 Padangsidimpuan, it can be used to motivate the teachers to teach as well as possible to maximize learning writing process because through this research it was proven that this strategy increased students especially reading comprehension.
2. English teacher, as an English teacher were hoped to use appropriate strategies explain the English subject to the students. The writer suggest that the stad can be applied on English teaching classroom especially on reading comprehension.
3. Other researchers, the researcher hope other reserch to do the research about other strategy.

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CURRICULUM VITAE

A. Identity

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Place/Birth : Sidong-dong /September, 20th 1995
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Religion : Islam
Address : Sidong-dong, Kec. Barumun Tengah, Kab. Padang
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B. Parents

Father's Name : Marahasim Harahap
Mother's Name : Madalena Siregar

C. Educational Background

1. Elementary School : SD Sidong-dong (2007)
2. Junior High School : MTs N Pasar Purba Bangun (2010)
3. Senior High School : SMA N 1 Barumun Tengah (2013)
4. Institute : IAIN Padangsidempuan (2018)

Appendix 1

RENCANA PELAKSANAAN PEMBELAJARAN (RPP)

EXPERIMENT CLASS

Nama Sekolah : SMA N 7 Padangsidempuan

Mata Pelajaran : Bahasa Inggris

Kelas / Semester : X/Ganjil

Alokasi Waktu : 4 pertemuan (4x45 menit)

A. Standar Kompetensi

Memahami makna teks pendek berbentuk teks deskripsi dalam konteks kehidupan sehari-hari.

B. Kompetensi Dasar

Memahami makna teks deskripsi dalam bentuk teks pendek dan sederhana dalam berbagai konteks kehidupan sehari-hari.

C. Indikator

Siswa diharapkan mampu:

1. Menentukan topik dari teks
2. Menentukan ide pokok dari teks
3. Mengambil informasi penting dari teks
4. Memahami makna-makna tertentu dari sebuah kata
5. Membuat kesimpulan dari teks

D. Tujuan Pembelajaran

Siswa diharapkan mampu:

1. Menunjukkan kesungguhan belajar bahasa Inggris terkait teks deskripsi.
2. Menunjukkan perilaku peduli, percaya diri dan tanggung jawab dalam melaksanakan komunikasi terkait teks deskripsi
3. Mengidentifikasi fungsi sosial, struktur teks, dan unsur kebahasaan dari teks.
4. Merespon makna teks deskripsi.
5. Menyusun teks deskripsi.

E. Materi Ajar

- Deskripsi teks.

F. Metode Pembelajaran

- STAD (students team achievement division)

G. Langkah-langkah Kegiatan Pembelajaran

➤ *Pertemuan pertama*

1. Pendahuluan
 - a. Memberi salam
 - b. Absensi
 - c. Berdoa
 - d. Menjelaskan indikator dan memberi motivasi
2. Kegiatan Inti
 - a. Guru menginformasikan kepada siswa bahwa setelah guru menyajikan pembelajaran membentuk tim

- b. Guru menyajikan pelajaran
- c. Membentuk tim yang terdiri dari 4 atau 5 siswa yang mewakili seluruh bagian dari kelas (dalam hal kemampuan akademik, jenis kelamin, ras, etnisitas)
- d. Praktim tim (menemukan topik, main idea, mengidentifikasi informasi yang di butuhkan, memberi kesimpulan, dan memahami vocabulari dari sebuah teks)
- e. Memberi evaluasi dan mengumumkan nilai tim.

3. Penutup

- a. Guru menanyakan kesulitan siswa selama pembelajaran
- b. Guru menyimpulkan pelajaran
- c. Salam penutup

➤ Pertemuan kedua

- 1). Pendahuluan
 - a. greeting/salam
 - b. absensi
 - c. berdoan
 - d. menjelaskan indikator dan memberi motivasi
- 2). Kegiatan inti
 - a. siswa mengerjakan kuis individual
 - b. guru memberi evaluasi kuis individual siswa

c. guru memberikan penghargaan apabila skor rata-rata siswa mencapai kriteria tertentu.

3). Penutup

a. greeting/salam

H. Media dan Sumber Belajar

1. Media

a. Board marker

b. White board

c. Student's worksheet

2. Sumber

a. Buku yang relevan

b. Kamus

c. Internet

I. Penilaian

Indikator	teknik	Bentuk penilaian	Instrument
a. Mengidentifikasi topik dalam teks deskripsi	Tes tertulis	Multiple chooice	Chooicethe correct answer by a,b,c or d
b. Mengidentifikasi spesifik informasi			

dalam teks deskripsi			
c. Mengidentifikasi kesimpulan dari teks deskripsi			
d. Memahami vocabulari dari teks deskripsi			

Padangsidempuan, february 2018

Validator

Researcher

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Appendix 2

RENCANA PELAKSANAAN PEMBELAJARAN (RPP)

CONTROL CLASS

Nama Sekolah : SMA N 7 Padangsidempuan

Mata Pelajaran : Bahasa Inggris

Kelas / Semester : X/Ganjil

Alokasi Waktu : 4 pertemuan (4x45 menit)

J. Standar Kompetensi

Memahami makna teks pendek berbentuk teks deskripsi dalam konteks kehidupan sehari-hari.

K. Kompetensi Dasar

Memahami makna teks deskripsi dalam bentuk teks pendek dan sederhana dalam berbagai konteks kehidupan sehari-hari.

L. Indikator

Siswa diharapkan mampu:

6. Menentukan topik dari teks
7. Menentukan ide pokok dari teks
8. Mengambil informasi penting dari teks
9. Memahami makna-makna tertentu dari sebuah kata
10. Membuat kesimpulan dari teks

M. Tujuan Pembelajaran

Siswa diharapkan mampu:

6. Menunjukkan kesungguhan belajar bahasa Inggris terkait teks deskripsi.
7. Menunjukkan perilaku peduli, percaya diri dan tanggung jawab dalam melaksanakan komunikasi terkait teks deskripsi
8. Mengidentifikasi fungsi sosial, struktur teks, dan unsur kebahasaan dari teks.
9. Merespon makna teks deskripsi.
10. Menyusun teks deskripsi.

N. Materi Ajar

- Deskripsi teks.

O. Metode Pembelajaran

- STAD (students team achievement division)

P. Langkah-langkah Kegiatan Pembelajaran

➤ *Pertemuan pertama*

4. Pendahuluan
 - a. Memberi salam
 - b. Absensi
 - c. Berdoa
 - d. Menjelaskan indikator dan memberi motivasi
5. Kegiatan Inti
 - f. Guru menyajikan pelajaran

- g. Siswa praktek untuk menentukan topik, main idea, mengidentifikasi informasi yang di butuhkan, memberi kesimpulan, dan memahami vocabulari dari teks.

6. Penutup

- d. Salah satu siswa memberi kesimpula
- e. Siswa lain merespon

➤ Pertemuan kedua

1). Pendahuluan

- a. greeting/salam
- b. absensi
- c. berdoan
- d. menjelaskan indikator dan memberi motivasi

2). Kegiatan inti

- a. guru menyajikan pelajaran
- b. siswa praktek untuk menemukan topik, main idea, mengidentifikasi informasi yang dibutuhkan, memberi kesimpulan, dan memahami vocabulari dari teks.

3). Penutup

- a. salah satu siswa memberi kesimpulan
- b. siswa lain merespon

Q. Media dan Sumber Belajar

3. Media

- a. Board marker
- b. White board
- c. Student's worksheet

4. Sumber

- d. Buku yang relevan
- e. Kamus
- f. Internet

R. Penilaian

Indikator	teknik	Bentuk penilaian	Instrument
e. Mengidentifikasi topik dalam teks deskripsi	Tes tertulis	Multiple chooice	Chooicethe correct answer by a,b,c or d
f. Mengidentifikasi specifik informasi dalam teks deskripsi			
g. Mengidentifikasi kesimpulan dari teks deskripsi			

h. Memahami vocabulari dari teks deskripsi			
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Padangsidimpuan, february 2018

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Appendix 3

LEARNING MATERIAL

A. Definition of Descriptive Text

Descriptive is a text which retells events or experiences in the past. Its purpose is either to inform or to entertain the audience. There is no complication among the participants and that differentiates from narrative.

B. Generic Structure of Descriptive

1. Identification
2. Description

C. Language Feature of Recount

1. Introducing personal participant; I, my group, etc
2. Using chronological connection; then, first, second, etc
3. Using liking verb; was, were, saw, heard, etc
4. Using action verb; look, go, change, etc
5. Using simple past tense

D. Example of Descriptive teks

Masjid sultan suriansyah

Masjid sultan suriansyah is a historical mosque. Built 300 years ago, this building is the oldest mosque in south kalimantan. The mosque is located in the north kuin village of Banjarmasin. It was built in the reign of sultan suriansyah known as pangeran samudera. He was the first banjarnese king

who converted into islm. This mosque was found on the bank of the kuin river, near kampung kraton, which was destroyed by the dutch colonial.

The construction of masjid sultan suriansyah was unique. The roof is layered. It took the banjar's past rchitectures before islam came. Different from any other old mosque in banjar, the mihrab has its own roof, separated from the main building.

A. Read the text and answer the question !

Question:

1. What is the mainly discussed ?
2. Masjid sultan suriansyah was constructed in era of ..
3. From the text we know that...
4. What is the main idea of paragraph II ?
5. What is the conclusion of the text ?

Answer:

- 1.the text discussed about “ historical mosque”
2. masjid suriansyah was consructed in era of “ sultan suriansyah”
- 3.from text we know that “ some consructruction of the mosquetakes the local style

Padangsidimpuan, January 2018

Validator

Researcher

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Appendix 4

PRE TEST FOR CONTROL AND EXPERIMENTAL CLASS

Choose the correct answer by crossing a, b, c or d

Text one for question number 1-3

Read the following text to answer questions number 1-3

Kediri is a name of a town. It is situated in a valley between the kelud and willis mountains inhabited by about 1.3 million people. In the centre of the town there is a large hill which is called the dathok mountain. Because of the topography of the region, kediri is called a chilly town by the locals. There is a big river called brantas cutting off the centre of the town.

Beside of the temples, kediri is also famous for its products like cigarettes and a special kind of tofu or bean curd. This highly nutritious food is delicacy of kediri and has a distinctive taste. The cigarettes factory dominates the town economy and employs the majority of the women labor force. Kediri and the cigarettes factory are inseparable and it is considered the biggest cigarette factory in indonesia. Most of the local people work in this factory. Those who do not work here are farmers or trader

1. what does the above text tell about ?
 - a. the history of kediri
 - b. the famous products of kediri
 - c. the description of kediri
 - d. the people
2. which one has a distinctive taste?
 - a. The cigarette
 - b. The special food
 - c. The bean curd
 - d. The highly nutritious food
3. “ those who do not work here...”(last sentence). The underlined word refers to
 - a. The local people
 - b. The factory workers
 - c. The farmersd
 - d. The traders

Read the following text to answer questions number 4-5

Bale kambang

Bale kambang is a small village in the southern coast of east java, seventy kilometers from malang town and two hours' drive from south. It is well known for its long beautiful white sandy beach as well as the similarity of its temple to the one of tanah lot in bali.

In bale kambang, there are three small rocky islands namely ismaya island wisanggeni island, and anoman island, those names are taken from "wayang" figures (java traditional puppets). These islands are surrounded by indonesian ocean which huge waves frighten most overseas cruisers.

1. What makes bale kambang famous?
 - a. Small rocky islands
 - b. Long beautiful beach
 - c. Huge waves of ocean
 - d. Overseas cruisers

2. What is the main idea of the second paragraph?
 - a. There are three rocky islands in bale kambang
 - b. Huge waves frighten many overseas cruisers
 - c. Name of rocky islands are taken "wayang" figures
 - d. The rocky islands in the middle of the sea

Read the following text to answer questions number

Paris

Paris is the capital of a european naation, france. It is also one of the most beautiful and most famous cities in the world.

Paris is called the city of light. It is also an international fasion center. What stylish women are wearing in paris will be worn by women all over the world. Paris is also the famous for its world center of education. For instance, it is the headquarters of UNESCO, the united nations educational, scientific and cultural organization.

The seine river divides the city into two parts. Thirty-two bridges cross the scenic river. The oldest and perhaps the most well-know is pon neuf, which was built in the sixteenth century. Sorbonne, a famous university, is located on the left bank (south side) of the river. The beautiful white church sacre coeur lies on the top of hill called montmartre on the right bank (nort side) of the seine.

There are many other famous places in paris, such as the famous museum the louvre as well the cathedral of notre dame. However, the most famous landmark in this city must be the eiffel tower.

Paris is named after a group of people called the perisii. They built a small village on an island in the middle of the seine river about two thousand years ago. This island is called lie de la cite. It is where notre dame located. Today around eight million people live in paris area.

1. The fifth paragraph tells..
 - a. The origin of the word paris
 - b. About the paris
 - c. The location of notre dame
 - d. A village built a thousand years ago
 - e. An island in the middle of the seine river
2. What is the oldest and most well known part of the city?
 - a. The seine river
 - b. The pont neuf
 - c. The sorbonne
 - d. The right bank
 - e. The left of bank
3. From the text we know that notre dame is located..
 - a. Near left louvre
 - b. On the left bank
 - c. On the right bank
 - d. Outside the city of paris
 - e. In the middle of the seine river
4. What is the oldest and most well known part of the city?
 - a. The seine river
 - b. The sorbonne
 - c. The pont neuf
 - d. The right bank
 - e. The left bank
5. What is generic structure of the text above?
 - a. Orientation-complication-resolution
 - b. Classification-description
 - c. Identification-description
 - d. Orientation-description
 - e. Introduction-events-reorientation

Read the following text to answer questions number

The indonesian archipelago

The indonesian archipelago is the largest group of islands in the world. It extends between two continents, asia and australia. It also lies between two oceans the samudera indonesia and the pacific ocean.

Indonesia's 13,667 islands stretch 5,120 kilometers from east to west and 1,770 kilometers from north to south. The five main islands are Sumatra, Java, Kalimantan, Sulawesi, and Irian Jaya.

Indonesia has a land area of 1,904,345 square kilometers. More than half of it is forested land and a part is mountainous, with 15 of the mountains are still volcanically active. One of history's greatest volcanic eruptions, which killed thousands of people, occurred in 1883 on the island of Krakatau, which lies between Java and Sumatra.

Indonesia is one of the most populous countries in the world. Its total population is 160 million. More than 60% of the population live on the island of Java. The Indonesian population consists of more than 300 ethnic groups which speak 500 different languages, but most of them understand the national language, Bahasa Indonesia. The Indonesian government's campaign to popularize Bahasa Indonesia at present can be seen, through signs in public places and various which say 'use good Bahasa Indonesian correctly. Indonesian's motto *Bhinneka Tunggal Ika*, which means unity in diversity, symbolizes the unity of the people in spite of their ethnic and cultural origins.

1. The first paragraph tells about..
 - a. The islands in the world
 - b. The location of Indonesia
 - c. The continents of Asia and Australia
 - d. The Samudera Indonesia and Pacific Ocean
 - e. The Indonesian population
2. Based on the text, the Indonesian archipelago consists of... islands.
 - a. 1,904,345
 - b. 13,667
 - c. 5,120
 - d. 1,770
 - e. 500
3. "... occured in the 1883 on the island of Krakatau.." (see paragraph 3) the underlined word has similar meaning with..
 - a. Erupted
 - b. Was done
 - c. Happened
 - d. Took part
 - e. Built
4. "... it extends between two continents,..." (paragraph 1) the word 'it' refers to...
 - a. The largest groups of islands
 - b. The Indonesian archipelago
 - c. The islands in the world
 - d. The Samudera Indonesia
 - e. The Indonesian government's

Read the following text to answer questions number

Rowan atkinson is an english comedian, actor and writer, famous for his title roles in the british television comedies blackadder, the thin blue line and Mr.Bean. he has been listed in the observer as one of the 50 funniest actors in british comedy.

Atkinson is mostly well known as Mr.Bean.

Rowan atkinson is a quite thin man. He has fair complexion and black short hair. Some people considered atkinson” the man with the rubber face.” In fact, he has really funny face with unique smile. He is in medium height of european people. He has a pointed nose, big black eyes and thick eyebrows. His moustache and sideburns are usually well shaved. He usually wears a man’s suit with shirt, collar, trousers and a pair of shiny shoes.

Rowan atkinson was born was born in conssett, country durham on 6th january 1955. He has two elder brothers. Atkinson studied electical engineering at newcastle university and continued with an Msc at Queen’s collage, oxford. Atkinson married sunetra sastry in 1990. The couple has two children, lily and benjamin, and lives in englandin the northamptonshire. Wuth an estimated wealth of s100 million, atkinson owns many expensive cars.

1. The text mainly describes...
 - a. Rowan atkinson
 - b. Rowan atkinson’s scholl
 - c. Rowan atkinson’s movies
 - d. Comedy festivals in england
 - e. Tv show in england
2. “Rowan atkinson is a quite thin man.”(paragraph 2) the word “thin” the same meaning as...
 - a. Stocky
 - b. Athletic
 - c. Skinny
 - d. Chubby
 - e. Muscular
3. “The couple has two children, lily and benjamin,...”(paragraph 3) the underlined words refer to...
 - a. Atkinson and family
 - b. Lily and benjamin
 - c. Atkinson and his children
 - d. Atkinson and sunetra sastra
 - e. Sunetra sastry and her children

Read the following text to answer questions number 1 to 3.

Yogyakarta is one of the foremost cultural centers of java, the seats of the mighty javanese empire of mataram from which present day yogyakarta has the best inherited traditions. The city itself has a special charm, which seldom fails to captivate the visitor. Gamelan, classical and contemporary javanese dances, leather puppet, theater and other expressions of traditional art will keep the visitor spellbound. Local craftsmen excel in art such as batiks, silver and leather works. Next is a culture oriented society.

Yogyakarta is often called the main gateway to the central java as where it is geographically located. It stretches from mount merapi to the indian ocean. There is a daily air service to yogyakarta from jakarta, surabaya and bali as well as regular train service and easy accessibility by road. Yogyakarta is commonly considered as the modern cultural center of central java. It is a very lively city and a shopper's delight. The main road, malioboro street, is always crowded and famous for its night street food culture and street vendors. Many tourist shops and cheap hotels are concentrated along this street or in the adjoining tourist area such as sosrowijayan street.

The key attraction of yogyakarta is 'kraton' (the sultan's palace), the center of yogyakarta's traditional life and despite the advance of modernity; it still emanates the spirit of refinement, which has been the hallmark of yogyakarta's art for centuries. This vast complex of decaying buildings was built in the 18th century, and is actually a walled city within the city with luxurious pavilions and which the current sultan still resides. Yogyakarta is also the only major city, which still has traditional 'becak' (rickshaw-style) transport.

1. What the purpose of the text?
 - a. To amuse the readers with yogyakarta
 - b. To describe the location of yogyakarta
 - c. To persuade the readers to go to yogyakarta
 - d. To promote yogyakarta as tourist destination
 - e. To tell the readers the history of yogyakarta
2. We know from the second paragraph that...
 - a. Plane is the most convenient access to reach yogyakarta
 - b. Many local tourists prefer staying in sosrowijayan street
 - c. Sosrowijayan is also known as shopping and culinary delight
 - d. There are many convenient stores in the streets of yogyakarta
 - e. Malioboro street is a crowded mainroad which is alive 24 hours
3. "... spirit of refinement, which has been the hallmark of yogyakarta's art for centuries. (paragraph 3) the underlined word is closest in meaning...
 - a. Settlement
 - b. Development
 - c. Improvement

- d. Involvement
- e. Engagement



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Appendix 5

POST TEST FOR CONTROL AND EXPERIMENTAL CLASS

Choose the correct answer by crossing a, b, c or d

Text one for question number 1-4

Most people in the world have a pet. I also have it. My pet is a dog, named miko. Its color is brown. It has brown eyes, too. I got this pet from my friend at the beginning of 2009. He bought it from a pet shop in his country. Once a week, my mother bathes him. He is funny and smart. It often plays with my neighbour's dog. I love him very much because he can be friend, too.

1. Miko's eyes are....
 - a. Black
 - b. White
 - c. Brown
 - d. Dark brown
2. The writer got the pet from...
 - a. His neighbour
 - b. A pet shop
 - c. His friend
 - d. His mother
3. What is the text about..
 - a. My lovely dog
 - b. My best friend
 - c. My pet shop
 - d. My neighbour's pet

I have a close friend. She is beautiful, attractive and trendy. She always wants to be trend setter of the day. She always pays much attention to her apperance. Recently, she bought a new stylist foot legs from blowfish shoes products. These shoes really match on her.

Her new blowfish women's shoes are wonderful. When she is walking on those shoes, all her friends, including me wacth and admire that she has the most suitable shoes on her physical apperance. The style, bright color, and brand represent her as a smart woman of the day. She really has perfect apperance.

She is really mad on those shoes. She said that the products covered all genders. The blowfish men's shoes are as elegant as she has. The products provide varieties of

choice. Ballet, casual, boot athletic shoes are designed in attractive way. The products are international trade mark and become the hottest trend.

1. The writer's friend has just bought.. from blowfish shoes products
 - a. A new match shoes
 - b. A new stylist foot legs
 - c. A trendy and attractive shoes
 - d. A brand and bright color shoes
2. Why does writer admire her friend?
 - a. She likes wearing an international trade mark shoes
 - b. She always wants to be a trendy and attractive woman
 - c. She has the most suitable shoes on her physical appearance
 - d. She really has perfect appearance with her wonderful shoes
3. Writer writes the text in order to..
 - a. Describe her friend's style and her new shoes
 - b. Explain an international trademark shoes
 - c. Share her experience with her friend
 - d. Tellblowfish shoes products
4. "She really has perfect appearance." The word " she" refers to..
 - a. The writer
 - b. A close friend
 - c. The writer's friend
 - d. Ablowfish women's shoes

Peter is the youngest in our family. He is fourteen years old and four years younger than me. He has long, straight hair, bright eyes and friendly smile. Sometimes he is rather naughty at home, but he usually does what he is asked to do. Peter is interested in sports very much, and at scholl, he plays football and tennis. He is the best badminton player in our family.

1. How old is peter? He is .. yers old.
 - a. four
 - b. Fourteen
 - c. Forty
 - d. Ten
2. The writer is... years old.
 - a. Fourteen
 - b. Sixteen

- c. Eighteen
 - d. Nineteen
3. Which of the following statement is not true about peter?
 - a. He has long and straight hair
 - b. He has bright eyes
 - c. He is not interested in sport
 - d. He plays football and tennis
 4. According to the passage, we know that peter is...
 - a. The writer's youngest brother
 - b. The writer's elder brother
 - c. A naughty boy
 - d. A friendly boy
 5. It is implied in the passage that..
 - a. Peter is naughty
 - b. Peter is lazy
 - c. Peter is unfriendly
 - d. Peter is diligent
 6. From the text, we may conclude that..
 - a. Many people do not like peter
 - b. People is older that the writer
 - c. Peter is a welcoming person
 - d. Peter ois not diligent at all
 7. What is the text mostly about?
 - a. Peter
 - b. Peter's hobby
 - c. Peter's family
 - d. Peter's elder brother
 8. "He is fourteen years old... than me." The underlined word refers to..
 - a. Peter
 - b. The writer
 - c. The writer's brother
 - d. The writer's family
 9. "Peter is interested sports very much, and at scholl he plays football and tennis."
 - a. Dislike sport
 - b. Really likes sport
 - c. Hates sport very much
 - d. Finds sport not really entertaining
 10. "But he usually does what he is asked to do" the underlined phrase means..
 - a. He does anything he wants
 - b. He always asks
 - c. He is lazy
 - d. He is diligent

My pet

I have a pet. It is a dog and i call dogly. Dogly is a chinese breed. It is small, fluffy, and cute. It has got thick black fur. When i cuddle it, the fur feels soft.dogly does not like bones. Every day it eats soft food like steamed rice, fish, or bread. Every morning i give him milk and bread. When i am at scholl, dogly plays with my rabbit. The y get along well, and never fight maybe baccuse dogly does not bark a lot. It treats the other animals in our house gently, and it never eats shoes. Dogly is realt aweet and friendly animals.

1. The communicative purpose of this text is..
 - a. To describe a particular animal
 - b. To share an amusing incident with others
 - c. To present two poins of view about an issue
 - d. To inform the readers about the beauty of dogly
 - e. To retell events for the porpuse of informing and entertaining
2. How does dogly look like?
 - a. Big, fierce, and cute
 - b. Big, fluffy, and fierce
 - c. Small, fierce, and stink
 - d. Small, fluffy, and cute
 - e. Small, fluffy, and stink
3. Whom dogly plays with wheb the writer goes to scholl?
 - a. The writer's sister
 - b. The writer's mother
 - c. The writer's cat
 - d. Thewriter's other dog
 - e. The writer's rabbit
4. What does dogly eat every morning?
 - a. Fish and rice
 - b. Bread and milk
 - c. Bone and milk
 - d. Rice and bone
 - e. Milk and fish
 - f. Rice and bread

I live i a small village called dempet in demak, central java. It is a nice and quiet place. My house is near a brigde which goes to a market. Behind my house is a big river. The street in front of my house is about ten meters wide. People in my village are mostly farmers. They grow paddy, watermelons, and cucumbers. Some people earn their living by raising cattle, such as goats, sheep, and cows. Some others are traders. They sell crops and other stuff at the market.

Early in the morning, the street in front of my house is always crowded by people going to the market. The goods are carried by horse carts and bicycles.

1. What do the people in the writer's village mostly do for a living? By being a..
 - a. Farmer
 - b. Seller
 - c. Shepherd
 - d. Trader
2. How do the villagers earn their living? They are..
 - a. Growing flowers
 - b. Raising chicken
 - c. Selling paddy
 - d. Driving horse carts

Padangsidempuan, Oktober2017

Validator

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Appendix 6

THE KEY ANSWER OF PRE TEST

1. B	6. A	11. B	16. D	21. B
2. C	7. A	12. A	17. C	22. D
3. A	8. C	13. C	18. D	23. C
4. C	9. B	14. D	19. A	24. C
5. A	10. D	15. D	20. D	25. D

THE KEY ANSWER OF POST PEST

1. C	6. B	11. A	16. D	21. C
2. B	7. B	12. A	17. D	22. B
3. A	8. B	13. B	18. B	23. D
4. C	9. C	14. A	19. C	24. A
5. A	10. B	15. C	20. A	25. C

Appendix 7

Reliability of Pre-Test

NO	NO ITEM																									Xt	Xt ²
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25		
1	1	1	1	1	1	1	1	1	1	0	1	1	1	0	0	1	1	1	1	1	1	1	1	1	0	21	441
2	0	1	1	1	1	1	1	1	1	0	1	1	1	0	0	1	1	1	1	1	1	1	0	1	1	20	400
3	1	1	1	1	0	1	1	1	1	1	1	1	0	0	1	1	1	1	1	1	0	1	1	1	1	21	441
4	1	1	1	1	0	1	0	1	1	0	1	1	1	0	0	1	1	1	1	1	1	1	1	1	1	20	400
5	0	1	0	0	0	0	0	1	0	0	0	0	0	0	1	0	0	0	1	0	0	1	0	1	1	7	49
6	1	1	1	1	0	1	1	1	1	1	1	1	1	0	0	1	1	1	1	1	0	1	1	1	1	21	441
7	0	1	1	1	0	1	1	1	1	0	0	1	1	0	0	1	1	0	1	1	0	0	1	1	0	15	225
8	1	1	1	0	0	0	0	1	1	0	1	1	0	0	0	1	0	1	0	0	1	0	0	1	1	12	144
9	1	1	0	1	0	1	1	1	1	0	1	1	1	0	0	1	1	1	1	1	1	0	1	1	0	18	324
10	1	1	1	1	1	1	1	0	0	1	0	0	1	0	0	0	0	1	0	1	1	1	0	0	1	15	225
11	0	0	1	0	0	0	1	0	1	0	0	1	1	0	0	0	1	0	0	0	0	0	0	1	1	9	81
12	1	1	1	1	1	1	0	1	1	1	1	1	1	1	1	0	1	1	1	1	1	1	1	0	1	22	484
13	0	0	1	1	0	1	1	1	1	1	1	0	0	0	0	1	1	1	0	0	1	1	1	1	1	16	256
14	0	1	1	1	1	1	1	1	1	0	1	1	1	0	0	0	0	1	1	1	1	1	1	1	1	19	361
15	1	1	1	1	1	1	1	1	1	1	1	1	1	0	0	1	0	1	1	1	1	1	1	1	1	22	484
16	1	1	1	0	1	0	1	1	1	1	1	1	0	1	1	1	0	1	1	1	0	1	1	1	1	20	400
17	0	1	1	1	0	0	1	0	1	1	1	1	1	1	1	1	0	0	1	1	0	1	1	0	1	17	289
18	1	1	0	1	0	0	1	0	1	0	1	0	0	0	0	1	1	0	0	1	0	1	1	1	1	13	169
19	1	1	1	1	1	0	1	1	1	1	0	1	1	0	0	1	1	1	1	0	0	1	1	1	1	19	361
20	0	1	1	1	0	1	1	0	1	0	1	1	1	1	1	1	1	1	1	0	1	0	1	1	0	17	289
21	1	0	1	1	0	1	1	1	1	1	1	1	0	0	0	1	1	1	1	1	1	1	1	1	1	20	400
22	1	0	1	1	1	0	1	1	1	1	1	1	0	0	0	1	1	1	1	1	0	1	1	0	0	17	289
23	1	1	1	1	1	1	0	0	1	0	1	0	0	1	1	1	0	1	1	0	1	0	1	1	1	17	289
24	0	0	0	0	0	0	0	0	0	1	0	0	0	0	1	1	0	0	0	1	1	0	0	0	0	5	25
25	0	0	1	0	1	1	1	1	1	1	1	1	1	1	1	1	0	1	1	1	1	1	1	1	1	21	441
26	0	0	1	1	0	0	0	1	0	0	0	0	0	1	1	0	0	0	0	0	0	0	1	1	0	7	49

27	0	1	0	0	1	1	1	0	0	0	1	0	0	1	1	1	1	1	1	0	0	1	0	0	1	13	169
28	1	1	1	1	1	1	1	1	1	0	1	1	1	0	0	1	0	1	1	1	0	1	1	1	0	19	361
29	1	0	1	1	0	1	1	1	1	0	1	1	1	0	0	1	1	1	1	1	0	0	1	1	1	18	324
30	1	1	1	0	0	1	1	1	1	1	0	1	1	0	0	1	0	1	1	1	0	1	1	1	1	18	324
N= 30	18	22	25	22	13	20	23	22	26	13	22	22	18	9	11	23	18	22	24	22	13	22	24	23	22	$\Sigma xt =$ 499	$\Sigma xt^2 =$ 8935
P	0,6	0,7	0,8	0,7	0,4	0,7	0,8	0,7	0,9	0,4	0,7	0,7	0,6	0,3	0,4	0,8	0,6	0,7	0,8	0,7	0,4	0,7	0,8	0,8	0,7		
Q	0,4	0,3	0,2	0,3	0,6	0,3	0,2	0,3	0,1	0,6	0,3	0,3	0,4	0,7	0,6	0,2	0,4	0,3	0,2	0,3	0,6	0,3	0,2	0,2	0,3		
p.q	0, 24	0, 21	0, 16	0, 21	0, 24	0, 21	0, 16	0, 21	0, 09	0, 24	0, 21	0, 21	0, 24	0, 21	0, 24	0, 16	0, 24	0, 21	0, 16	0, 21	0, 24	0, 21	0, 16	0, 16	0, 21	$\Sigma pq =$ 5,04	

Appendix 8

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

A Calculation of Pre-test

1. Means score from score total (M_t)

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

$$M_t = \frac{499}{30} = 16.63$$

2. Standard deviation (SD_t)

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

$$SD_t = \sqrt{\frac{8935}{30} - \left(\frac{499}{30}\right)^2}$$

$$SD_t = \sqrt{297,83 - 276,5}$$

$$SD_t = \sqrt{21.33} = 4.61$$

3. Mean score (M_p)

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

$$M_{p1} = \frac{21 + 21 + 20 + 21 + 12 + 18 + 15 + 22 + 22 + 20 + 13 + 19 + 20 + 17 + 17 + 19 + 18 + 18}{18}$$

$$M_{p1} = \frac{333}{18} = 18.5$$

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

$$M_{p2} = \frac{21 + 20 + 21 + 20 + 7 + 21 + 15 + 12 + 18 + 15 + 22 + 22 + 20 + 13 + 19 + 20 + 17 + 17 + 19 + 18}{20}$$

$$M_{p2} = \frac{357}{20} = 17.85$$

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

$$M_{p3} = \frac{21 + 20 + 21 + 20 + 21 + 15 + 12 + 15 + 9 + 22 + 16 + 19 + 22 + 20 + 17 + 9 + 17 + 20 + 17 + 17 + 21 + 7 + 19 + 18 + 18}{25}$$

$$M_{p3} = \frac{433}{25} = 17.32$$

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

$$M_{p4} = \frac{21 + 20 + 21 + 20 + 21 + 15 + 18 + 15 + 22 + 16 + 19 + 22 + 17 + 13 + 19 + 17 + 20 + 17 + 17 + 7 + 19 + 18}{22}$$

$$M_{p4} = \frac{394}{22} = 17,90$$

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

$$M_{p5} = \frac{21 + 22 + 15 + 22 + 19 + 22 + 20 + 19 + 17 + 17 + 21 + 13 + 19}{13}$$

$$M_{p5} = \frac{247}{13} = 19$$

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

$$M_{p6} = \frac{21 + 20 + 21 + 20 + 21 + 15 + 18 + 15 + 22 + 16 + 19 + 22 + 17 + 20 + 17 + 21 + 13 + 19 + 18 + 18}{20}$$

$$M_{p6} = \frac{373}{20} = 18,65$$

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

$$M_{p7} = \frac{21 + 20 + 21 + 21 + 15 + 18 + 15 + 9 + 16 + 19 + 22 + 20 + 17 + 13 + 9 + 17 + 20 + 7 + 21 + 13 + 19 + 18 + 18}{23}$$

$$M_{p7} = \frac{399}{23} = 17.34$$

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

$$M_{p8} = \frac{21 + 20 + 21 + 20 + 7 + 21 + 15 + 12 + 18 + 22 + 16 + 9 + 22 + 20 + 19 + 20 + 17 + 21 + 7 + 19 + 18 + 18}{22}$$

$$M_{p8} = \frac{383}{22} = 17.40$$

Item 9 $M_{p9} = \frac{\text{the total of students score that answer true item}}{n9}$

$$M_{p9} = \frac{21 + 20 + 21 + 20 + 21 + 15 + 12 + 18 + 9 + 22 + 16 + 19 + 22 + 20 + 17 + 13 + 19 + 17 + 20 + 17 + 17 + 5 + 21 + 19 + 18 + 18}{26}$$

$$M_{p9} = \frac{457}{26} = 17.57$$

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

$$M_{p10} = \frac{21 + 21 + 15 + 22 + 16 + 22 + 20 + 17 + 19 + 20 + 17 + 21 + 18}{13}$$

$$M_{p10} = \frac{249}{13} = 19,15$$

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

$$M_{p11} = \frac{21 + 20 + 21 + 20 + 21 + 12 + 18 + 22 + 16 + 19 + 22 + 20 + 17 + 13 + 17 + 20 + 17 + 17 + 21 + 13 + 19 + 18}{22}$$

$$M_{p11} = \frac{404}{22} = 18.36$$

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

$$M_{p12} = \frac{21 + 20 + 21 + 20 + 21 + 15 + 12 + 18 + 9 + 22 + 19 + 22 + 20 + 17 + 19 + 17 + 20 + 17 + 21 + 19 + 18 + 18}{22}$$

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

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

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

$$M_{p13} = \frac{331}{18} = 18.38$$

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

$$M_{p14} = \frac{22 + 20 + 17 + 17 + 5 + 21 + 7 + 13}{9}$$

$$M_{p14} = \frac{139}{9} = 15.44$$

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

$$M_{p15} = \frac{21 + 7 + 22 + 20 + 17 + 17 + 17 + 5 + 21 + 7 + 13}{11}$$

$$M_{p15} = \frac{167}{11} = 15,18$$

$$\text{Item 16 } M_{p16} = \frac{\text{the total of students score that answer true item}}{n16}$$

$$M_{p16} = \frac{21 + 20 + 21 + 20 + 21 + 15 + 15 + 18 + 16 + 22 + 20 + 17 + 13 + 19 + 17 + 20 + 17 + 17 + 21 + 13 + 19 + 18 + 18}{23}$$

$$M_{p16} = \frac{418}{23} = 18.17$$

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

$$M_{p17} = \frac{21 + 20 + 21 + 20 + 21 + 15 + 18 + 15 + 9 + 22 + 16 + 13 + 19 + 17 + 20 + 17 + 13 + 18}{18}$$

$$M_{p17} = \frac{315}{18} = 17.5$$

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

$$M_{p18} = \frac{21 + 20 + 21 + 20 + 21 + 12 + 18 + 22 + 16 + 19 + 22 + 20 + 19 + 17 + 20 + 17 + 17 + 21 + 13 + 19 + 18 + 18}{23}$$

$$M_{p18} = \frac{411}{22} = 18.68$$

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

$$M_{p19} = \frac{21 + 20 + 21 + 7 + 21 + 15 + 18 + 15 + 22 + 19 + 22 + 20 + 17 + 19 + 20 + 17 + 17 + 5 + 21 + 13 + 19 + 18 + 18}{23}$$

$$M_{p19} = \frac{405}{23} = 17.60$$

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

$$M_{p20} = \frac{21 + 20 + 20 + 20 + 21 + 15 + 18 + 15 + 22 + 19 + 22 + 20 + 17 + 13 + 17 + 20 + 17 + 5 + 21 + 19 + 18 + 18}{22}$$

$$M_{p20} = \frac{399}{22} = 18.13$$

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

$$M_{p21} = \frac{21 + 20 + 20 + 12 + 18 + 15 + 22 + 16 + 19 + 22 + 20 + 17 + 21}{13}$$

$$M_{p21} = \frac{243}{13} = 18.69$$

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

$$M_{p22} = \frac{21 + 20 + 21 + 20 + 7 + 21 + 22 + 16 + 19 + 22 + 20 + 17 + 13 + 19 + 17 + 20 + 17 + 21 + 7 + 13 + 19 + 18}{22}$$

$$M_{p22} = \frac{390}{22} = 17.72$$

Item 23 $M_{p23} = \frac{\text{the total of students score that answer true item}}{n23}$

$$M_{p23} = \frac{21 + 21 + 20 + 21 + 15 + 18 + 9 + 22 + 16 + 19 + 22 + 20 + 17 + 13 + 19 + 17 + 20 + 17 + 17 + 21 + 7 + 19 + 18 + 18}{24}$$

$$M_{p23} = \frac{427}{24} = 17.79$$

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

$$M_{p24} = \frac{21 + 20 + 21 + 20 + 7 + 21 + 15 + 12 + 18 + 15 + 9 + 16 + 19 + 22 + 20 + 13 + 19 + 20 + 17 + 21 + 19 + 18 + 18}{23}$$

$$M_{p24} = \frac{401}{23} = 17.43$$

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

$$M_{p25} = \frac{20 + 21 + 20 + 7 + 21 + 12 + 15 + 9 + 22 + 16 + 19 + 22 + 20 + 17 + 13 + 19 + 20 + 17 + 21 + 13 + 18 + 18}{22}$$

$$M_{p25} = \frac{380}{22} = 17.27$$

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

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

$$r_{pbi} = \frac{18.5 - 16.63}{4.61} \sqrt{\frac{0.6}{0.4}}$$

$$r = \frac{1.87}{4.61} \sqrt{1.5}$$

$$r = 0.40 \times 1.22 = 0.488$$

Item 2 $r_{pbi} = \frac{M_p - M_t}{SD_t} \sqrt{\frac{p}{q}}$

$$r_{pbi} = \frac{17.85 - 16.63}{4.61} \sqrt{\frac{0.7}{0.3}}$$

$$r = \frac{1.22}{4.61} \sqrt{2.3}$$

$$r = 0.26 \times 1.5 = 0.375$$

Item 3 $r_{pbi} = \frac{M_p - M_t}{SD_t} \sqrt{\frac{p}{q}}$

$$r_{pbi} = \frac{17.32 - 16.63}{4.61} \sqrt{\frac{0.8}{0.2}}$$

$$r = \frac{0.69}{4.61} \sqrt{4}$$

$$r = 0.14 \times 2 = 0.28$$

Item 4 $r_{pbi} = \frac{M_p - M_t}{SD_t} \sqrt{\frac{p}{q}}$

$$r_{pbi} = \frac{17.90 - 16.63}{4.61} \sqrt{\frac{0.7}{0.3}}$$

$$r = \frac{1.27}{4.61} \sqrt{2.3}$$

$$r = 0.27 \times 1.5 = 0.405$$

Item 5 $r_{pbi} = \frac{M_p - M_t}{SD_t} \sqrt{\frac{p}{q}}$

$$r_{pbi} = \frac{19 - 16.63}{4.61} \sqrt{\frac{0.4}{0.6}}$$

$$r = \frac{2.37}{4.61} \sqrt{0.66}$$

$$r = 0.51 \times 0.81 = 0.413$$

Item 6 $r_{pbi} = \frac{M_p - M_t}{SD_t} \sqrt{\frac{p}{q}}$

$$r_{pbi} = \frac{18.65 - 16.63}{4.61} \sqrt{\frac{0.7}{0.3}}$$

$$r = \frac{2.02}{4.61} \sqrt{2.3}$$

$$r = 0.43 \times 1.5 = 0.645$$

Item 7 $r_{pbi} = \frac{M_p - M_t}{SD_t} \sqrt{\frac{p}{q}}$

$$r_{pbi} = \frac{17.35 - 16.63}{4.61} \sqrt{\frac{0.8}{0.2}}$$

$$r = \frac{0.72}{4.61} \sqrt{4}$$

$$r = 0.15 \times 2 = 0.3$$

Item 8 $r_{pbi} = \frac{M_p - M_t}{SD_t} \sqrt{\frac{p}{q}}$

$$r_{pbi} = \frac{17.40 - 16.63}{4.61} \sqrt{\frac{0.7}{0.3}}$$

$$r = \frac{0.77}{4.61} \sqrt{2.3}$$

$$r = 0.16 \times 1.5 = 0.24$$

Item 9 $r_{pbi} = \frac{M_p - M_t}{SD_t} \sqrt{\frac{p}{q}}$

$$r_{pbi} = \frac{17.57 - 16.63}{4.61} \sqrt{\frac{0.9}{0.1}}$$

$$r = \frac{0.94}{4.61} \sqrt{9}$$

$$r = 0.20 \times 3 = 0.6$$

Item 10 $r_{pbi} = \frac{M_p - M_t}{SD_t} \sqrt{\frac{p}{q}}$

$$r_{pbi} = \frac{19.15 - 16.63}{4.61} \sqrt{\frac{0.4}{0.6}}$$

$$r = \frac{2.52}{4.61} \sqrt{0.66}$$

$$r = 0.54 \times 0.81 = 0.437$$

Item 11 $r_{pbi} = \frac{M_p - M_t}{SD_t} \sqrt{\frac{p}{q}}$

$$r_{pbi} = \frac{18.36 - 16.63}{4.61} \sqrt{\frac{0.7}{0.3}}$$

$$r = \frac{1.73}{4.61} \sqrt{2.3}$$

$$r = 0.37 \times 1.5 = 0.555$$

Item 12 $r_{pbi} = \frac{M_p - M_t}{SD_t} \sqrt{\frac{p}{q}}$

$$r_{pbi} = \frac{18.45 - 16.63}{4.61} \sqrt{\frac{0.7}{0.3}}$$

$$r = \frac{1.82}{4.61} \sqrt{2.3}$$

$$r = 0.39 \times 1.5 = 0.585$$

Item 13 $r_{pbi} = \frac{M_p - M_t}{SD_t} \sqrt{\frac{p}{q}}$

$$r_{pbi} = \frac{18.38 - 16.63}{4.61} \sqrt{\frac{0.6}{0.4}}$$

$$r = \frac{1.75}{4.61} \sqrt{1.5}$$

$$r = 0.37 \times 1.22 = 0.451$$

Item 14 $r_{pbi} = \frac{M_p - M_t}{SD_t} \sqrt{\frac{p}{q}}$

$$r_{pbi} = \frac{15.44 - 16.63}{4.61} \sqrt{\frac{0.3}{0.7}}$$

$$r = \frac{-1.19}{4.61} \sqrt{0.42}$$

$$r = -0.25 \times 0.64 = 0.16$$

Item 15 $r_{pbi} = \frac{M_p - M_t}{SD_t} \sqrt{\frac{p}{q}}$

$$r_{pbi} = \frac{15.18 - 16.63}{4.61} \sqrt{\frac{0.4}{0.6}}$$

$$r = \frac{-1.45}{4.61} \sqrt{0.66}$$

$$r = -0.31 \times 0.81 = -0.251$$

Item 16 $r_{pbi} = \frac{M_p - M_t}{SD_t} \sqrt{\frac{p}{q}}$

$$r_{pbi} = \frac{18.17 - 16.63}{4.61} \sqrt{\frac{0.8}{0.2}}$$

$$r = \frac{1.54}{4.61} \sqrt{4}$$

$$r = 0.33 \times 2 = 0.66$$

Item 17 $r_{pbi} = \frac{M_p - M_t}{SD_t} \sqrt{\frac{p}{q}}$

$$r_{pbi} = \frac{17.5 - 16.63}{4.61} \sqrt{\frac{0.6}{0.4}}$$

$$r = \frac{0.87}{4.61} \sqrt{1.5}$$

$$r = 0.18 \times 1.22 = 0.219$$

Item 18 $r_{pbi} = \frac{M_p - M_t}{SD_t} \sqrt{\frac{p}{q}}$

$$r_{pbi} = \frac{18.68 - 16.63}{4.61} \sqrt{\frac{0.7}{0.3}}$$

$$r = \frac{2.05}{4.61} \sqrt{2.3}$$

$$r = 0.44 \times 1.5 = 0.66$$

Item 19 $r_{pbi} = \frac{M_p - M_t}{SD_t} \sqrt{\frac{p}{q}}$

$$r_{pbi} = \frac{17.60 - 16.63}{4.61} \sqrt{\frac{0.8}{0.2}}$$

$$r = \frac{0.97}{4.61} \sqrt{4}$$

$$r = 0.21 \times 2 = 0.42$$

Item 20 $r_{pbi} = \frac{M_p - M_t}{SD_t} \sqrt{\frac{p}{q}}$

$$r_{pbi} = \frac{18.13 - 16.63}{4.61} \sqrt{\frac{0.7}{0.3}}$$

$$r = \frac{0.5}{4.61} \sqrt{2.3}$$

$$r = 0.32 \times 1.5 = 0.48$$

Item 21 $r_{pbi} = \frac{M_p - M_t}{SD_t} \sqrt{\frac{p}{q}}$

$$r_{pbi} = \frac{18.69 - 16.63}{4.61} \sqrt{\frac{0.4}{0.6}}$$

$$r = \frac{2.06}{4.61} \sqrt{0.66}$$

$$r = 0.26 \times 0.81 = 0.210$$

Item 22 $r_{pbi} = \frac{M_p - M_t}{SD_t} \sqrt{\frac{p}{q}}$

$$r_{pbi} = \frac{17.72 - 16.63}{4.61} \sqrt{\frac{0.7}{0.3}}$$

$$r = \frac{1.1}{4.61} \sqrt{2.3}$$

$$r = 0.23 \times 1.5 = 0.345$$

Item 23 $r_{pbi} = \frac{M_p - M_t}{SD_t} \sqrt{\frac{p}{q}}$

$$r_{pbi} = \frac{17.79 - 16.63}{4.61} \sqrt{\frac{0.8}{0.2}}$$

$$r = \frac{1.16}{4.61} \sqrt{4}$$

$$r = 0.25 \times 2 = 0.5$$

Item 24 $r_{pbi} = \frac{M_p - M_t}{SD_t} \sqrt{\frac{p}{q}}$

$$r_{pbi} = \frac{17.43 - 16.63}{4.61} \sqrt{\frac{0.8}{0.2}}$$

$$r = \frac{0.8}{4.61} \sqrt{4}$$

$$r = 0.17 \times 2 = 0.34$$

Item 25 $r_{pbi} = \frac{M_p - M_t}{SD_t} \sqrt{\frac{p}{q}}$

$$r_{pbi} = \frac{17.27 - 16.63}{4.61} \sqrt{\frac{0.7}{0.3}}$$

$$r = \frac{0.64}{4.61} \sqrt{2.3}$$

$$r = 0.13 \times 1.5 = 0.195$$

Appendix 9

Test Validity of Pre-Test

Number of Item	M_p	M_t	SD_t	p	q	$r_{pbi} = \frac{M_p - M_t}{SD_t} \sqrt{\frac{p}{q}}$	r_t on 5% significant	Interpretation
1	18.5	16.63	4.61	0.6	0.4	0.488	0.361	Valid
2	17.85	16.63	4.61	0.7	0.3	0.375	0.361	Valid
3	17.32	16.63	4.61	0.8	0.2	0.28	0.361	Valid
4	17.90	16.63	4.61	0.7	0.3	0.405	0.361	Valid
5	19	16.63	4.61	0.4	0.6	0.413	0.361	Invalid
6	18.66	16.63	4.61	0.7	0.3	0.645	0.361	Valid
7	17.35	16.63	4.61	0.8	0.2	0.3	0.361	Valid
8	17.40	16.63	4.61	0.7	0.3	0.24	0.361	Valid
9	17.57	16.63	4.61	0.9	0.1	0.6	0.361	Valid
10	19.15	16.63	4.61	0.4	0.6	0.437	0.361	Invalid
11	18.36	16.63	4.61	0.7	0.3	0.555	0.361	Valid
12	18.45	16.63	4.61	0.7	0.3	0.585	0.361	Valid
13	18.38	16.63	4.61	0.6	0.4	0.451	0.361	Valid
14	15.44	16.63	4.61	0.3	0.7	0.16	0.361	Invalid
15	15.18	16.63	4.61	0.4	0.6	-0.251	0.361	Invalid
16	18.17	16.63	4.61	0.8	0.2	0.66	0.361	Valid
17	17.5	16.63	4.61	0.6	0.4	0.219	0.361	Valid
18	18.68	16.63	4.61	0.7	0.3	0.66	0.361	Valid
19	17.60	16.63	4.61	0.8	0.2	0.42	0.361	Valid
20	18.13	16.63	4.61	0.7	0.3	0.48	0.361	Valid
21	18.69	16.63	4.61	0.4	0.6	0.210	0.361	Invalid
22	17.72	16.63	4.61	0.7	0.3	0.345	0.361	Valid
23	17.79	16.63	4.61	0.8	0.2	0.5	0.361	Valid
24	17.43	16.63	4.61	0.8	0.2	0.34	0.361	Valid
25	17.27	16.63	4.61	0.7	0.3	0.195	0.361	Valid

Appendix 10

Reliability of Post-Test

No	NO ITEM																									Xt	Xt ²
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25		
1	1	1	1	1	1	0	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0	0	1	1	1	22	484
2	1	0	0	1	1	0	1	1	1	1	1	1	1	1	0	1	1	1	1	1	1	0	1	1	1	20	400
3	1	1	1	1	0	1	1	1	1	1	0	1	1	1	1	1	1	1	1	1	1	0	0	1	1	21	441
4	1	1	1	1	1	0	1	1	0	1	0	1	1	1	1	1	1	1	1	1	0	0	1	1	1	20	400
5	1	1	0	1	0	0	0	1	0	0	0	0	0	1	0	0	1	0	0	0	1	0	0	0	0	7	49
6	1	1	1	1	0	1	1	1	1	1	0	1	1	1	1	1	1	1	1	1	0	0	1	1	1	21	441
7	0	1	1	0	0	0	1	0	1	1	0	1	1	1	0	1	1	0	1	1	0	0	1	1	0	14	196
8	1	1	0	0	1	0	1	1	0	0	0	0	0	1	1	0	0	1	0	1	0	0	0	1	1	11	121
9	0	1	1	0	1	0	1	1	1	1	0	1	1	1	1	1	1	1	1	1	0	0	1	1	1	19	361
10	1	1	0	0	1	1	0	0	1	1	1	1	1	1	1	1	1	0	1	0	0	0	1	0	0	15	225
11	1	1	1	0	0	0	1	0	1	0	1	0	0	0	0	0	0	0	1	0	0	0	1	1	0	9	81
12	1	0	1	1	1	1	1	1	0	1	1	1	1	1	1	1	1	1	1	1	0	1	1	1	1	22	484
13	1	1	1	1	1	1	1	1	1	1	0	1	1	0	0	0	0	1	1	1	0	0	0	0	1	16	256
14	1	1	1	1	1	0	0	1	1	1	1	1	1	1	0	1	1	1	0	0	1	0	1	1	1	19	361
15	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0	1	0	0	1	1	1	22	484
16	1	1	1	1	0	1	1	1	1	0	1	0	1	1	1	1	1	1	1	1	1	1	0	1	1	21	441
17	1	0	1	1	1	1	1	0	1	0	0	1	1	1	0	1	1	0	0	1	1	1	1	1	1	18	324
18	1	1	1	1	1	0	1	0	1	0	0	1	1	1	1	1	0	0	1	1	0	0	0	0	1	15	225
19	1	1	1	1	1	1	1	1	1	0	1	1	1	1	1	0	1	1	1	1	0	0	1	1	1	21	441
20	0	0	1	1	0	0	1	0	1	1	0	1	1	1	0	1	0	1	1	1	1	1	1	1	1	17	289
21	1	1	1	1	1	1	1	1	1	1	0	1	0	0	1	1	1	1	1	1	0	0	0	1	1	19	361
22	0	0	1	1	0	1	1	1	1	0	1	1	1	0	1	1	1	1	1	1	0	0	0	1	1	17	289
23	1	1	1	0	1	0	1	0	0	1	1	1	1	1	1	0	1	1	0	1	1	1	1	1	1	19	361
24	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	1	1	0	0	0	1	0	0	0	0	4	16
25	1	1	1	1	1	1	1	1	1	1	1	0	1	0	0	1	1	1	0	1	1	1	1	1	1	21	441
26	0	0	1	0	0	0	0	1	0	0	0	1	0	0	0	0	0	0	0	0	0	1	0	0	0	4	16

27	0	0	0	1	1	0	0	0	1	0	1	0	1	1	0	0	1	1	1	1	1	0	0	0	1	12	144	
28	1	1	1	1	1	0	1	1	1	1	0	1	1	1	1	1	1	1	0	1	0	0	1	1	1	20	400	
29	1	1	1	0	1	0	1	1	1	1	0	0	1	0	1	1	1	1	1	1	0	1	1	1	1	19	361	
30	1	1	1	1	1	1	1	1	1	1	0	0	1	1	1	1	1	1	0	1	0	0	1	1	0	19	361	
N= 30																											$\Sigma xt =$ 505	Σxt^2 =9254
q	0,8	0,7	0,8	0,7	0,7	0,4	0,8	0,7	0,8	0,6	0,4	0,7	0,8	0,7	0,6	0,7	0,8	0,7	0,6	0,8	0,4	0,2	0,6	0,8	0,8			
q	0,2	0,3	0,2	0,3	0,3	0,6	0,2	0,3	0,2	0,4	0,6	0,3	0,2	0,3	0,4	0,3	0,2	0,3	0,4	0,2	0,6	0,8	0,4	0,2	0,2			
pq	0, 16	0, 21	0, 16	0, 21	0, 21	0, 24	0, 16	0, 21	0, 16	0, 24	0, 24	0, 21	0, 16	0, 21	0, 24	0, 21	0, 16	0, 21	0, 24	0, 16	0, 24	0, 16	0, 24	0, 16	0, 16		$\Sigma pq=4.96$	

Appendix 11

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

B Calculation of Pre-test

5. Means score from score total (M_t)

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

$$M_t = \frac{505}{30} = 16.83$$

6. Standard deviation (SD_t)

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

$$SD_t = \sqrt{\frac{9254}{30} - \left(\frac{505}{30}\right)^2}$$

$$SD_t = \sqrt{308.46 - 278,19}$$

$$SD_t = \sqrt{30.27} = 5.50$$

7. Mean score (M_p)

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

$$M_{p1} = \frac{22 + 20 + 21 + 20 + 7 + 21 + 11 + 15 + 9 + 22 + 16 + 19 + 22 + 21 + 18 + 15 + 21 + 19 + 21 + 20 + 19 + 19}{23}$$

$$M_{p1} = \frac{398}{23} = 17.30$$

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

$$M_{p2} = \frac{22 + 21 + 20 + 7 + 21 + 14 + 11 + 19 + 15 + 9 + 16 + 19 + 22 + 21 + 15 + 21 + 19 + 19 + 21 + 20 + 19 + 19}{22}$$

$$M_{p2} = \frac{390}{22} = 17.72$$

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

$$M_{p3} = \frac{22 + 21 + 20 + 21 + 14 + 19 + 9 + 22 + 16 + 19 + 22 + 21 + 18 + 15 + 21 + 17 + 19 + 17 + 19 + 21 + 4 + 20 + 19 + 19}{24}$$

$$M_{p3} = \frac{435}{24} = 18.12$$

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

$$M_{p4} = \frac{22 + 20 + 21 + 20 + 7 + 21 + 22 + 16 + 19 + 22 + 21 + 18 + 15 + 21 + 17 + 19 + 17 + 21 + 12 + 20 + 19}{21}$$

$$M_{p4} = \frac{390}{21} = 18.57$$

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

$$M_{p5} = \frac{22 + 20 + 20 + 11 + 19 + 15 + 22 + 16 + 19 + 22 + 18 + 15 + 21 + 19 + 19 + 21 + 12 + 20 + 19 + 19}{20}$$

$$M_{p5} = \frac{369}{20} = 18.45$$

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

$$M_{p6} = \frac{21 + 21 + 15 + 22 + 16 + 22 + 21 + 18 + 21 + 19 + 17 + 21 + 19}{13}$$

$$M_{p6} = \frac{253}{13} = 19.46$$

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

$$M_{p7} = \frac{22 + 20 + 21 + 20 + 21 + 14 + 11 + 19 + 9 + 22 + 16 + 22 + 21 + 18 + 15 + 21 + 17 + 19 + 17 + 19 + 4 + 21 + 20 + 19 + 19}{25}$$

$$M_{p7} = \frac{447}{25} = 17.88$$

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

$$M_{p8} = \frac{22 + 20 + 21 + 20 + 7 + 21 + 11 + 19 + 20 + 22 + 16 + 19 + 22 + 21 + 21 + 19 + 17 + 21 + 4 + 20 + 19 + 19}{21}$$

$$M_{p8} = \frac{401}{21} = 19.09$$

Item 9 $M_{p9} = \frac{\text{the total of students score that answer true item}}{n9}$

$$M_{p9} = \frac{22 + 20 + 21 + 21 + 21 + 14 + 19 + 15 + 9 + 16 + 19 + 22 + 21 + 18 + 15 + 21 + 17 + 19 + 17 + 21 + 12 + 20 + 19 + 19}{23}$$

$$M_{p9} = \frac{417}{23} = 18.13$$

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

$$M_{p10} = \frac{22 + 20 + 21 + 20 + 21 + 14 + 19 + 15 + 22 + 16 + 19 + 22 + 17 + 19 + 19 + 21 + 20 + 19 + 19}{19}$$

$$M_{p10} = \frac{365}{19} = 19.21$$

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

$$M_{p11} = \frac{22 + 20 + 15 + 9 + 22 + 19 + 22 + 21 + 17 + 19 + 21 + 12}{13}$$

$$M_{p11} = \frac{240}{13} = 18.46$$

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

$$M_{p12} = \frac{22 + 20 + 21 + 20 + 21 + 14 + 19 + 15 + 22 + 16 + 19 + 22 + 18 + 15 + 21 + 17 + 19 + 17 + 19 + 4 + 20}{21}$$

$$M_{p12} = \frac{381}{21} = 18.14$$

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

$$M_{p13} = \frac{22 + 20 + 21 + 20 + 21 + 14 + 19 + 15 + 22 + 16 + 19 + 22 + 21 + 18 + 15 + 21 + 17 + 17 + 19 + 21 + 12 + 20 + 19 + 19}{24}$$

$$M_{p13} = \frac{450}{24} = 18.75$$

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

$$M_{p14} = \frac{22 + 20 + 21 + 20 + 7 + 21 + 14 + 11 + 19 + 15 + 22 + 19 + 22 + 21 + 18 + 15 + 21 + 17 + 19 + 12 + 20 + 19}{22}$$

$$M_{p14} = \frac{395}{22} = 17.95$$

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

$$M_{p15} = \frac{22 + 21 + 20 + 21 + 11 + 19 + 15 + 22 + 22 + 21 + 15 + 21 + 19 + 17 + 19 + 20 + 19 + 19}{18}$$

$$M_{p15} = \frac{343}{18} = 19.05$$

$$\text{Item 16 } M_{p16} = \frac{\text{the total of students score that answer true item}}{n16}$$

$$M_{p16} = \frac{22 + 20 + 21 + 20 + 21 + 14 + 19 + 15 + 22 + 19 + 22 + 21 + 18 + 15 + 17 + 19 + 17 + 4 + 21 + 20 + 19 + 19}{22}$$

$$M_{p16} = \frac{405}{22} = 18.40$$

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

$$M_{p17} = \frac{22 + 20 + 21 + 20 + 7 + 21 + 14 + 19 + 15 + 22 + 19 + 22 + 21 + 18 + 21 + 19 + 17 + 19 + 4 + 21 + 12 + 20 + 19 + 19}{24}$$

$$M_{p17} = \frac{432}{24} = 18$$

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

$$M_{p18} = \frac{22 + 20 + 21 + 20 + 21 + 11 + 19 + 22 + 16 + 19 + 22 + 21 + 21 + 17 + 19 + 17 + 19 + 21 + 12 + 20 + 19 + 19}{22}$$

$$M_{p18} = \frac{418}{22} = 19$$

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

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

$$M_{p19} = \frac{340}{19} = 17.89$$

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

$$M_{p20} = \frac{22 + 20 + 21 + 20 + 14 + 11 + 19 + 16 + 22 + 21 + 19 + 15 + 21 + 17 + 19 + 17 + 19 + 21 + 12 + 20 + 19 + 19}{23}$$

$$M_{p20} = \frac{425}{23} = 18.47$$

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

$$M_{p21} = \frac{20 + 21 + 7 + 22 + 19 + 21 + 18 + 17 + 19 + 4 + 21 + 4 + 12}{13}$$

$$M_{p21} = \frac{265}{13} = 20.38$$

Item 22 $M_{p21} = \frac{\text{the total of students score that answer true item}}{n21}$

$$M_{p21} = \frac{22 + 21 + 18 + 17 + 19 + 21 + 19}{7}$$

$$M_{p21} = \frac{137}{7} = 19.57$$

Item 23 $M_{p22} = \frac{\text{the total of students score that answer true item}}{n22}$

$$M_{p22} = \frac{22 + 20 + 20 + 21 + 14 + 19 + 15 + 9 + 22 + 19 + 22 + 18 + 21 + 17 + 19 + 21 + 20 + 19 + 19}{19}$$

$$M_{p22} = \frac{357}{19} = 18.78$$

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

$$M_{p24} = \frac{22 + 20 + 21 + 20 + 21 + 14 + 11 + 19 + 9 + 22 + 19 + 22 + 21 + 18 + 21 + 20 + 17 + 19 + 17 + 19 + 21 + 12 + 20 + 19}{23}$$

$$M_{p24} = \frac{444}{23} = 19.30$$

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

$$M_{p25} = \frac{22 + 20 + 21 + 20 + 21 + 11 + 19 + 22 + 16 + 19 + 22 + 21 + 18 + 15 + 21 + 17 + 19 + 17 + 19 + 21 + 20 + 19}{23}$$

$$M_{p25} = \frac{420}{23} = 18.26$$

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

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

$$r_{pbi} = \frac{17.30 - 16.83}{5.50} \sqrt{\frac{0.8}{0.2}}$$

$$r = \frac{1.02}{5.50} \sqrt{4}$$

$$r = 0.18 \times 2 = 0.38$$

Item 2 $r_{pbi} = \frac{M_p - M_t}{SD_t} \sqrt{\frac{p}{q}}$

$$r_{pbi} = \frac{17.72 - 16.83}{5.50} \sqrt{\frac{0.7}{0.3}}$$

$$r = \frac{0.89}{5.50} \sqrt{2.3}$$

$$r = 0.16 \times 1.5 = 0.24$$

Item 3 $r_{pbi} = \frac{M_p - M_t}{SD_t} \sqrt{\frac{p}{q}}$

$$r_{pbi} = \frac{18.12 - 16.83}{5.50} \sqrt{\frac{0.8}{0.2}}$$

$$r = \frac{1.29}{5.50} \sqrt{4}$$

$$r = 0.23 \times 2 = 0.46$$

Item 4 $r_{pbi} = \frac{M_p - M_t}{SD_t} \sqrt{\frac{p}{q}}$
 $r_{pbi} = \frac{18.57 - 16.83}{5.50} \sqrt{\frac{0.7}{0.3}}$
 $r = \frac{1.74}{5.50} \sqrt{2.3}$
 $r = 0.31 \times 1.5 = 0.465$

Item 5 $r_{pbi} = \frac{M_p - M_t}{SD_t} \sqrt{\frac{p}{q}}$
 $r_{pbi} = \frac{18.45 - 16.83}{5.50} \sqrt{\frac{0.7}{0.3}}$
 $r = \frac{1.62}{5.50} \sqrt{2.3}$
 $r = 0.29 \times 1.5 = 0.435$

Item 6 $r_{pbi} = \frac{M_p - M_t}{SD_t} \sqrt{\frac{p}{q}}$
 $r_{pbi} = \frac{19.46 - 16.83}{5.50} \sqrt{\frac{0.4}{0.6}}$
 $r = \frac{2.63}{5.50} \sqrt{0.66}$
 $r = 0.47 \times 0.81 = 0.380$

Item 7 $r_{pbi} = \frac{M_p - M_t}{SD_t} \sqrt{\frac{p}{q}}$
 $r_{pbi} = \frac{17.88 - 16.83}{5.50} \sqrt{\frac{0.8}{0.2}}$
 $r = \frac{1.05}{5.50} \sqrt{4}$
 $r = 0.19 \times 2 = 0.38$

Item 8 $r_{pbi} = \frac{M_p - M_t}{SD_t} \sqrt{\frac{p}{q}}$
 $r_{pbi} = \frac{19.09 - 16.63}{5.50} \sqrt{\frac{0.7}{0.3}}$
 $r = \frac{2.26}{5.50} \sqrt{2.3}$
 $r = 0.41 \times 1.5 = 0.615$

Item 9 $r_{pbi} = \frac{M_p - M_t}{SD_t} \sqrt{\frac{p}{q}}$
 $r_{pbi} = \frac{18.13 - 16.83}{5.50} \sqrt{\frac{0.8}{0.2}}$
 $r = \frac{1.3}{5.50} \sqrt{4}$
 $r = 0.23 \times 2 = 0.46$

Item 10 $r_{pbi} = \frac{M_p - M_t}{SD_t} \sqrt{\frac{p}{q}}$
 $r_{pbi} = \frac{19.21 - 16.83}{5.50} \sqrt{\frac{0.6}{0.4}}$
 $r = \frac{2.38}{5.50} \sqrt{1.5}$
 $r = 0.43 \times 1.22 = 0.524$

Item 11 $r_{pbi} = \frac{M_p - M_t}{SD_t} \sqrt{\frac{p}{q}}$
 $r_{pbi} = \frac{18.46 - 16.83}{5.50} \sqrt{\frac{0.4}{0.6}}$

$$r = \frac{1.63}{5.50} \sqrt{0.66}$$

$$r = 0.29 \times 0.81 = 0.234$$

Item 12 $r_{pbi} = \frac{M_p - M_t}{SD_t} \sqrt{\frac{p}{q}}$

$$r_{pbi} = \frac{18.14 - 16.83}{5.50} \sqrt{\frac{0.7}{0.3}}$$

$$r = \frac{1.31}{5.50} \sqrt{2.3}$$

$$r = 0.23 \times 1.5 = 0.345$$

Item 13 $r_{pbi} = \frac{M_p - M_t}{SD_t} \sqrt{\frac{p}{q}}$

$$r_{pbi} = \frac{18.75 - 16.83}{5.50} \sqrt{\frac{0.8}{0.2}}$$

$$r = \frac{1.92}{5.50} \sqrt{4}$$

$$r = 0.34 \times 2 = 0.68$$

Item 14 $r_{pbi} = \frac{M_p - M_t}{SD_t} \sqrt{\frac{p}{q}}$

$$r_{pbi} = \frac{17.95 - 16.83}{5.50} \sqrt{\frac{0.7}{0.3}}$$

$$r = \frac{1.12}{5.50} \sqrt{2.3}$$

$$r = 0.20 \times 1.5 = 0.3$$

Item 15 $r_{pbi} = \frac{M_p - M_t}{SD_t} \sqrt{\frac{p}{q}}$

$$r_{pbi} = \frac{19.05 - 16.83}{5.50} \sqrt{\frac{0.6}{0.4}}$$

$$r = \frac{2.22}{5.50} \sqrt{1.5}$$

$$r = 0.40 \times 1.22 = 0.488$$

Item 16 $r_{pbi} = \frac{M_p - M_t}{SD_t} \sqrt{\frac{p}{q}}$

$$r_{pbi} = \frac{18.40 - 16.83}{5.50} \sqrt{\frac{0.7}{0.3}}$$

$$r = \frac{1.57}{5.50} \sqrt{2.3}$$

$$r = 0.28 \times 1.5 = 0.42$$

Item 17 $r_{pbi} = \frac{M_p - M_t}{SD_t} \sqrt{\frac{p}{q}}$

$$r_{pbi} = \frac{18 - 16.83}{5.50} \sqrt{\frac{0.8}{0.2}}$$

$$r = \frac{1.17}{5.50} \sqrt{4}$$

$$r = 0.21 \times 2 = 0.42$$

Item 18 $r_{pbi} = \frac{M_p - M_t}{SD_t} \sqrt{\frac{p}{q}}$

$$r_{pbi} = \frac{19 - 16.83}{5.50} \sqrt{\frac{0.7}{0.3}}$$

$$r = \frac{2.17}{5.50} \sqrt{2.3}$$

$$r = 0.39 \times 1.5 = 0.585$$

$$\text{Item 19 } r_{pbi} = \frac{M_p - M_t}{SD_t} \sqrt{\frac{p}{q}}$$

$$r_{pbi} = \frac{17.89 - 16.83}{5.50} \sqrt{\frac{0.6}{0.4}}$$

$$r = \frac{1.06}{5.50} \sqrt{1.5}$$

$$r = 0.19 \times 1.22 = 0.231$$

$$\text{Item 20 } r_{pbi} = \frac{M_p - M_t}{SD_t} \sqrt{\frac{p}{q}}$$

$$r_{pbi} = \frac{18.47 - 16.83}{5.50} \sqrt{\frac{0.8}{0.2}}$$

$$r = \frac{1.64}{5.50} \sqrt{4}$$

$$r = 0.29 \times 2 = 0.58$$

$$\text{Item 21 } r_{pbi} = \frac{M_p - M_t}{SD_t} \sqrt{\frac{p}{q}}$$

$$r_{pbi} = \frac{20.38 - 16.83}{5.50} \sqrt{\frac{0.4}{0.6}}$$

$$r = \frac{3.55}{5.50} \sqrt{0.66}$$

$$r = 0.64 \times 0.81 = 0.518$$

$$\text{Item 22 } r_{pbi} = \frac{M_p - M_t}{SD_t} \sqrt{\frac{p}{q}}$$

$$r_{pbi} = \frac{19.57 - 16.83}{5.50} \sqrt{\frac{0.2}{0.8}}$$

$$r = \frac{2.74}{5.50} \sqrt{-0.6}$$

$$r = 0.49 \times -0.77 = -0.377$$

$$\text{Item 23 } r_{pbi} = \frac{M_p - M_t}{SD_t} \sqrt{\frac{p}{q}}$$

$$r_{pbi} = \frac{18.78 - 16.83}{5.50} \sqrt{\frac{0.6}{0.4}}$$

$$r = \frac{1.95}{5.50} \sqrt{1.5}$$

$$r = 0.35 \times 1.22 = 0.427$$

$$\text{Item 24 } r_{pbi} = \frac{M_p - M_t}{SD_t} \sqrt{\frac{p}{q}}$$

$$r_{pbi} = \frac{19.30 - 16.83}{5.50} \sqrt{\frac{0.8}{0.2}}$$

$$r = \frac{2.47}{5.50} \sqrt{4}$$

$$r = 0.44 \times 2 = 0.88$$

$$\text{Item 25 } r_{pbi} = \frac{M_p - M_t}{SD_t} \sqrt{\frac{p}{q}}$$

$$r_{pbi} = \frac{18.26 - 16.83}{5.50} \sqrt{\frac{0.8}{0.2}}$$

$$r = \frac{1.43}{5.50} \sqrt{4}$$

$$r = 0.26 \times 2 = 0.52$$

Appendix 12

Test Validity of Post-Test

Number of Item	M_p	M_t	SD_t	p	q	$r_{pbi} = \frac{M_p - M_t}{SD_t} \sqrt{\frac{p}{q}}$	r_t on 5% significant	Interpretation
1	17.30	16.83	5.50	0.8	0.2	0.38	0.361	Valid
2	17.72	16.83	5.50	0.8	0.2	0.24	0.361	Valid
3	18.12	16.83	5.50	0.6	0.4	0.46	0.361	Valid
4	18.57	16.83	5.50	0.2	0.8	0.465	0.361	Invalid
5	18.45	16.83	5.50	0.4	0.6	0.435	0.361	Invalid
6	19.46	16.83	5.50	0.8	0.2	0.380	0.361	Valid
7	17.88	16.83	5.50	0.6	0.4	0.38	0.361	Valid
8	19.09	16.83	5.50	0.7	0.3	0.615	0.361	Valid
9	18.13	16.83	5.50	0.8	0.2	0.46	0.361	Valid
10	19.21	16.83	5.50	0.7	0.3	0.524	0.361	Valid
11	18.46	16.83	5.50	0.6	0.4	0.234	0.361	Valid
12	18.14	16.83	5.50	0.7	0.3	0.345	0.361	Valid
13	18.75	16.83	5.50	0.8	0.2	0.68	0.361	Valid
14	17.95	16.83	5.50	0.7	0.3	0.3	0.361	Valid
15	19.05	16.83	5.50	0.4	0.6	0.488	0.361	Invalid
16	18.40	16.83	5.50	0.6	0.4	0.42	0.361	Valid
17	18	16.83	5.50	0.8	0.2	0.42	0.361	Valid
18	19	16.83	5.50	0.7	0.3	0.585	0.361	Valid
19	17.89	16.83	5.50	0.8	0.2	0.231	0.361	Valid
20	18.47	16.83	5.50	0.4	0.6	0.58	0.361	Invalid
21	20.38	16.83	5.50	0.7	0.4	0.518	0.361	Valid
22	19.57	16.83	5.50	0.7	0.3	-0.377	0.361	Valid
23	18.78	16.83	5.50	0.6	0.4	0.427	0.361	Valid
24	19.30	16.83	5.50	0.8	0.2	0.88	0.361	Valid
25	18.26	16.83	5.50	0.8	0.2	0.52	0.361	Valid

Appendix 13

Calculation Reliability Pre-test

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

$$N = 30$$

$$\Sigma Xt = 499$$

$$\Sigma xt^2 = 9120$$

$$\Sigma pq = 4.86$$

$$\begin{aligned} s_{t^2} &= \Sigma xt^2 - \left(\frac{\Sigma xt}{N} \right)^2 \\ &= 9120 - \left(\frac{499}{30} \right)^2 = 9120 - \frac{249001}{30} = 9120 - 8300 = 820 \end{aligned}$$

$$s_{t^2} = \frac{\Sigma xt^2}{N} = \frac{820}{30}$$

$$s_{t^2} = 27.33$$

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

$$R_{11} = \left(\frac{30}{30-1} \right) \left(\frac{27.33 - 4.86}{27.33} \right) = \left(\frac{30}{29} \right) \left(\frac{22.47}{27.33} \right)$$

$$= (1.03) (0.82)$$

$$= 0.844 \text{ (} r_{11} > 0.70 = \text{reliable)}$$

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

Appendix 14

Calculation Reliability Post-test

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

$$N = 30$$

$$\Sigma Xt = 505$$

$$\Sigma xt^2 = 9254$$

$$\Sigma pq = 4.96$$

$$\begin{aligned} s_{t^2} &= \Sigma xt^2 - \left(\frac{\Sigma xt}{N} \right)^2 \\ &= 9254 - \left(\frac{505}{30} \right)^2 = 9254 - \frac{255025}{30} = 9254 - 8500 = 754 \end{aligned}$$

$$s_{t^2} = \frac{\Sigma xt^2}{N} = \frac{754}{30}$$

$$s_{t^2} = 25.13$$

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

$$R_{11} = \left(\frac{30}{30-1} \right) \left(\frac{25.13 - 4.86}{25.13} \right) = \left(\frac{30}{29} \right) \left(\frac{20.27}{25.13} \right)$$

$$= (1.03) (0.80)$$

$$= 0.824 \text{ (} r_{11} > 0.70 = \text{reliable)}$$

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

Documentation







KEMENTERIAN AGAMA REPUBLIK INDONESIA
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14/E.6a/PP.00.9/ 11 /2016

Padangsidimpuan, 3 November 2016

Pesahan Judul dan Pembimbing Skripsi

Yth:
Bapak/Ibu:
Rayendriani Fahmei Lubis, M.Ag
Sojuangon Rambe, S.S., M.Pd

Padangsidimpuan

Assalamu 'Alaikum Wr. Wb

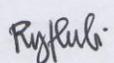
Dengan hormat, Disampaikan kepada Bapak/Ibu bahwa berdasarkan hasil Sidang Tim Pengkaji Kelayakan Judul Skripsi, telah ditetapkan Judul Skripsi Mahasiswa tersebut dibawah ini sebagai berikut:

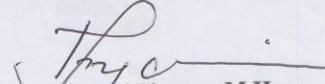
Nama : NURSAIMA HARAHAHAP
Nim : 13 340 0064
Jurusan : FTIK/TADRIS BAHASA INGGRIS-2
Judul Skripsi : The Effect of Students' Team Achievement Division (STAD)
on Students' Reading Comprehension at Grade XI SMA N 7
PADANGSIDIMPUAN

Seiring dengan hal tersebut, kami mengharapkan kesediaan Bapak/Ibu menjadi pembimbing I dan Pembimbing II penelitian penulisan skripsi yang dimaksud. Demikian kami sampaikan, atas kesediaan dan kerjasama yang baik dari Bapak/Ibu, kami ucapkan terimakasih.

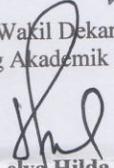
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BERSEDIA/TIDAK BERSEDIA
PEMBIMBING I

BERSEDIA/TIDAK BERSEDIA
PEMBIMBING II



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30 Mei 2018

: Izin Penelitian
Penyelesaian Skripsi.

Kepala SMAN 7 Padangsidempuan
Padangsidempuan

Dengan hormat, Dekan Fakultas Tarbiyah dan Ilmu Keguruan Institut Agama Islam Negeri Padangsidempuan menerangkan bahwa :

Nama : Nursaima Harahap
NIM : 13 330 0064
Fakultas/Jurusan : Tarbiyah dan Ilmu Keguruan/TBI
Alamat : Sihitang

adalah benar Mahasiswa IAIN Padangsidempuan yang sedang menyelesaikan Skripsi dengan judul "*The Effect of Students' Teams Achievement Division (STAD) on Students' Reading Comprehension at Grade X SMAN 7 Padangsidempuan*". Sehubungan dengan itu, kami mohon bantuan Bapak/Ibu untuk memberikan data dan informasi sesuai dengan maksud judul diatas.

Demikian disampaikan, atas kerja sama yang baik diucapkan terimakasih.



Dr. Lelya Hilda, M.Si.
NIP. 19720920 200003 2 002



PEMERINTAH PROVINSI SUMATERA UTARA
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SURAT KETERANGAN
Nomor: 071/224/SMA.07/2018

Yang bertanda tangan dibawah ini kepala SMA Negeri 7 Padangsidempuan Kota Padangsidempuan Provinsi Sumatera Utara menerangkan bahwa:

Nama : Nursaima Harahap
NPM : 13 330 0064
Fakultas/Jurusan : Tarbiyah dan Ilmu Keguruan / TBI
Perguruan Tinggi : IAIN Padangsidempuan
Alamat : Sihitang

Benar telah melakukan Penelitian di SMA Negeri 7 Padangsidempuan dalam rangka penyelesaian skripsi dengan judul penelitian:

“The Effect of Students Teams Achivement Division (STAD) on Students’ Reading Comprehension at Grade X SMAN 7 Padangsidempuan”

Demikian surat keterangan ini kami perbuat untuk dapat dipergunakan seperlunya.



Padangsidempuan, 14 Agustus 2018
Kepala Sekolah

ERWIN ARYADI, S.Pd., M.Pd
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