



THE EFFECT OF BRAINSTORMING TECHNIQUE IN WRITING

DESCRIPTIVE TEXT AT VIII GRADE OF MTsN STABAT

IN 2016/2017 ACADEMIC YEAR

SKRIPSI

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This skripsi was written as a partial to fulfillment of the requirement for S-1 program at State Islamic University of North Sumatera (UIN-SU) Medan.

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The Writer

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ABSTRACT

SHELA RIZKINA. THE EFFECT OF BRAINSTORMING TECHNIQUE IN WRITING DESCRIPTIVE TEXT AT VIII GRADE OF MTsN STABAT IN 2016/2017 ACADEMIC YEAR.

Skripsi, Medan: Department of English Education, Faculty of Tarbiyah Science and Teachers Training, State Islamic University of North Sumatera, Medan 2017.

Keywords: *Brainstorming Technique, Writing Descriptive Text*

This research was intended to find out the empirical evidence of the students' achievement by using brainstorming technique in learning writing descriptive text at VIII grade MTsN Stabat.

This research was quantitative research. The population of this research was all student's class VIII MTsN Stabat. The sample of this research were taken from 25 students of experimental class (VIII-5) and 25 students of control class (VIII-6).

The instrument for collecting data was a test. After analyzed the data, the writer got; (1) The students' achievement in writing descriptive text by brainstorming technique got the mean 82.27 and standard deviation was 4.65 (2) The student's achievement in writing descriptive text who were taught conventionally got the mean 75.07 and standard deviation was 3.60. The value of t_{test} was 2.917 and t_{table} was 2.009.

So, the t_{test} was higher than t_{table} . It means that there was significant effect of using Brainstorming Technique on students' achievement in writing descriptive text.

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CHAPTER I

INTRODUCTION

A. Background of the Study

There are four skills needed to master English. They are listening, speaking, writing and reading. Speaking and writing involve language production, so it is regarded as productive skills. On the other hand, listening and reading involve receiving message, so it is regarded as receptive skills.

Writing is one of the language skills needed to improve the quality of learning. Writing skills are taught in school has a goal that students are able to write well and truly of writing words, phrases, clauses, sentences, paragraphs, essays, overviews and discourse. Students are expected to express their ideas, thoughts, and feelings that he or she had after undergoing the learning process in a variety of writing, both fiction and nonfiction. Everyday people use writing from simple to complex such as writing letters, notes, shopping lists and stories. It means that writing holds an important role in daily communication and referred to as an expressive activity. The rationale behind the activities is to find out the effective way in teaching writing English. By the reason above, it shows that writing is an important skill that must be mastered.

Some English teacher considered that writing is not favorite activity for most students. In Indonesia, some English teacher still use conventional technique to teach writing. Conventional technique usually makes students bored because the technique is monotonous and the students are not active. Therefore, the

teacher should find the technique to overcome this problem. One of the ways to make teaching writing effective is making the student active. The teacher should apply appropriate teaching technique as well as method to establish the effectiveness of English teaching. It will make easier and enjoyable for student receive the lesson. If they have a good ability in writing, they will have a better chance to succeed in their study. So that, English teacher should be creative and selecting the technique to teach writing.

In line with this study, the writer think that the students may improve their writing in descriptive text by Brainstorming technique. Therefore, the writer choose **“The Effect of Brainstorming Technique in Writing Descriptive Text at VIII Grade in MTsN Stabat ”** as the title of the study.

B. The Problem of the Study

Based on the background of study above, the problem of the study is as follows: “Is there any significant effect of brainstorming technique on student’s writing descriptive text?”

C. The Objective of the Study

Based on the statements of the research problems above, the objectives of the research is to find out whether there is any significant effect of using Brainstorming technique on the student’s writing descriptive text.

D. The Scope of the Study

This study is focused on applying Brainstorming technique on students' writing descriptive text.

E. The Significant of the Study

The study is expected to be significance as follows:

1. Theoretically, to help teacher to find out alternative way of teaching writing.
2. Practically, it can be used as a technique to improve the student's writing text through Brainstorming technique.

CHAPTER II

REVIEW LITERATURE

A. Theoretical Framework

In conducting a research, theories are needed to explain some concert in the research concern. The concept which is used must be clarified in order to have the same perspective of implementation in the field and avoid misunderstanding. In this chapter, the theoretical framework is presented in order to give clear concepts and much better understanding so that the readers will get the point clearly.

1. Definition of Writing

A successful and effective communication can be achieved through the use of correct and appropriate language that fits to situation, and a good command of vocabulary and grammar are essential. The mastery of these language components is partly supported through learning the four basic English skills, and one of very important basic skill of learning English is writing. There are many definition of writing. It is defined from different point of view.

In addition, by writing the students can express their feelings, ideas and thoughts. Allah SWT also tell us to write trough says in Al-Qur'an, surah Al-Alaq verse 4-5 as follows:

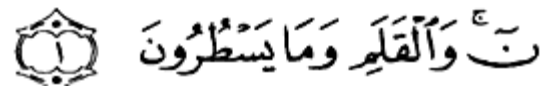
الَّذِي عَلَّمَ بِالْقَلَمِ (٤) عَلَّمَ الْإِنْسَانَ مَا لَمْ يَعْلَمْ (٥)

Translation:

4. *Who has taught (the writing) by the pen (the first person to write was Prophet Idrees). 5. Has taught man that which he knew not”.*¹

From the verse above we can see in the fourth and fifth verse that Allah not only ask the students but Allah told all people that writing skill is very important to be learned. By writing every people can express what was Allah created to us and understand the incredible creation for us as a Muslims. Allah also taught us write before we knew not.

In the holy Al-Qur’an surah Al-Qalam verse 1, also explain that writing is one of important skills that should be learned and the existence of writing, as follow:



Translation:

Nun, by the pen and by the (Record) which (men) write.

Based on the verse, Allah SWT explained that He taught human being by pen (*Qalam*). The “PEN” indicates the basic foundation of the knowledge that come through writing. Discovery of pen and writing are the greatest gifts from Allah SWT. By writing, one generation can transfer their knowledge to the next generation. It shows that the tool of writing and writing itself have important roles. Allah says that writing is one of ways to get knowledge to development his knowledge and status in society. Therefore, by writing, human get knowledge.

¹ Muhammad Muhsin, *The Noble Quran English Translation of Meaning and the Commentary*, Madinah: King Fahd Complex of the Holy Quran, p. 824

Harmer (2004:31) states that writing as one of the four skills has always formed part of the syllabus in the teaching of English. However, it can be used for a variety of purposes ranging from being merely a backup for grammar teaching to a major syllabus stand in its own right where mastering the ability to write effectively is seen as a key objective for learners.²

According to Utami Dewi (2009:9) “writing is the expression of language in the form of letters, symbols, or words. The primary purpose of writing is communication”.³ Utami Dewi also states that “writing is a fluid process created by writers move back and forth between the stages of the process, both consciously and unconsciously.”⁴

Macdonald (1996) states in Fera Mursidah and Entis journal that writing as the main part of education. Macdonald also states that “writing is a vital part of education, because writing is basic of thinking and education. Writing forces to think, explore ideas, find out an argument, evaluate product”.⁵

From the statement above, it can be assumed that writing has a main role in education. It presents how the brain works by using the student’s mind to think. Education needs thought to deliver information such as ideas, opinion and spread their creativity. Both of the functions are able to be evaluated by writing a letter, essay, poem as the product. It redirects to get the process of teaching, training, and learning.

² Jeremy Harmer, (2004), *How to teach Writing*, England: Longman, p. 31

³ Utami Dewi, (2013), *How to write*, Medan: La Tansa Press, p. 2

⁴ *Ibid*, p. 9

⁵ Fera Mursidah, (2011), *Improving Students Writing Ability to Write Narrative Text Through Write Pair Share*, Education Journal: Vol. 2, p. 23

قيدوا العلم بالكتابة

Meaning: “Tie the science by writing” (Genealogy of hadits Ash Shahihah no. 2016).

Shayk Muhammad bin Shalih Al ‘Uthaymeen rahimahullah said, “a student of science should be spirit of memorizing what has been learned, whether by memorizing in your heart or by writing it. In truth, mankind is the place of forget, then if he was no eager to repeat and review the lessons learned, the knowledge that has been achieved could be lost in vain or he forgotten”. (kitaabul ‘ilmi: 62)

Oshima and Hogue stated that writing is never one-step action – it is a process that has several steps.⁶ This statement is supported by Gibbons who stated that writing is a recursive process – that writers continually revise and edit at all stages of the writing process, from first draft to final product.⁷ The writing process is extended to provide a step-by-step model for writing so that the finished piece is the best it can be.

2. Writing process

According to Brown (2001:348) The teaching of writing has moved away from a concentration on written product to an emphasis on the process of writing. Linguists began to develop what is now termed the process approach to writing instruction. The process approach is an attempt to take advantage of the nature of written code to give students a chance to think as they write. Process writing

⁶ Alice Oshima and Ann Hogue, *Op. Cit*, p. 2.

⁷ Pauline Gibbons, (2005), *Writing in a Second Language Across the Curriculum*, New York: Pearson Education, p. 276.

approaches tend to be framed in three stages of writing. They are prewriting, drafting, and revising.⁸

According to Harmer (2004:4) writing process is the stages a writer goes through in order to produce something in its final written form. He said that writing process consist of four steps. There are: planning, drafting, editing and final draft.

1) Planning

In this stage, before starting to write or type, they try and decide what it is going to say. For some writers this may involve making detailed notes. When planning, the writer must think about three issues. Firstly, they have to consider to the purpose of their writing since this will influence (amongst others things) not only the type of the text will produce, but also the language use and the information they choose to include. Secondly, experienced writer think of the audience they are writing for or the target of the writing. Thirdly, the writer must consider the content structure of the text. That is how to sequence the facts, ideas, or argument which they have decided to include.

2) Drafting

Drafting is an action in making a piece of writing as a draft. The first as a text is often done as assumption that it will be amended later. As writing process proceeds into editing, Some of draft list will be produced on the way to the final version.

⁸ Brown, H. Douglas. *Teaching by Principles An Interractive Approach to Language Pedagogy*, (New York: Longman, 2001) p. 348

3) Editing (Reflecting and Revising)

After drafting, we needed through all the written words then find out the wrong words or the message which is not clearly conveying and many else are needed to improve.

4) Final Version

After editing the draft, they produce their final version, making the changes they consider to be necessary, they produce their final version. This may look considerably different from both or original plan the first draft, because things have been changed in editing process.

We might decide to represent this stages in the following way:



It can be concluded that written productive language skill which is called writing. Writing should be organized effectively and include aspects such as ideas, word choice, grammar, control and coherent.⁹

3. Genre of Writing

Genre is a kind of text or writing work itself. It views that the language (writing form) must be related to social function. Social function of the text then implies a certain social environment and place where and when the text is used.¹⁰

There are various genres of text: Narrative, Descriptive, Procedure, Recount, Explanation, Analytical Exposition, Hortatory Exposition, Report, Anecdote, Spoof, Review, and News.

⁹ Jeremy Harmer, *Op.Cit*, p. 4-5

¹⁰ Dirgeyasa, (2014), *College Academic Writing: A Genre-Based Perspective*, Medan: Unimed Press, p. xvii.

From the variety of genres above, the writer choose the genre of descriptive to be applied in writing.

3.1 Descriptive Text

Description or descriptive text etymologically is derived from the word “describe”. Describe means to draw, to illustrate or to picture object, place, person in order to have visual appearance of the object described. However, descriptive text can also describe idea or point of view in order to have visual appearance of it.¹¹

In composition, a description is also considered as text. It is a text in which a writer tries to picture out an object to the readers. The object can be anything. It can be a concrete object such as a person, or an animal, or a plant, or a car, and etc.¹²

In other words, descriptive text is a piece of writing which visualize and performs the appearance of thing by describing the details of subject.

3.2 Parts of Descriptive Text

In descriptive text writing, there are several things that should be understood as a following:

1) Social Function

The social Function of descriptive text is to describe a particular person, place, thing or animal.

¹¹ Dirgeyasa, (2014), *College Academic Writing: A Genre-Based Perspective*, Medan: Unimed Press, p. xvii

¹² Sanggam Siahaan, *Op. Cit*, p. 119

2) Generic structure.¹³

The Generic structure of descriptive text is:

- Identification, which identifies phenomenon that will be describe.
- Description which describe about parts, qualities or characteristic of something or someone in skill.¹⁴

3) Grammatical features

There are several grammatical features of descriptive text as a following:

- In descriptive text, the present tense is predominantly used. The past tense is used to describe something in the past.
- The used of action verbs are needed in describing especially for describing behaviors.
- When describing feelings, mental verb is used. Adjective, adverb and adverbial phrase are used most often.¹⁵

¹³ Peter Knap and Megan Watkins, (2005), *Genre, Text, Grammar: Technologies for Teaching and assessing Writing*, Sidney: UNSW press, p. 98

¹⁴ Sanggam Siahaan and Kisno Shinoda, (2008), *Generic Text Structure*, Yogyakarta: Graha Ilmu, p. 89

¹⁵ Peter Knap and Medan Watkins, *Op.Cit.* p. 99

3.3 Example of Descriptive Text

My close friend, Anisa

I have a close friend and I want to tell about her, Anisa. She is my classmate in VIII-3. I first met him when I register as a new student at SMP Negeri 1 Stabat. She lived in Bambuan with her older sister. She was 14 years old, same with me. Anisa is a cheerful and friendly woman. She always cared and helped his friends in trouble and never discriminate friends.

Identification

I and Anisa very close friend. She likes to wear blue clothes. She always wears veil, and she is very pretty with her veil. She is a good person, funny and likes to entertain. She likes to buy ice and fried. She has pointed nose, black and long hair, brown skin and red lips. She is a clever students, she was ranked ninth on the exam yesterday. She is smart, but she is so humble. And more, she was a religious person. She was always invites his friends to pray and worship God. In class he likes to joke and talk funny things, I like his spontaneous style when we joking. I and my friends liked her.

Description

4. Brainstorming Technique

4.1 Definition of Brainstorming Technique

Brainstorming means the use of brain to the active problem solving and the brainstorming session aims to develop creative solutions to problems (Jarwan,2005).¹⁶

Brainstorming activities were developed by Alex Osborn in 1963 in New York. Brainstorming is a situation where a group of people gather to generalize about the new ideide specific area of interest. Brainstorming can also be interpreted as an engineering conference in which each group tried to find a solution to a specific problem with the appearance of the ideas spontaneously by each member of the group. Brainstorming is an activity that is useful for them to start or generalize a new idea.¹⁷

4.2 The Steps of Brainstorming Technique

There are some steps to do the brainstorming technique in making descriptive text (<http://brainstorming-technique.blogspot.com/>). The teacher can give explanation of descriptive text and ask the students to consider this: the research gave the explanation of descriptive text as ask the student to:

- Divide some groups consist of 3 members, the first students as a speaker and second student as a writer.
- Choose title based on the topic that given by teacher

¹⁶ F. Jarwan, (2005), *Teaching Thinking: Definition and applications*. Amman: Dar Al-fkir. Jordan.

¹⁷ A. Widowati, (2013), *Brainstorming as An Alternative of Creative Thinking Development in Biology Science learning*, Education Journal. Vol. 1, p. 4

- Think of three or four categories that would serve as subtopics. They can start by thinking how could be the best down their topic into smaller section.
- The first student talking everything what they think based on the topic and subtopic, without worrying to make a mistake.
- The second student write down what the speaker say each of their subtopic, leaving a few inches of space between each item.
- The third person makes bullets in each sentence. If they find need more space than they have provides under each category, they can transfer their subtopic to a new sheet of paper.¹⁸

4.3 The Advantages of Brainstorming Technique

Brainstorming activity can be done individually or in group. The implementation of group brainstorming in the writing class provides some advantages to the students. The advantages are presented as below:

1. It is stimulating and provides a varied instructional approach.

It generates enthusiasm and eagerness to join in by its open invitation to participate and its rapid, free-wheeling approach.

2. It is highly motivating.

Students who usually allow their verbal, articulate classmates to dominate question-and-answer periods get the urge to participate. They are not "put down" or degraded for "wrong answers" and feel a real sense

¹⁸ <http://brainstorming-technique.blogspot.com/>

of contribution as their suggestions are noted on the project sheets. On the other hand, those who dominate traditional classroom situations are also stimulated to get their ideas out and on the record.

3. It increases "task focus."

The brainstorming group is kept on target with very little pressure from the group leader because of the structure and ground rules. Editorializing, personal commentary, rejoinders, eloquent speeches, and the other destructive activities of committees are eliminated in this process.

4. It promotes spontaneity and creativity.

The members of the group begin to link ideas and "bounce suggestions off the group" in a sounding-board procedure that gathers momentum as the session continues. Mental power is fully unleashed in this positive atmosphere.

5. It is efficient and productive.

Scores of ideas and suggestions or problems and obstacles can be listed in a few minutes. Parallel suggestions and obstacles lead the group toward sound "next steps."

6. It involves participants in the ownership of ideas.

The participants feel greater kinship for their product as they assume group ownership of their ideas and suggestions. Problem solving is made much easier when communal commitment is guaranteed.

7. It provides a permanent record and aids in developing solutions to problems.

The results of the sessions can easily be reproduced or reused to design alternate procedures and programs for solving problems or meeting objectives. The production of the group takes on value as a permanent evaluation record and as testimony to individual and group effort.

It can be concluded that brainstorming brings some benefits in writing. The technique facilitates the students to generate ideas effectively by giving them opportunity to explore their prior knowledge about particular subjects. It would help the students to overcome the problem related to the writer's block that usually faced by the students in the early stage of writing.

B. Conceptual Framework

Conceptual framework is the related theoretical concept on all of the variables that should be practically and empirically operated in this research paper. Based on the title above the writer found that there are two variable. There are the variable X which is known as an independent variable within telling about the Brainstorming technique that refers to the teacher in teaching descriptive text subject matter in experimental class at the second grade of MTsN Stabat. Secondly is the dependent variable (variable Y) about student's writing at the VIII grade in MTsN Stabat.

Well, based on the explanation above we have already known that writing is an activity to express ideas, thought, and feelings. Writing is the interaction between writer and the reader it self in which the reader try to understand what the text is talking about with using their prior knowledge in some strategies.

Applying the technique in teaching is an effective way to make the students more focus with the learning process. Technique also can decrease students difficult or problem in learning. Such as in the writing learning process, some students get a long time to write the text because they too pay attention for grammar or it is connected with the other sentence or not. That's why the teacher should use the technique in teaching.

C. Hypothesis

In accordance with theoretical and conceptual frame, the hypotheses are formulated as follows:

H_0 : There is no significant effect of applying Brainstorming technique in writing descriptive text.

H_a : There is a significant effect of applying Brainstorming technique in writing descriptive text.

CHAPTER III

METHODOLOGY OF RESEARCH

A. The Location of Research

This research has been conducted in Stabat Kab. Langkat, with the following explanation:

Name of School : MTsN Stabat

Address : Jl. Tanjung Pura. No.10 Desa Stabat Lama Kec.
Wampu Kab. Langkat

B. Research Design

Based on the writer's title, "The Effect of Brainstorming Technique in Writing Descriptive Text at VIII Grade MTsN Stabat" which consist of two variables. There are, independent variable (variable X) about Brainstorming technique and writing descriptive text as the dependent variable (variable Y). This study is use the quantitative research in the experimental type. Experimental type is the quantitative research that used the scientific method in which the researcher takes the control among variables, manipulates one or more independent variables to observe the result about any action.¹⁹

So, there are two groups students. The experimental group and the control group. Experimental group is a group that receives the treatment and the

¹⁹ Masganti Sitorus, (2016), *Metodologi Penelitian Pendidikan Islam*, Medan: IAIN Press, p: 111

control group is as the standard of the comparison group which does not receive the treatment.²⁰

The research design can be figured as following table:

Table I
The Research Design

Group	Pre-Test	Treatment	Post-Test
Experimental	X1	Brainstorming technique	X2
Control	Y1	Without Brainstorming technique	Y2

C. Population and Sample

Population is the totality of all the elements that exist in an area of research.²¹ A population is a group of elements or cases, whether individuals, objects, or events, that conform to specific criteria and to which we intend to generalize the results of the research.²²

The population of this research is all of the VIII grade in MTsN Stabat that consist of eight parallel classes. Each class consist of 30-35 students. In this research, the writer choose the VIII grade of MTsN Stabat because the writer found some students feel hard to write descriptive text.

²⁰ Ibid, 113

²¹ Azuar Juliandi & Irfan, (2013), *Metodolgi Penelitian Kuantitatif*, Medan: Citapustaka Media, p. 50

²² James H McMillan & Sally Schumacher, (2001), *Research in Education A Conceptual Introduction*, New York: Logman, p. 169

A sample is a group in a research study on which information is obtained.²³ To select the sample, the writer used cluster sampling technique. With this technique, the writer chooses two classes are VIII-5 and VIII-6 where will take randomly.

Table II. Samples

Group	Strategies	Samples	
		Class	Students
Experimental	Brainstorming	VIII-5	30 students
Control	Conventionally	VIII-6	30 students
Total			60 students

D. The Instrument for Collecting Data

For collecting the data, a writing test was used as the instrument. The test was administered to the students in both experimental and control group. They were pre-test and post-test. The design of the test was in essay form. The students were instructed to write a descriptive text based on the topic given by the researcher. The tests were given to both groups; experimental and control group. The students' achievement in learning descriptive text was analyzed by the collecting data in the test.

²³ Jack R Fraenkel, (1993), *How to Design and Evaluate Research in Education* Singapore: McGRAW-HILL INC, p. 100

E. The Technique of Collecting Data

The techniques of collecting data used in this research are:

1. Pre-test

Pre-test was administered to the students of both experimental and control groups. Pre-test conducted to find out the samples previous knowledge or beginning ability of students in each group whether the two groups of the sample are relatively homogeneous. This test was administered before giving treatment. After that, the answer sheets were collected and scored by the researcher.

2. Treatment

After giving the pre-test, the students were given the treatment. The experimental group and control group were taught in different teaching technique. The experimental group was taught by using Brainstorming technique in order to improve writing descriptive text while the control group was taught without Brainstorming technique. The treatment was given to both groups four meetings after completing the pre-test.

3. Post-test

Both experimental and control group were given the post-test after conducting the treatment. The aim of the post-test was to find out the effect of teaching presentation in both classes. For the post-test, the teacher shared the test essay that consisted of 1 item. The test item were the same as those of pre-test. The aim of the same test was to prove the validity and reliability of the test.

F. Scoring the Data

In giving the value of the data, the writer used the score ranging 1-5 by counting the correct answer and applying this formula:

$$S = \frac{R}{N} \times 100$$

Where:

- S : Score of the test
 R : Number of the collect answer
 N : Number of the test item

Table III. Scoring Scale of Student's Writing Test

Writing Component	Score	Criteria
Grammar	5	Mastery of grammar taught on course - only 1 or 2 minor mistakes.
	4	A few mistakes only (preposition, articles, etc)
	3	Only 1 or 2 major mistakes but a few ones
	2	Major mistakes, which lead to difficulty in understanding, lack of mastery of sentence construction.
	1	Numerous serious mistakes – not mastery of sentence construction – almost unintelligible.
Vocabulary	5	Use of wide range of vocabulary taught previously
	4	Good use of new word acquired – fairly appropriate synonyms, circumlocution.
	3	Attempt to use word acquired – fairly appropriate vocabulary on the whole but sometimes restricted – has to resort to use of synonyms, circumlocution, etc, on few occasions.
	2	Restricted vocabulary – use of synonyms (but no always

		appropriate) imprecise and vague affect meaning.
	1	Very restricted vocabulary – inappropriate use of synonyms seriously hinders communication.
Mechanic	5	No errors.
	4	1 or 2 minor errors (e.g. ei or ie)
	3	Several errors – do not interfere significantly with communication – not too hard to understand.
	2	An effort needed to understand and enjoy – some words very hard to recognize
Mechanic	1	Numerous errors – hard to recognize several words – communication made very difficult
relevance	5	All sentences support the topic – highly organized – clear progression of ideas well linked educated native speaker
	4	Ideas well organized – links could occasionally be clearer but communication not impaired.
	3	Some lacks of organization – rereading required for clarification ideas.
	2	Little or no attempts at connectivity – though reader deduces some organization – individual ideas maybe clear but very difficult to deduce connection between them
	1	Lack of organization so severe that communication is seriously impaired
Fluency	5	Flowing Style – very easy to understand – both complex and simple sentences – very effective.
	4	Quite flowing style – mostly easy to understand a few complex sentences – very effective
	3	Style reasonably smooth – not too hard to understand mostly (but not all) simple sentence – fairly effective.
	2	An effort needed to understand and enjoy – complex sentences confusing – mostly simple sentences of

		compound sentences.
	1	Very jerky – hard to understand cannot enjoy reading – almost all simple – complex sentences confusing – excessive use of “and”

G. The Technique of Analyzing Data

To find the out the effect of using Brainstorming technique in writing descriptive text, mean of the control class and the experimental class are compared by using t-test, as follows:

$$T\text{-test} = \frac{\bar{x}_1 - \bar{x}_2}{\sqrt{\frac{S_1^2}{n_1} + \frac{S_2^2}{n_2}}}$$

Where:

t-test = The effect

\bar{x}_1 = Mean of Post-test – Pre-test in experimental group

\bar{x}_2 = Mean of Post-test – Pre-test in control group

S_1^2 = Variant of Pre-test – Post-test in experimental group

S_2^2 = Variant of Pre-test – Post-test in control group

n_1 = Sample in experimental group

n_2 = Sample in control group

CHAPTER IV

DATA ANALYSIS DAN RESEARCH FINDINGS

A. The Description of Data

The data were collected by giving students a written test. In this research, the sample was divided into experimental and control group. Each group were given pre-test and post-test. The students at experimental group were taught by using brainstorming technique while students at control group were taught by using explanation method. The population of this research was the students of the VIII grade in MTsN Stabat. The experimental group was VIII-5 and the control group was VIII-6.

The research was conducted during in one month, within two treatments which includes four meeting altogether. Both experimental and control group were given essays writing test form on the pre-test and post-test. The data of this research were the score of the pre-test and post-test score.

Table IV

Table Score of Pre-test and Post-test (Experimental Group)

No	Student's name	Pre-test	Post-Test
1	Angga Aqsari	64	88
2	Salsabilla Mutia	56	80
3	Lutfi Rizqon ashari	40	76
4	M. Iqbal Nst	64	84
5	T. Muhammad Amri	52	76
6	Prayoga	60	84
7	Novia suci	68	88

No	Student's name	Pre-test	Post-Test
8	Anggoro	56	80
9	M.as'ad	60	80
10	Nurazmi	52	84
11	Kevin cahya P	52	76
12	Teddy Sopian	52	88
13	Kurniawan	60	88
14	Syahrul Bayadi	52	80
15	M.Safwan	60	84
16	Putri Suci	68	88
17	Tri Ulva	64	84
18	Rodiana	64	80
19	M. Ziqri Al-Saufi	32	76
20	Puti Nur	32	76
21	Andro Wira	52	84
22	Nurfia arabiyah	40	84
23	Nur Antika	64	88
24	Tegar	60	80
25	M. Dimas	64	80
26	Rizky Erika	60	88
27	Nur hera Zabni	60	88
28	Tina Syahputri	52	84
29	M. Ikhsan	40	76
30	Trisya Kanita	32	76
Σ		1632	2468
Average		54.40	82.27

Based on the table above, the student's achievement in writing descriptive text by using brainstorming technique showed the lowest score of pre-test was 32, and the highest score of pre-test was 68 and the average of pre-test was 54.40. On the other hand the lowest score of post-test was 76, and the highest score of post-test was 88 and the average of post-test was 82.27.

Table V

Table Score of Pre-Test and Post-Test (Control Group)

No	Student's name	Pre-test	Post-Test
1	Ade Rian Ananda	68	80
2	Ferdiansyah Ramadhani	40	72
3	Nadia Putri	40	72
4	Ade Rian Ananda	52	76
5	M.Robi maulana	60	72
6	Devia Dwi Ayu Lestari	52	72
7	Wildatul Khairi	52	76
8	Fannie Fahira	64	80
9	Dina Nurhikmah Nst	56	72
10	Agus Prayogo	52	80
11	Fauzi Akmal Prayogo	56	76
12	Ahmad Amruddin	60	80
13	Al Fajra Mulyati	68	72
14	Mifahul Jannah	60	80
15	Nilam Sahara	56	72
16	Tarisa Viotami	52	72
17	Dhiya Rafida	60	80
18	Nabila Intan Zahrani	64	76
19	Badrina	60	76

No	Student's name	Pre-test	Post-Test
20	Adinda Miftahul Jannah	52	72
21	M. Ridwansyah	52	72
22	Sundari Kartika	32	76
23	Salamuddin	56	84
24	Nadia	40	72
25	Adella Yana Putri	52	76
26	Chornelia Ivan	56	72
27	Dilla Sahbila	60	72
28	Fadhillah	52	76
29	Aginda husaini	64	72
30	M. Deni Sitorus	40	72
Σ		1628	2252
Average		54.27	75.07

Based on the table above, the student's score in writing descriptive text without using brainstorming technique showed the lowest score of pre-test was 32, and the highest score of pre-test was 68 and the average of pre-test was 54.27. On the other hand the lowest score of post-test was 72, and the highest score of post-test was 84 and the average of post-test was 75.07.

Based on the explanation above, it shows that the Student's score in experimental group was higher than student's score in control group, where in pre-test (54.27) and the score in post-test (82,27). The total score of the mean score in experimental and control group will be showed that there was significant effect in improvement of student's score between pre-test and post-test.

A. Data Analysis

1. Normality Testing

Normality testing used to determine if a data set is well-modeled by a normal distribution and to compute how likely it is for a random variable underlying the data set to be normally distributed.

1.1 Normality Testing of Experimental Group

Table IV

Frequency Distribution of Pre-Test in Experimental Group

No	X_i	F_i	$F_i X_i$	X_i^2	$F_i X_i^2$
1	32	3	96	1024	3072
2	40	3	120	1600	4800
3	52	7	364	2704	18928
4	56	2	112	3136	6272
5	60	7	420	3600	25200
6	64	6	384	4096	24576
7	68	2	136	4624	9248
Total		30	1632	20784	92096

Based on the data above, the result of $F_i X_i^2$ is 92096 and $F_i X_i$ is 1632.

Then the following is the calculation of mean, variant and standard deviation.

a. Mean

Where:

\bar{x} = Mean of variable x

$\sum F_i X_i$ = Total number of score

$\sum F_i$ = Number of sample

So,

$$\begin{aligned}\bar{X} &= \frac{\sum Fi Xi}{\sum Fi} \\ &= \frac{1632}{30} \\ &= 54.40\end{aligned}$$

b. Variant

Where:

$$S^2 = \text{Variant}$$

$$N = \text{Number of sample}$$

So,

$$\begin{aligned}S^2 &= \frac{n\sum FiXi^2 - (\sum FiXi)^2}{n(n-1)} \\ &= \frac{30 \times 92096 - (1632)^2}{30(30-1)} \\ &= \frac{2762880 - 2663424}{30(29)} \\ &= \frac{99456}{870} \\ &= 114.32\end{aligned}$$

c. Standard Deviation

$$\begin{aligned}S &= \sqrt{S^2} \\ &= \sqrt{114.32} \\ &= 10.69\end{aligned}$$

After getting the calculation of mean, variant and standard deviation, then, the next step is to found out the normality of the test. It means that the test was given to the students that observed by Liliefors test. The computation of normality writing descriptive text can be seen in the following table:

Table VII

Normality Testing of Pre-Test in Experimental Group

No	Score	Zi	F(Zi)	S(Zi)	F(Zi) - S(Zi)
1	32	-2,10	0,018	0,10	-0,082
2	32	-2,10	0,018	0,10	-0,082
3	32	-2,10	0,018	0,10	-0,082
4	40	-1,35	0,089	0,20	-0,111
5	40	-1,35	0,089	0,20	-0,111
6	40	-1,35	0,089	0,20	-0,111
7	52	-0,22	0,411	0,43	-0,019
8	52	-0,22	0,411	0,43	-0,019
9	52	-0,22	0,411	0,43	-0,019
10	52	-0,22	0,411	0,43	-0,019
11	52	-0,22	0,411	0,43	-0,019
12	52	-0,22	0,411	0,43	-0,019
13	52	-0,22	0,411	0,43	-0,019
14	56	0,15	0,559	0,50	0,059
15	56	0,15	0,559	0,50	0,059
16	60	0,52	0,700	0,73	-0,030
17	60	0,52	0,700	0,73	-0,030
18	60	0,52	0,700	0,73	-0,030
19	60	0,52	0,700	0,73	-0,030
20	60	0,52	0,700	0,73	-0,030
21	60	0,52	0,700	0,73	-0,030
22	60	0,52	0,700	0,73	-0,030
23	64	0,90	0,815	0,93	-0,115
24	64	0,90	0,815	0,93	-0,115
25	64	0,90	0,815	0,93	-0,115

No	Score	Z _i	F(Z _i)	S(Z _i)	F(Z _i) - S(Z _i)
26	64	0,90	0,815	0,93	-0,115
27	64	0,90	0,815	0,93	-0,115
28	64	0,90	0,815	0,93	-0,115
29	68	1,17	0,880	1,00	-0,120
30	68	1,17	0,880	1,00	-0,120
Total	1632	L₀ = 0,059			
Mean	54,40	L_t = 0,161			

1. Finding Z score

$$\text{Formula: } Z_i = \frac{X_i - \bar{X}}{s}$$

$$Z_i 1 = \frac{32 - 54.40}{10.69} = - 2.10$$

$$Z_i 2 = \frac{40 - 54.40}{10.69} = - 1.35$$

$$Z_i 3 = \frac{52 - 54.40}{10.69} = - 0.22$$

$$Z_i 4 = \frac{56 - 54.40}{10.69} = 0.15$$

$$Z_i 5 = \frac{60 - 54.40}{10.69} = 0.52$$

$$Z_i 6 = \frac{64 - 54.40}{10.69} = 0.90$$

$$Z_i 7 = \frac{68 - 54.40}{10.69} = 1.27$$

2. Finding S(Z_i)

$$S(Z_i) = \frac{F \text{ Kum}}{N}$$

$$\frac{3}{30} = 0.10$$

$$\frac{6}{30} = 0.20$$

$$\frac{13}{30} = 0.43$$

$$\frac{15}{30} = 0.50$$

$$\frac{22}{30} = 0.73$$

$$\frac{28}{30} = 0.93$$

$$\frac{30}{30} = 1.00$$

From the table above, it can be seen that Liliefors observation or $L_o = 0.059$ with $n = 30$ and at real level $\alpha = 0.05$ from the list critical value of Liliefors table $L_t = 0.161$. It is known that the coefficient of $L_o (0.059) < L_t (0.161)$. It can be concluded that the data distribution of the student's ability in writing descriptive text is **normal**.

Table VIII

Frequency distribution of Post-Test in Experimental Group

No	X_i	F_i	$F_i X_i$	X_i^2	$F_i X_i^2$
1	76	7	532	5776	40432
2	80	7	560	6400	44800
3	84	8	672	7056	56448
4	88	8	704	7744	61952
Total		30	2468	26976	203632

Based on the data above, the result of $F_i X_i^2$ is 203632 and $F_i X_i$ is 2468.

Then the following is the calculation of mean, variant and standard deviation.

a. Mean

Where:

$$\bar{x} = \text{Mean of variable } x$$

$$\sum F_i X_i = \text{Total number of score}$$

$$\sum F_i = \text{Number of sample}$$

So,

$$\begin{aligned} X &= \frac{\sum F_i X_i}{\sum F_i} \\ &= \frac{2468}{30} \\ &= 82.27 \end{aligned}$$

b. Variant

Where:

$$S^2 = \text{Variant}$$

$$N = \text{Number of sample}$$

So,

$$\begin{aligned} S^2 &= \frac{n \sum F_i X_i^2 - (\sum F_i X_i)^2}{n(n-1)} \\ &= \frac{30 \times 203632 - (2468)^2}{30(30-1)} \\ &= \frac{6108960 - 6091024}{30(29)} \\ &= \frac{18816}{870} \\ &= 21.62 \end{aligned}$$

c. Standard Deviation

$$\begin{aligned} S &= \sqrt{S^2} \\ &= \sqrt{21.62} \\ &= 4.65 \end{aligned}$$

After getting the calculation of mean, variant and standard deviation, then, the next step is to found out the normality of the test. It means that the test

was given to the students that observed by Liliefors test. The computation of normality writing descriptive text can be seen in the following table

Table IX
Normality Testing of Post-Test in Experimental Group

No	Score	Zi	F(Zi)	S(Zi)	F(Zi) - S(Zi)
1	76	-1,35	0,089	0,23	-0,141
2	76	-1,35	0,089	0,23	-0,141
3	76	-1,35	0,089	0,23	-0,141
4	76	-1,35	0,089	0,23	-0,141
5	76	-1,35	0,089	0,23	-0,141
6	76	-1,35	0,089	0,23	-0,141
7	76	-1,35	0,089	0,23	-0,141
8	80	-0,49	0,313	0,46	-0,147
9	80	-0,49	0,313	0,46	-0,147
10	80	-0,49	0,313	0,46	-0,147
11	80	-0,49	0,313	0,46	-0,147
12	80	-0,49	0,313	0,46	-0,147
13	80	-0,49	0,313	0,46	-0,147
14	80	-0,49	0,313	0,46	-0,147
15	84	0,37	0,645	0,73	-0,085
16	84	0,37	0,645	0,73	-0,085
17	84	0,37	0,645	0,73	-0,085
18	84	0,37	0,645	0,73	-0,085
19	84	0,37	0,645	0,73	-0,085
20	84	0,37	0,645	0,73	-0,085
21	84	0,37	0,645	0,73	-0,085
22	84	0,37	0,645	0,73	-0,085
23	88	1,23	0,891	1,00	-0,109

No	Score	Zi	F(Zi)	S(Zi)	F(Zi) - S(Zi)
24	88	1,23	0,891	1,00	-0,109
25	88	1,23	0,891	1,00	-0,109
26	88	1,23	0,891	1,00	-0,109
27	88	1,23	0,891	1,00	-0,109
28	88	1,23	0,891	1,00	-0,109
29	88	1,23	0,891	1,00	-0,109
30	88	1,23	0,891	1,00	-0,109
Total	2468	Lo = -0,085			
Mean	82,27	Lt = 0,161			

1. Finding Z score

$$\text{Formula: } Z_i = \frac{X_i - \bar{X}}{s}$$

$$Z_i 1 = \frac{76 - 82.27}{4.65} = -1.35$$

$$Z_i 2 = \frac{80 - 82.27}{4.65} = -0.49$$

$$Z_i 3 = \frac{84 - 82.27}{4.65} = 0.37$$

$$Z_i 4 = \frac{88 - 82.27}{4.65} = 1.23$$

2. Finding S(Zi)

$$S(Z_i) = \frac{F \text{ Kum}}{N}$$

$$\frac{7}{30} = 0.23$$

$$\frac{14}{30} = 0.46$$

$$\frac{22}{30} = 0.73$$

$$\frac{30}{30} = 1.00$$

From the table above, it can be seen that Liliefors observation or $L_o = -0.085$ with $n = 30$ and at real level $\alpha = 0.05$ from the list critical value of Liliefors table $L_t = 0.161$. It is known that the coefficient of $L_o (-0.085) < L_t (0.161)$. It can be concluded that the data distribution of the student's ability in writing descriptive text is **normal**.

1.2 Normality Testing of Control Group

Table X

Frequency Distribution of Pre-Test in Control Group

No	X_i	F_i	$F_i X_i$	X_i^2	$F_i X_i^2$
1	32	1	32	1024	1024
2	40	4	160	1600	6400
3	52	9	468	2704	24336
4	56	5	280	3136	15680
5	60	6	360	3600	21600
6	64	3	192	4096	12288
7	68	2	136	4624	9248
Total		30	1628	20784	90576

Based on the data above, the result of $F_i X_i^2$ is 90576 and $F_i X_i$ is 1628.

Then the following is the calculation of mean, variant and standard deviation.

a. Mean

Where:

$$\bar{x} = \text{Mean of variable } x$$

$$\sum FiXi = \text{Total number of score}$$

$$\sum Fi = \text{Number of sample}$$

So,

$$\begin{aligned} X &= \frac{\sum Fi Xi}{\sum Fi} \\ &= \frac{1628}{30} \\ &= 54.27 \end{aligned}$$

b. Variant

Where:

$$S^2 = \text{Variant}$$

$$N = \text{Number of sample}$$

So,

$$\begin{aligned} S^2 &= \frac{n\sum FiXi^2 - (\sum FiXi)^2}{n(n-1)} \\ &= \frac{30 \times 90576 - (1628)^2}{30(30-1)} \\ &= \frac{2717280 - 2650384}{30(29)} \\ &= \frac{66896}{870} \\ &= 76.90 \end{aligned}$$

c. Standard Deviation

$$\begin{aligned} S &= \sqrt{S^2} \\ &= \sqrt{76.90} \\ &= 8.77 \end{aligned}$$

After getting the calculation of mean, variant and standard deviation, then, the next step is to found out the normality of the test. It means that the test

was given to the students that observed by Liliefors test. The computation of normality in writing descriptive text can be seen in the following table:

Table XI
Normality Testing Pre-test in Control Group

No	Score	Zi	F(Zi)	S(Zi)	F(Zi) - S(Zi)
1	32	-2,54	0,006	0,03	-0,024
2	40	-1,63	0,052	0,17	-0,118
3	40	-1,63	0,052	0,17	-0,118
4	40	-1,63	0,052	0,17	-0,118
5	40	-1,63	0,052	0,17	-0,118
6	52	-0,26	0,398	0,47	-0,072
7	52	-0,26	0,398	0,47	-0,072
8	52	-0,26	0,398	0,47	-0,072
9	52	-0,26	0,398	0,47	-0,072
10	52	-0,26	0,398	0,47	-0,072
11	52	-0,26	0,398	0,47	-0,072
12	52	-0,26	0,398	0,47	-0,072
13	52	-0,26	0,398	0,47	-0,072
14	52	-0,26	0,398	0,47	-0,072
15	56	0,20	0,578	0,63	-0,052
16	56	0,20	0,578	0,63	-0,052
17	56	0,20	0,578	0,63	-0,052
18	56	0,20	0,578	0,63	-0,052
19	56	0,20	0,578	0,63	-0,052
20	60	0,65	0,743	0,83	-0,087
21	60	0,65	0,743	0,83	-0,087
22	60	0,65	0,743	0,83	-0,087
23	60	0,65	0,743	0,83	-0,087

No	Score	Zi	F(Zi)	S(Zi)	F(Zi) - S(Zi)
24	60	0,65	0,743	0,83	-0,087
25	60	0,65	0,743	0,83	-0,087
26	64	1,11	0,866	0,93	-0,064
27	64	1,11	0,866	0,93	-0,064
28	64	1,11	0,866	0,93	-0,064
29	68	1,57	0,941	1,00	-0,059
30	68	1,57	0,941	1,00	-0,059
Total	1628	Lo = -0,024			
Mean	54,27	Lt = 0,161			

1. Finding Z score

$$\text{Formula: } Z_i = \frac{X_i - \bar{X}}{s}$$

$$Z_i 1 = \frac{32 - 54.27}{8.77} = - 2.54$$

$$Z_i 2 = \frac{40 - 54.27}{8.77} = - 1.63$$

$$Z_i 3 = \frac{52 - 54.27}{8.77} = - 0.26$$

$$Z_i 4 = \frac{56 - 54.27}{8.77} = 0.20$$

$$Z_i 5 = \frac{60 - 54.27}{8.77} = 0.65$$

$$Z_i 6 = \frac{64 - 54.27}{8.77} = 1.11$$

$$Z_i 7 = \frac{68 - 54.27}{8.77} = 1.57$$

2. Finding S(Zi)

$$S(Z_i) = \frac{F \text{ Kum}}{N}$$

$$\frac{1}{30} = 0.03$$

$$\frac{5}{30} = 0.17$$

$$\frac{14}{30} = 0.47$$

$$\frac{19}{30} = 0.63$$

$$\frac{25}{30} = 0.83$$

$$\frac{28}{30} = 0.93$$

$$\frac{30}{30} = 1.00$$

From the table above, it can be seen that Liliefors observation or $L_o = -0.024$ with $n = 30$ and at real level $\alpha = 0.05$ from the list critical value of Liliefors table $L_t = 0.161$. It is known that the coefficient of $L_o (-0.024) < L_t (0.161)$. It can be concluded that the data distribution of the student's ability in writing descriptive text is **normal**.

Table XII

Frequency Distribution of Post-Test in Control Group

No	X_i	F_i	$F_i X_i$	X_i^2	$F_i X_i^2$
1	72	15	1080	5184	77760
2	76	8	608	5776	46208
3	80	6	480	6400	38400
4	84	1	84	7056	7056
Total		30	2252	24416	169424

Based on the data above, the result of $F_i X_i^2$ is 169424 and $F_i X_i$ is 2252.

Then the following is the calculation of mean, variant and standard deviation.

a. Mean

Where:

$$\bar{x} = \text{Mean of variable } x$$

$$\sum F_i X_i = \text{Total number of score}$$

$$\sum F_i = \text{Number of sample}$$

So,

$$\begin{aligned} \bar{X} &= \frac{\sum F_i X_i}{\sum F_i} \\ &= \frac{2252}{30} \\ &= 75.07 \end{aligned}$$

b. Variant

Where:

$$S^2 = \text{Variant}$$

$$N = \text{Number of sample}$$

So,

$$\begin{aligned} S^2 &= \frac{n \sum F_i X_i^2 - (\sum F_i X_i)^2}{n(n-1)} \\ &= \frac{30 \times 169424 - (2252)^2}{30(30-1)} \\ &= \frac{5082720 - 5071504}{30(29)} \\ &= \frac{11216}{870} \\ &= 12.90 \end{aligned}$$

c. Standard Deviation

$$\begin{aligned} S &= \sqrt{S^2} \\ &= \sqrt{12.90} \end{aligned}$$

= 3.60

After getting the calculation of mean, variant and deviation standard, then, the next step is to found out the normality of the test. It means that the test was given to the students that observed by Liliefors test. The computation of normality writing descriptive text can be seen in the following table:

Table XIII

Normality Testing of Post-Test in Control Group

No	Score	Zi	F(Zi)	S(Zi)	F(Zi) - S(Zi)
1	72	-0,85	0,197	0,50	-0,303
2	72	-0,85	0,197	0,50	-0,303
3	72	-0,85	0,197	0,50	-0,303
4	72	-0,85	0,197	0,50	-0,303
5	72	-0,85	0,197	0,50	-0,303
6	72	-0,85	0,197	0,50	-0,303
7	72	-0,85	0,197	0,50	-0,303
8	72	-0,85	0,197	0,50	-0,303
9	72	-0,85	0,197	0,50	-0,303
10	72	-0,85	0,197	0,50	-0,303
11	72	-0,85	0,197	0,50	-0,303
12	72	-0,85	0,197	0,50	-0,303
13	72	-0,85	0,197	0,50	-0,303
14	72	-0,85	0,197	0,50	-0,303
15	72	-0,85	0,197	0,50	-0,303
16	76	0,26	0,602	0,77	-0,168
17	76	0,26	0,602	0,77	-0,168
18	76	0,26	0,602	0,77	-0,168
19	76	0,26	0,602	0,77	-0,168

No	Score	Z _i	F(Z _i)	S(Z _i)	F(Z _i) - S(Z _i)
20	76	0,26	0,602	0,77	-0,168
21	76	0,26	0,602	0,77	-0,168
22	76	0,26	0,602	0,77	-0,168
23	76	0,26	0,602	0,77	-0,168
24	80	1,37	0,915	0,97	-0,055
25	80	1,37	0,915	0,97	-0,055
26	80	1,37	0,915	0,97	-0,055
27	80	1,37	0,915	0,97	-0,055
28	80	1,37	0,915	0,97	-0,055
29	80	1,37	0,915	0,97	-0,055
30	84	2,48	0,993	1,00	-0,007
Total	2252	Lo = -0,007			
Mean	75,07	Lt = 0,161			

1. Finding Z score

$$\text{Formula: } Z_i = \frac{X_i - \bar{X}}{s}$$

$$Z_i 1 = \frac{72 - 75.07}{3.60} = -0,85$$

$$Z_i 2 = \frac{76 - 75.07}{3.60} = 0.26$$

$$Z_i 3 = \frac{80 - 75.07}{3.60} = 1.37$$

$$Z_i 4 = \frac{84 - 75.07}{3.60} = 2.48$$

2. Finding S(Z_i)

$$S(Z_i) = \frac{F_{Kum}}{N}$$

$$\frac{15}{30} = 0.50$$

$$\frac{23}{30} = 0.77$$

$$\frac{29}{30} = 0.97$$

$$\frac{30}{30} = 1.00$$

From the table above, it can be seen that Liliefors observation or $L_o = -0.007$ with $n = 30$ and at real level $\alpha = 0.05$ from the list critical value of Liliefors table $L_t = 0.161$. It is known that the coefficient of $L_o (-0.007) < L_t (0.161)$. It can be concluded that the data distribution of the student's ability in writing descriptive text is **normal**.

2. Homogeneity Test

$$F = \frac{\text{The Bigger Variance}}{\text{The Smaller Variance}}$$

$$\begin{aligned} \text{Larger variance} &= \frac{n\sum F_i X_i^2 - (\sum F_i X_i)^2}{n(n-1)} \\ &= \frac{30 \times 204320 - (2472)^2}{30(30-1)} \\ &= \frac{6129600 - 6110784}{30(29)} \\ &= \frac{18816}{870} \\ &= 21.62 \end{aligned}$$

$$\begin{aligned} \text{Smaller variance} &= \frac{n\sum F_i X_i^2 - (\sum F_i X_i)^2}{n(n-1)} \\ &= \frac{30 \times 169424 - (2252)^2}{30(30-1)} \\ &= \frac{5082720 - 5071504}{30(29)} \\ &= \frac{11216}{870} \end{aligned}$$

$$\begin{aligned}
 &= 12.90 \\
 F_{\text{obs}} &= \frac{\text{The Bigger Variance}}{\text{The Smaller Variance}} \\
 &= \frac{21.62}{12.90} \\
 &= 1.68
 \end{aligned}$$

From the computation of the data of pre-test in experimental and control group above, it showed that homogeneity of variance of the test $F_{\text{observed}} = 1.68$ and $F_{\text{table}} = 1.85$ and $df_1 = 30$ ($\alpha = 0.05$). $F_{\text{observed}} < F_{\text{table}} = 1.68 < 1.85$. So, it can be concluded that the variance is homogenous.

3. Testing Hypothesis

Table XIV

Mean of Post-Test – Pre-Test in Experimental Group

No	Score Post-Test	Score Pre-Test	Decrease
1	88	64	24
2	80	56	24
3	76	40	36
4	84	64	20
5	76	52	24
6	84	60	24
7	88	68	20
8	80	56	24
9	80	60	20
10	84	52	32
11	76	52	24
12	88	52	36

No	Score Post-Test	Score Pre-Test	Decrease
13	88	60	28
14	80	52	28
15	84	60	24
16	88	68	20
17	84	64	20
18	80	64	16
19	76	32	44
20	76	32	44
21	84	52	32
22	84	40	44
23	88	64	24
24	80	60	20
25	80	64	16
26	88	60	28
27	88	60	28
28	84	52	32
29	76	40	36
30	76	32	44
Σ			836
Average			27,86

Table XV

Mean of Post-Test – Pre-Test in Control Group

No	Score Post-Test	Score Pre-Test	Decrease
1	80	68	12
2	72	40	32

No	Score Post-Test	Score Pre-Test	Decrease
3	72	40	32
4	76	52	24
5	72	60	12
6	72	52	20
7	76	52	24
8	80	64	16
9	72	56	16
10	80	52	28
11	76	56	20
12	80	60	20
13	72	68	4
14	80	60	20
15	72	56	16
16	72	52	20
17	80	60	20
18	76	64	12
19	76	60	16
20	72	52	20
21	72	52	20
22	76	32	44
23	84	56	28
24	72	40	32
25	76	52	24
26	72	56	16
27	72	60	12
28	76	52	24

No	Score Post-Test	Score Pre-Test	Decrease
29	72	64	8
30	72	40	32
Σ			624
Average			20,80

To test the hypothesis in this research, it is used two average similarity test by using statistic, as follow:

$$\begin{aligned}
 t &= \frac{\bar{x}_1 - \bar{x}_2}{\sqrt{\frac{S_1^2}{n_1} + \frac{S_2^2}{n_2}}} \\
 &= \frac{27.86 - 20.80}{\sqrt{\frac{112.50}{30} + \frac{64.00}{30}}} \\
 &= \frac{7.06}{2.22} \\
 &= 2.917
 \end{aligned}$$

From the computation above, it can be seen that $t_{\text{observed}} = 2.917$. The testing hypothesis is conducted in order to find out whether that hypothesis is accepted or rejected. The basis of testing hypothesis is that the H_a is accepted if the $t_{\text{observed}} > t_{\text{table}}$. In this study the calculation of the scores uses t-test for the degree of freedom 58 ($df = N + N - 2$) at the level of significant 0.05 that the critical value is 2.009. So it can be seen that $t_{\text{table}} = 2.009$.

After the scores were calculated, it was found that in this study the t_{observed} is higher than the t_{table} . It can be seen as follow:

$$t_{\text{observed}} > t_{\text{table}}(\alpha = 0.05) \text{ with } df \ 58$$

$$2.917 > 2.009$$

From the result above, it shows that the alternative hypothesis (H_a) is accepted and the null hypothesis (H_0) is rejected. It means that writing by using brainstorming technique affect student's achievement in writing descriptive text.

4. Discussion

Based on the data analysis by using t-test formula, it was found that writing by using brainstorming technique significantly affect in student's achievement in writing descriptive text. The result of the t-test calculation showed that t_{observed} (2.917) is higher than t_{table} value (2.009).

The analysis also shows that writing by using brainstorming technique is one of technique which can be applied by teacher to improve student's achievement in writing, especially in descriptive text. Based on the study which was conducted by the writer, it was found that the students who were taught descriptive text by using brainstorming technique got higher score than those who taught without using brainstorming technique.

The students of experimental group were easier in starting to write. The result showed in their post-test, most of the students could deliver their idea easier that before the treatment.

Therefore, it can be concluded that writing descriptive text by using brainstorming technique help students to improve their writing achievement.

CHAPTER V

CONCLUSION AND SUGGESTION

A. Conclusion

Based on the data analysis, it can be concluded that teaching writing skill by using brainstorming technique significantly effects on the student's achievement in writing descriptive text. It can be seen from the data which had obtained in the post-test of experimental group were the total score was 2468 and the mean was 82.27, while the data in control group were the total score was 2252 and the mean was 75.07. Thus, the student's score in experimental group was higher than the student's score in control group. The calculation of the data in the testing hypothesis showed that $t_{\text{observed}} 2.917$ was higher than $t_{\text{table}} 2.009$, it means that the alternative hypothesis (H_a) is accepted.

B. Suggestion

This study showed that writing by using brainstorming technique could improve student's achievement in writing descriptive text. In relation above, some points are suggested.

First, teachers of English at Junior High School should be creative to using interesting technique in teaching learning process. In addition, brainstorming technique can be used as an alternative technique of teaching English writing.

Secondly, for the students, they should be more practice to used brainstorming technique when they write text in order to increase their ability in writing, although the teacher didn't use this technique.

Finally, the writer considers that this study still need validity from the next researcher that has the similar topic with th

CHAPTER V

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Secondly, for the students, they should be more practice to used brainstorming technique when they write text in order to increase their ability in writing, although the teacher didn't use this technique.

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APENDIX A**LESSON PLAN I
(Experimental Group)**

School : MTsN Stabat
Class : VIII-5
Subject : English
Skill : Writing
Genre : Descriptive Text
Time : 2 x 45 Minutes

A. Standard Competence

To Understand the meaning of short functional text and sample essay in forms of descriptive in daily life contextual and in order to access knowledge.

B. Basic Competence

To respond meaning of essay in written language from accurately, fluency, and can be accepted in daily life contextual and in order to access knowledge in descriptive text.

C. Indicator

1. Students are able to produce descriptive text.

D. Teaching Material

DESCRIPTIVE TEXT

Social Function:

The social function of writing descriptive text is to describe a particular person, place, thing or animal.

Generic Structure:

1. Identification, which identifies phenomenon that will be describe.
2. Description, which describe about parts, qualities, or characteristic of something or someone in detail.

Language Features:

1. In descriptive writing, the present tense is predominantly used. The past tense is used to describe something in the past.
2. The used of action verbs are needed in describing especially for describing behaviors.
3. When describing feeling, mental verb are used. Adjective, adverb, and adverbial phrase are used must often.

The Example:

My Close Friend, Anisa

I have a close friend and I want to tell about her, Anisa. She is my classmate in VIII-3. I first met him when I register as a new student at SMP Negeri 1 Stabat. She lived in Bambuan with her older sister. She was 14 years old, same with me. Anisa is a cheerful and friendly woman. She always cared and helped his friends in trouble and never discriminate friends.

Identification

I and Anisa pretty close friend. She likes to wear blue clothes. She always wears veil, and she is very pretty with her veil. She is a good person, funny and likes to entertain. She likes to buy ice and fried. She has pointed nose, black and long hair, brown skin and red lips. She is a clever students, she was ranked ninth on the exam yesterday. She is smart, but she is so humble. And more, she was a religious person. She was always invites his friends to pray and worship God. In class he likes to joke and talk funny things, I like his spontaneous style when we joking. I and my friends liked her.

Description

E. Media

1. Copy of the test
2. English dictionary

F. Teaching and Learning Process

No	Activities	Time
1	Opening <ol style="list-style-type: none"> a. Teacher greets the students b. Teacher explain what the class is going to do in the meeting 	10'
2	Main Activities <ol style="list-style-type: none"> a. Teacher explain about the generic structure and language feature of descriptive text b. Teacher ask the student to sit in the group of no more four persons in a group c. Teacher give a picture to the students d. Teacher asks the students to discuss and they can start 	70'

	<p>by thinking how could break best down their topic into smaller section</p> <p>e. The first student talk everything what they think base on the topic and subtopic, without worrying to make a mistake and the second student write down what the speaker say each of their subtopic, leaving a few inches of space between each item.</p> <p>f. Make bullets under each subtopic.</p> <p>g. Each group must transfer their subtopic to a new sheet of paper and editing on their own writing before collect it to the teacher</p> <p>h. Teacher ask the students to collect their pappers.</p>	
3	<p>Conclusion</p> <p>a. Teacher conclude the material of the lesson</p> <p>b. Teacher closes the class and reminds the students to study at home</p>	10'

G. Assessment

1. Please write down a descriptive text about your classmate!

H. Scoring of The Test

Writing Component	Score	Criteria
Grammar	5	Mastery of grammar taught on course - only 1 or 2 minor mistakes.
	4	A few mistakes only (preposition, articles, etc)
	3	Only 1 or 2 major mistakes but a few ones
	2	Major mistakes, which lead to difficulty in

		understanding, lack of mastery of sentence construction.
	1	Numerous serious mistakes – not mastery of sentence construction – almost unintelligible.
Vocabulary	5	Use of wide range of vocabulary taught previously
	4	Good use of new word acquired – fairly appropriate synonyms, circumlocution.
	3	Attempt to use word acquired – fairly appropriate vocabulary on the whole but sometimes restricted – has to resort to use of synonyms, circumlocution, etc, on few occasions.
	2	Restricted vocabulary – use of synonyms (but not always appropriate) imprecise and vague affect meaning.
	1	Very restricted vocabulary – inappropriate use of synonyms seriously hinders communication.
	Mechanic	5
4		1 or 2 minor errors (e.g. ei or ie)
3		Several errors – do not interfere significantly with communication – not too hard to understand.
2		An effort needed to understand and enjoy – some words very hard to recognize
1		Numerous errors – hard to recognize several words – communication made very difficult
relevance	5	All sentences support the topic – highly organized – clear progression of ideas well linked educated native speaker
	4	Ideas well organized – links could occasionally be clearer but communication not impaired.
	3	Some lacks of organization – rereading required for clarification ideas.
	2	Little or no attempts at connectivity – though reader

		deduces some organization – individual ideas maybe clear but very difficult to deduce connection between them
	1	Lack of organization so severe that communication is seriously impaired
Fluency	5	Flowing Style – very easy to understand – both complex and simple sentences – very effective.
	4	Quite flowing style – mostly easy to understand a few complex sentences – very effective
	3	Style reasonably smooth – not too hard to understand mostly (but not all) simple sentence – fairly effective.
	2	An effort needed to understand and enjoy – complex sentences confusing – mostly simple sentences of compound sentences.
	1	Very jerky – hard to understand cannot enjoy reading – almost all simple – complex sentences confusing – excessive use of “and”

APENDIX B**LESSON PLAN II
(Experimental Group)**

School : MTsN Stabat
Class : VIII-5
Subject : English
Skill : Writing
Genre : Descriptive Text
Time : 2 x 45 Minutes

A. Standard Competence

To Understand the meaning of short functional text and sample essay in forms of descriptive in daily life contextual and in order to access knowledge.

B. Basic Competence

To respond meaning of essay in written language from accurately, fluency, and can be accepted in daily life contextual and in order to access knowledge in descriptive text.

C. Indicator

1. Students are able to produce descriptive text.

D. Teaching Material

DESCRIPTIVE TEXT

Social Function:

The social function of writing descriptive text is to describe a particular person, place, thing or animal.

Generic Structure:

1. Identification, which identifies phenomenon that will be describe.
2. Description, which describe about parts, qualities, or characteristic of something or someone in detail.

Language Features:

1. In descriptive writing, the present tense is predominantly used. The past tense is used to describe something in the past.
2. The used of action verbs are needed in describing especially for describing behaviors.
3. When describing feeling, mental verb are used. Adjective, adverb, and adverbial phrase are used must often.

The Example:

My Idol, Afgan

I have an idol. He is a singer from Indonesia. He is very handsome and smart. His voice is very good. His name is Afgan. Afgan Syah Reza. He was born on 27 May 1989 in Jakarta. He is well known as a talented young singer.

Identification

Afgan is quiet tall. His height is 170 cm. He has an oval face, short hair. He is easily known because there are

dimples on his cheek when he is smiling and always wears glasses. . Afgan's favourite music is pop, R & B, Soul and Jazz. That music influence his way to sing. Afgan likes eating. His favourite food is Balado Potato. He loves it because it's delicious.

He always makes a good song with his voice. Because Afgan's hobby, he starts his career to singing. He has three albums until now. There are *Confession No.1* , *The One* and *I've to love*. All songs are so nice. Sometimes Afgan recycles song with new arrangement and he can sing so nice. Because of that, many musicians like Afgan. Then, Afgan has twenty appreciation. Such as, best male singer, favorite male artist, best album, etc. On the other hand, Afgan cares with his education. as we know Afgan has many fans. The name is afganisme. The meaning of afganisme from Afgan is without afganisme or fans there is no Afgan. Afganisme is like Afgan's best friend and always gives spirit for Afgan's career. Then, Afganisme is part of the important things for Afgan and he always gives the best performance for them, it seems he also often practices his voice and he always tries to increase his ability, so his fans are never bored with his skill . He is always welcome and humble with fans.

Description

E. Media

1. Copy of the test
2. English dictionary

F. Teaching and Learning Process

No	Activities	Time
1	<p>Opening</p> <ul style="list-style-type: none"> a. Teacher greets the students b. Teacher explain what the class is going to do in the meeting 	10'
2	<p>Main Activities</p> <ul style="list-style-type: none"> a. Teacher explain about the generic structure and language feature of descriptive text b. Teacher ask the student to sit in the group of no more four persons in a group c. Teacher give a picture to the students d. Teacher asks the students to discuss and they can start by thinking how could break best down their topic into smaller section e. The first student talk everything what they think base on the topic and subtopic, without worrying to make a mistake and the second student write down what the speaker say each of their subtopic, leaving a few inches of space between each item. f. Make bullets under each subtopic. g. Each group must transfer their subtopic to a new sheet of paper and editing on their own writing before collect it to the teacher h. Teacher ask the students to collect their pappers. 	70'
3	<p>Conclusion</p> <ul style="list-style-type: none"> a. Teacher conclude the material of the lesson b. Teacher closes the class and reminds the students to study at home 	10'

G. Assessment

1. Please write down a descriptive text about your family!

H. Scoring of The Test

Writing Component	Score	Criteria
Grammar	5	Mastery of grammar taught on course - only 1 or 2 minor mistakes.
	4	A few mistakes only (preposition, articles, etc)
	3	Only 1 or 2 major mistakes but a few ones
	2	Major mistakes, which lead to difficulty in understanding, lack of mastery of sentence construction.
	1	Numerous serious mistakes – not mastery of sentence construction – almost unintelligible.
Vocabulary	5	Use of wide range of vocabulary taught previously
	4	Good use of new word acquired – fairly appropriate synonyms, circumlocution.
	3	Attempt to use word acquired – fairly appropriate vocabulary on the whole but sometimes restricted – has to resort to use of synonyms, circumlocution, etc, on few occasions.
	2	Restricted vocabulary – use of synonyms (but not always appropriate) imprecise and vague affect meaning.
	1	Very restricted vocabulary – inappropriate use of synonyms seriously hinders communication.
Mechanic	5	No errors.
	4	1 or 2 minor errors (e.g. ei or ie)
	3	Several errors – do not interfere significantly with communication – not too hard to understand.

	2	An effort needed to understand and enjoy – some words very hard to recognize
	1	Numerous errors – hard to recognize several words – communication made very difficult
relevance	5	All sentences support the topic – highly organized – clear progression of ideas well linked educated native speaker
	4	Ideas well organized – links could occasionally be clearer but communication not impaired.
	3	Some lacks of organization – rereading required for clarification ideas.
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Fluency	5	Flowing Style – very easy to understand – both complex and simple sentences – very effective.
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	3	Style reasonably smooth – not too hard to understand mostly (but not all) simple sentence – fairly effective.
	2	An effort needed to understand and enjoy – complex sentences confusing – mostly simple sentences of compound sentences.
	1	Very jerky – hard to understand cannot enjoy reading – almost all simple – complex sentences confusing – excessive use of “and”

APPENDIX C**LESSON PLAN I****(Control Group)**

School : MTsN Stabat
Class : VIII-6
Subject : English
Skill : Writing
Genre : Descriptive Text
Time : 2 x 45 Minutes

A. Standard Competence

To Understand the meaning of short functional text and sample essay in forms of descriptive in daily life contextual and in order to access knowledge.

B. Basic Competence

To respond meaning of essay in written language from accurately, fluency, and can be accepted in daily life contextual and in order to access knowledge in descriptive text.

C. Indicator

1. Students are able to produce descriptive text.

D. Teaching Material

DESCRIPTIVE TEXT

Social Function:

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2. The used of action verbs are needed in describing especially for describing behaviors.
3. When describing feeling, mental verb are used. Adjective, adverb, and adverbial phrase are used must often.

The Example:

My close friend, Anisa

I have a close friend and I want to tell about her, Anisa. She is my classmate in VIII-3. I first met him when I register as a new student at SMP Negeri 1 Stabat. She lived in Bambuan with her older sister. She was 14 years old, same with me. Anisa is a cheerful and friendly woman. She always cared and helped his friends in trouble and never discriminate friends.

Identification

I and Anisa pretty close friend. She likes to wear blue clothes. She always wears veil, and she is very pretty with her veil. She is a good person, funny and likes to entertain. She likes to buy ice and fried. She has pointed nose, black and long hair, brown skin and red lips. She is a clever students, she was ranked ninth on the exam yesterday. She is smart, but she is so humble. And more, she was a religious person. She was always invites his friends to pray and worship God. In class he likes to joke and talk funny things, I like his spontaneous style when we joking. I and my friends liked her.

Description

E. Media

1. Copy of Picture and the test
2. English dictionary

F. Teaching and Learning Process

G.

No	Activities	Time
1	Opening <ol style="list-style-type: none"> a. Teacher greets the students b. Teacher explain what the class is going to do in the meeting 	10'
2	Main Activities <ol style="list-style-type: none"> a. Teacher explain about the generic structure and language feature of descriptive text b. Teacher ask the student to sit in the group of no more four persons in a group c. Teacher give a picture to the students d. Teacher give time to the students to discuss and 	70'

	describing the picture e. Teacher calls the time and collect the student's paper	
3	Conclusion a. Teacher conclude the material of the lesson b. Teacher closes the class and reminds the students to study at home	10'

H. Assessment

1. Please write down a descriptive text about your classmate!

I. Scoring of The Test

Writing Component	Score	Criteria
Grammar	5	Mastery of grammar taught on course - only 1 or 2 minor mistakes.
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	4	Good use of new word acquired – fairly appropriate synonyms, circumlocution.
	3	Attempt to use word acquired – fairly appropriate vocabulary on the whole but sometimes restricted – has to resort to use of synonyms, circumlocution, etc, on few occasions.

	2	Restricted vocabulary – use of synonyms (but not always appropriate) imprecise and vague affect meaning.
	1	Very restricted vocabulary – inappropriate use of synonyms seriously hinders communication.
Mechanic	5	No errors.
	4	1 or 2 minor errors (e.g. ei or ie)
	3	Several errors – do not interfere significantly with communication – not too hard to understand.
	2	An effort needed to understand and enjoy – some words very hard to recognize
	1	Numerous errors – hard to recognize several words – communication made very difficult
relevance	5	All sentences support the topic – highly organized – clear progression of ideas well linked educated native speaker
	4	Ideas well organized – links could occasionally be clearer but communication not impaired.
	3	Some lacks of organization – rereading required for clarification ideas.
	2	Little or no attempts at connectivity – though reader deduces some organization – individual ideas maybe clear but very difficult to deduce connection between them
	1	Lack of organization so severe that communication is seriously impaired
Fluency	5	Flowing Style – very easy to understand – both complex and simple sentences – very effective.
	4	Quite flowing style – mostly easy to understand a few complex sentences – very effective
	3	Style reasonably smooth – not too hard to understand

		mostly (but not all) simple sentence – fairly effective.
	2	An effort needed to understand and enjoy – complex sentences confusing – mostly simple sentences of compound sentences.
	1	Very jerky – hard to understand cannot enjoy reading – almost all simple – complex sentences confusing – excessive use of “and”

APPENDIX D**LESSON PLAN II****(Control Group)**

School : MTsN Stabat
Class : VIII-6
Subject : English
Skill : Writing
Genre : Descriptive Text
Time : 2 x 45 Minutes

A. Standard Competence

To Understand the meaning of short functional text and sample essay in forms of descriptive in daily life contextual and in order to access knowledge.

B. Basic Competence

To respond meaning of essay in written language from accurately, fluency, and can be accepted in daily life contextual and in order to access knowledge in descriptive text.

C. Indicator

1. Students are able to produce descriptive text.

D. Teaching Material

DESCRIPTIVE TEXT

Social Function:

The social function of writing descriptive text is to describe a particular person, place, thing or animal.

Generic Structure:

1. Identification, which identifies phenomenon that will be describe.
2. Description, which describe about parts, qualities, or characteristic of something or someone in detail.

Language Features:

1. In descriptive writing, the present tense is predominantly used. The past tense is used to describe something in the past.
2. The used of action verbs are needed in describing especially for describing behaviors.
3. When describing feeling, mental verb are used. Adjective, adverb, and adverbial phrase are used must often.

The Example:

My Idol, Afgan

I have an idol. He is a singer from Indonesia. He is very handsome and smart. His voice is very good. His name is Afgan. Afgan Syah Reza. He was born on 27 May 1989 in Jakarta. He is well known as a talented young singer.

Identification

Afgan is quiet tall. His height is 170 cm. He has an oval face, short hair. He is easily known because there are

dimples on his cheek when he is smiling and always wears glasses. . Afgan's favourite music is pop, R & B, Soul and Jazz. That music influence his way to sing. Afgan likes eating. His favourite food is Balado Potato. He loves it because it's delicious.

He always makes a good song with his voice. Because Afgan's hobby, he starts his career to singing. He has three albums until now. There are *Confession No.1* , *The One* and *I've to love*. All songs are so nice. Sometimes Afgan recycles song with new arrangement and he can sing so nice. Because of that, many musicians like Afgan. Then, Afgan has twenty appreciation. Such as, best male singer, favorite male artist, best album, etc. On the other hand, Afgan cares with his education. as we know Afgan has many fans. The name is afganisme. The meaning of afganisme from Afgan is without afganisme or fans there is no Afgan. Afganisme is like Afgan's best friend and always gives spirit for Afgan's career. Then, Afganisme is part of the important things for Afgan and he always gives the best performance for them, it seems he also often practices his voice and he always tries to increase his ability, so his fans are never bored with his skill . He is always welcome and humble with fans.

Description

E. Media

1. Copy of Picture and the test
2. English dictionary

F. Teaching and Learning Process

No	Activities	Time
1	<p>Opening</p> <ul style="list-style-type: none"> c. Teacher greets the students d. Teacher explain what the class is going to do in the meeting 	10'
2	<p>Main Activities</p> <ul style="list-style-type: none"> a. Teacher explain about the generic structure and language feature of descriptive text b. Teacher ask the student to sit in the group of no more four persons in a group c. Teacher give a picture to the students d. Teacher give time to the students to discuss and describing the picture e. Teacher calls the time and collect the student's paper 	70'
3	<p>Conclusion</p> <ul style="list-style-type: none"> a. Teacher conclude the material of the lesson b. Teacher closes the class and reminds the students to study at home 	10'

G. Assessment

1. Please write down a descriptive text about your family!

H. Scoring of The Test

Writing Component	Score	Criteria
Grammar	5	Mastery of grammar taught on course - only 1 or 2 minor mistakes.
	4	A few mistakes only (preposition, articles, etc)
	3	Only 1 or 2 major mistakes but a few ones
	2	Major mistakes, which lead to difficulty in understanding, lack of mastery of sentence construction.
	1	Numerous serious mistakes – not mastery of sentence construction – almost unintelligible.
Vocabulary	5	Use of wide range of vocabulary taught previously
	4	Good use of new word acquired – fairly appropriate synonyms, circumlocution.
	3	Attempt to use word acquired – fairly appropriate vocabulary on the whole but sometimes restricted – has to resort to use of synonyms, circumlocution, etc, on few occasions.
	2	Restricted vocabulary – use of synonyms (but not always appropriate) imprecise and vague affect meaning.
	1	Very restricted vocabulary – inappropriate use of synonyms seriously hinders communication.
Mechanic	5	No errors.
	4	1 or 2 minor errors (e.g. ei or ie)
	3	Several errors – do not interfere significantly with communication – not too hard to understand.
	2	An effort needed to understand and enjoy – some words very hard to recognize
	1	Numerous errors – hard to recognize several words –

		communication made very difficult
relevance	5	All sentences support the topic – highly organized – clear progression of ideas well linked educated native speaker
	4	Ideas well organized – links could occasionally be clearer but communication not impaired.
	3	Some lacks of organization – rereading required for clarification ideas.
	2	Little or no attempts at connectivity – though reader deduces some organization – individual ideas maybe clear but very difficult to deduce connection between them
	1	Lack of organization so severe that communication is seriously impaired
Fluency	5	Flowing Style – very easy to understand – both complex and simple sentences – very effective.
	4	Quite flowing style – mostly easy to understand a few complex sentences – very effective
	3	Style reasonably smooth – not too hard to understand mostly (but not all) simple sentence – fairly effective.
	2	An effort needed to understand and enjoy – complex sentences confusing – mostly simple sentences of compound sentences.
	1	Very jerky – hard to understand cannot enjoy reading – almost all simple – complex sentences confusing – excessive use of “and”

APPENDIX E

Pre-Test

Name :

Class :

Instruction!

1. Please write down a descriptive text about your favorite artist!

Answer:

APPENDIX F**Post-test**

Name :

Class :

1. Please write down a descriptive text about your mother!

Answer:

APPENDIX G**Documentation**

Picture 1: Teacher give Pre-Test to the students in experimental group



Picture 2: Teacher Give Pre-Test to The Students in Control Group.



Picture 3: Students in Experimental Group Using Brainstorming Technique (Treatment 1)



Picture 4: Students in Control Group Without Brainstorming Technique (Treatment 1)



Picture 5: Students in Experimental Group by Using Brainstorming Technique (Treatment 2)



Picture 6: Students in Control Group Without Brainstorming Technique (Treatment 2)



Picture 7: Teacher Give Post-Test to The Students In Experimental Group



Picture 8: Teacher Give Post-Test to The Students In Control Group

APPENDIX G

The Critical Value Liliefors Test

Ukuran Sampel	Taraf Nyata (α)				
	0,01	0,05	0,10	0,15	0,20
n = 4	0,417	0,381	0,352	0,319	0,300
5	0,405	0,337	0,315	0,299	0,285
6	0,364	0,319	0,294	0,277	0,265
7	0,348	0,300	0,276	0,258	0,247
8	0,331	0,285	0,261	0,244	0,233
9	0,311	0,271	0,249	0,233	0,223
10	0,294	0,258	0,239	0,222	0,215
11	0,284	0,249	0,230	0,217	0,206
12	0,275	0,242	0,223	0,212	0,199
13	0,268	0,234	0,214	0,202	0,190
14	0,261	0,227	0,207	0,194	0,183
15	0,257	0,220	0,201	0,187	0,177
16	0,250	0,213	0,195	0,182	0,173
17	0,245	0,206	0,189	0,177	0,169
18	0,239	0,200	0,184	0,173	0,166
19	0,235	0,195	0,179	0,169	0,163
20	0,231	0,190	0,174	0,166	0,160
25	0,200	0,173	0,158	0,147	0,142
30	0,187	0,161	0,144	0,136	0,131
n > 30	$\frac{1,031}{\sqrt{n}}$	$\frac{0,886}{\sqrt{n}}$	$\frac{0,805}{\sqrt{n}}$	$\frac{0,768}{\sqrt{n}}$	$\frac{0,736}{\sqrt{n}}$

APPENDIX H

TABLE OF F DISTRIBUTION

(Bilangan Dalam Badan Daftar Menyatakan:

Fp : Baris Atas untuk $p = 0,05$ dan Baris Bawah untuk $p = 0,01$)

v ₂ = dk penyebut	v ₁ = dk pembilang																			
	1	2	3	4	5	6	7	8	9	10	11	12	14	16	20					
1	161	200	216	225	230	234	237	239	241	242	243	244	245	246	248	250				
	4062	4999	5403	5625	5764	5859	5928	5981	6022	6056	6082	6106	6142	6169	6208	6250				
2	18,51	19,00	19,16	19,25	19,30	19,33	19,36	19,37	19,38	19,39	19,40	19,41	19,42	19,43	19,44	19,45				
	98,49	99,01	99,17	99,25	99,30	99,33	99,34	99,36	99,38	99,40	99,41	99,42	99,43	99,44	99,45	99,46				
3	10,13	9,55	9,28	9,12	9,01	8,94	8,88	8,84	8,81	8,78	8,76	8,74	8,71	8,69	8,66	8,64				
	34,12	30,81	29,46	28,71	28,24	27,91	27,67	27,49	27,34	27,23	27,13	27,05	26,92	26,83	26,69	26,60				
4	7,17	6,94	6,59	6,39	6,26	6,16	6,09	6,04	6,00	5,96	5,93	5,91	5,87	5,84	5,80	5,78				
	21,20	18,00	16,69	15,98	15,52	15,21	14,98	14,80	14,66	14,54	14,45	14,37	14,24	14,15	14,02	13,95				
5	6,61	5,79	5,41	5,19	5,05	4,95	4,88	4,82	4,78	4,74	4,70	4,68	4,64	4,60	4,56	4,54				
	16,26	13,27	12,06	11,39	10,97	10,67	10,45	10,27	10,15	10,05	9,96	9,89	9,77	9,86	9,55	9,48				
6	5,99	5,14	4,76	4,53	4,39	4,28	4,21	4,15	4,10	4,06	4,03	4,00	3,96	3,92	3,87	3,85				
	13,74	10,92	9,78	9,15	8,75	8,47	8,26	8,10	7,98	7,87	7,79	7,72	7,60	7,52	7,39	7,32				
7	5,59	4,74	4,35	4,12	3,97	3,87	3,79	3,73	3,68	3,63	3,60	3,57	3,52	3,49	3,44	3,42				
	12,25	9,55	8,45	7,86	7,46	7,19	7,00	6,84	6,71	6,62	6,54	6,47	6,35	6,27	6,15	6,08				
8	5,32	4,46	4,07	3,84	3,69	3,58	3,50	3,44	3,39	3,34	3,31	3,28	3,23	3,20	3,15	3,13				
	11,26	8,65	7,59	7,01	6,63	6,37	6,19	6,03	5,91	5,82	5,74	5,67	5,56	5,48	5,36	5,29				
9	5,12	4,26	3,86	3,63	3,48	3,37	3,29	3,23	3,18	3,13	3,10	3,07	3,02	2,98	2,93	2,91				
	10,56	8,02	6,99	6,42	6,06	5,80	5,62	5,47	5,35	5,26	5,18	5,11	5,00	4,92	4,80	4,73				
10	4,96	4,80	3,71	3,48	3,33	3,22	3,14	3,07	3,02	2,97	2,94	2,91	2,86	2,82	2,77	2,75				
	10,04	7,56	6,55	5,99	5,64	5,39	5,21	5,06	4,95	4,85	4,78	4,71	4,60	4,52	4,41	4,34				
11	4,84	3,98	3,59	3,36	3,20	3,09	3,01	2,95	2,90	2,86	2,82	2,79	2,74	2,70	2,65	2,63				
	9,65	7,20	6,22	5,67	5,32	5,07	4,88	4,74	4,63	4,54	4,46	4,40	4,29	4,21	4,10	4,03				
12	4,75	3,88	3,49	3,26	3,11	3,00	2,92	2,85	2,80	2,76	2,72	2,69	2,64	2,60	2,54	2,52				
	9,38	6,93	5,95	5,41	5,06	4,82	4,65	4,50	4,39	4,30	4,22	4,16	4,05	3,98	3,86	3,79				
13	4,67	3,80	3,41	3,18	3,02	2,92	2,84	2,77	2,72	2,67	2,63	2,60	2,55	2,51	2,46	2,44				
	9,07	6,70	5,74	5,20	4,86	4,62	4,44	4,30	4,19	4,10	4,02	3,96	3,85	3,78	3,67	3,60				
14	4,60	3,74	3,34	3,11	2,96	2,85	2,77	2,70	2,65	2,60	2,56	2,53	2,48	2,44	2,39	2,37				
	8,86	6,51	5,56	5,03	4,89	4,76	4,68	4,61	4,54	4,48	4,42	4,36	4,25	4,18	4,07	4,00				
15	4,54	3,68	3,29	3,06	2,90	2,79	2,70	2,64	2,59	2,55	2,51	2,48	2,43	2,39	2,33	2,31				
	8,68	6,36	5,42	4,89	4,56	4,32	4,14	4,00	3,89	3,80	3,73	3,67	3,56	3,48	3,36	3,29				
16	4,49	3,63	3,24	3,01	2,85	2,74	2,66	2,59	2,54	2,49	2,45	2,42	2,37	2,33	2,28	2,26				
	8,53	6,23	5,29	4,77	4,44	4,20	4,03	3,89	3,78	3,69	3,61	3,55	3,45	3,37	3,25	3,18				
17	4,45	3,59	3,20	2,96	2,81	2,70	2,62	2,55	2,50	2,45	2,41	2,38	2,33	2,29	2,23	2,21				
	8,40	6,11	5,18	4,67	4,34	4,10	3,93	3,79	3,68	3,59	3,52	3,45	3,35	3,27	3,16	3,09				
18	4,41	3,55	3,16	2,93	2,77	2,66	2,58	2,51	2,46	2,41	2,37	2,34	2,29	2,25	2,19	2,17				
	8,28	6,01	5,09	4,58	4,25	4,01	3,85	3,71	3,60	3,51	3,44	3,37	3,27	3,19	3,07	2,99				
19	4,38	3,52	3,13	2,90	2,74	2,63	2,55	2,48	2,43	2,38	2,34	2,31	2,26	2,21	2,15	2,13				
	8,18	5,93	5,01	4,50	4,17	3,94	3,77	3,63	3,52	3,43	3,36	3,30	3,19	3,12	3,00	2,92				
20	4,35	3,49	3,10	2,87	2,71	2,60	2,52	2,45	2,40	2,35	2,31	2,26	2,23	2,18	2,12	2,10				
	8,10	5,85	4,94	4,48	4,10	3,87	3,71	3,56	3,45	3,37	3,30	3,23	3,13	3,05	2,94	2,86				
21	4,32	3,47	3,07	2,84	2,68	2,57	2,49	2,42	2,37	2,32	2,28	2,25	2,20	2,15	2,09	2,07				
	8,02	5,78	4,87	4,37	4,04	3,81	3,65	3,51	3,40	3,31	3,24	3,17	3,07	2,99	2,88	2,80				
22	4,30	3,44	3,05	2,82	2,66	2,55	2,47	2,40	2,35	2,30	2,26	2,23	2,18	2,13	2,07	2,05				
	7,94	5,72	4,82	4,31	3,99	3,76	3,59	3,45	3,35	3,26	3,18	3,12	3,02	2,94	2,83	2,75				
23	4,28	3,42	3,03	2,80	2,64	2,53	2,45	2,38	2,32	2,28	2,24	2,20	2,14	2,10	2,04	2,02				
	7,88	5,66	4,76	4,26	3,94	3,71	3,54	3,41	3,30	3,21	3,14	3,07	2,97	2,89	2,78	2,70				
24	4,26	3,40	3,01	2,78	2,62	2,51	2,43	2,36	2,30	2,26	2,22	2,18	2,13	2,09	2,02	1,99				
	7,82	5,61	4,72	4,22	3,90	3,67	3,50	3,36	3,25	3,17	3,09	3,03	2,93	2,85	2,74	2,66				
25	4,24	3,38	2,99	2,76	2,60	2,49	2,41	2,34	2,28	2,24	2,20	2,16	2,11	2,06	2,00	1,97				
	7,77	5,57	4,68	4,18	3,86	3,63	3,46	3,32	3,21	3,13	3,05	2,99	2,89	2,81	2,70	2,62				

26	4,22	3,37	2,89	2,74	2,59	2,47	2,39	2,32	2,27	2,22	2,18	2,15	2,10	2,05	1,99	1,95
	7,72	5,53	4,64	4,14	3,82	3,59	3,42	3,29	3,17	3,09	3,02	2,96	2,86	2,77	2,66	2,58
27	4,21	3,35	2,96	2,73	2,57	2,46	2,37	2,30	2,25	2,20	2,16	2,13	2,08	2,03	1,97	1,93
	7,68	5,49	4,60	4,11	3,79	3,56	3,39	3,26	3,14	3,06	2,98	2,93	2,83	2,74	2,63	2,55
28	4,20	3,34	2,95	2,71	2,56	2,44	2,36	2,29	2,24	2,19	2,15	2,12	2,06	2,02	1,96	1,91
	7,64	5,45	4,57	4,07	3,76	3,53	3,36	3,23	3,11	3,03	2,95	2,90	2,80	2,71	2,60	2,52
29	4,18	3,33	2,93	2,70	2,54	2,43	2,35	2,28	2,22	2,18	2,14	2,10	2,05	2,00	1,94	1,90
	7,60	5,52	4,54	4,04	3,73	3,50	3,33	3,20	3,08	3,00	2,92	2,87	2,77	2,68	2,57	2,49
30	4,17	3,32	2,92	2,69	2,53	2,42	2,34	2,27	2,21	2,16	2,12	2,09	2,04	1,99	1,93	1,89
	7,56	5,39	4,51	4,02	3,70	3,47	3,30	3,17	3,06	2,98	2,90	2,84	2,74	2,66	2,55	2,47
32	4,15	3,30	29,00	2,67	2,51	2,40	2,32	2,25	2,19	2,14	2,10	2,07	2,02	1,97	1,91	1,86
	7,50	5,34	4,46	3,97	3,66	3,42	3,25	3,12	3,01	2,94	2,86	2,80	2,70	2,62	2,51	2,42
34	4,13	3,28	2,88	2,65	2,49	2,38	2,30	2,23	2,17	2,12	2,08	2,05	2,00	1,95	1,89	1,84
	7,44	5,29	4,42	3,93	3,61	3,38	3,21	3,08	2,97	2,89	2,82	2,76	2,66	2,58	2,47	2,38
36	4,11	3,26	2,86	2,63	2,48	2,36	2,28	2,21	2,15	2,10	2,06	2,03	1,89	1,93	1,87	1,82
	7,39	5,25	4,38	3,89	3,58	3,35	3,18	3,04	2,94	2,86	2,78	2,72	2,62	2,54	2,43	2,35
38	4,10	3,25	2,85	2,62	2,46	2,35	2,26	2,19	2,14	2,09	2,05	2,02	1,96	1,92	1,85	1,80
	7,35	5,21	4,34	3,86	3,84	3,32	3,15	3,02	2,91	2,82	2,75	2,69	2,59	2,51	2,40	2,32
40	4,08	3,23	2,84	2,61	2,45	2,34	2,25	2,18	2,12	2,07	2,04	2,00	1,95	1,90	1,84	1,79
	7,31	5,18	4,31	3,83	3,51	3,29	3,12	2,99	2,88	2,80	2,73	2,66	2,56	2,49	2,37	2,29
42	4,07	3,22	2,83	2,59	2,44	2,32	2,24	2,17	2,11	2,06	2,02	1,99	1,94	1,89	1,82	1,78
	7,27	5,15	4,29	3,80	3,49	3,26	3,10	2,96	2,86	2,77	2,70	2,64	2,54	2,46	2,35	2,26
44	4,06	3,21	2,82	2,58	2,43	2,31	2,23	2,16	2,10	2,05	2,01	1,98	1,92	1,88	1,81	1,76
	7,24	5,12	4,26	3,78	3,46	3,24	3,07	2,94	2,84	2,75	2,68	2,62	2,52	2,44	2,32	2,24
46	4,05	3,20	2,81	2,57	2,42	2,30	2,22	2,14	2,09	2,04	2,00	1,97	1,91	1,87	1,80	1,75
	7,21	5,10	4,24	3,76	3,44	3,22	3,05	2,92	2,82	2,73	2,66	2,60	2,50	2,42	2,32	2,22
48	4,04	3,19	2,80	2,56	2,41	2,30	2,21	2,14	2,08	2,03	1,99	1,96	1,90	1,86	1,79	1,74
	7,19	5,08	4,22	3,74	3,42	3,20	3,04	2,90	2,80	2,71	2,64	2,58	2,48	2,40	2,28	2,20
50	4,03	3,18	2,79	2,56	2,40	2,29	2,20	2,13	2,07	2,02	1,98	1,95	1,90	1,85	1,78	1,74
	7,17	5,06	4,20	3,72	3,44	3,18	3,02	2,88	2,78	2,70	2,62	2,56	2,46	2,39	2,26	2,18
55	4,02	3,17	2,78	2,54	2,38	2,27	2,18	2,11	2,05	2,00	1,97	1,93	1,88	1,83	1,76	1,72
	7,12	5,01	4,16	3,65	3,37	3,15	2,98	2,85	2,75	2,66	2,59	2,53	2,43	2,35	2,23	2,15
60	4,00	3,15	2,76	2,52	2,37	2,25	2,17	2,10	2,04	1,99	1,95	1,92	1,86	1,81	1,75	1,70
	7,08	4,98	4,13	3,65	3,34	3,12	2,95	2,82	2,72	2,63	2,56	2,50	2,40	2,32	2,20	2,12
65	3,99	3,14	2,75	2,51	2,36	2,21	2,15	2,08	2,02	1,98	1,94	1,90	1,85	1,80	1,73	1,68
	7,01	4,95	4,10	3,62	3,31	3,09	2,93	2,79	2,70	2,61	2,54	2,47	2,37	2,30	2,18	2,09
70	3,98	3,13	2,74	2,50	2,35	2,32	2,14	2,07	2,01	1,97	1,93	1,89	1,84	1,79	1,72	1,67
	7,01	4,92	4,08	3,60	3,29	3,07	2,91	2,77	2,67	2,59	2,51	2,45	2,35	2,28	2,15	2,07
80	3,96	3,11	2,72	2,48	2,33	2,21	2,12	2,05	1,99	1,95	1,91	1,88	1,82	1,77	1,70	1,65
	6,96	4,88	4,01	3,58	3,25	3,04	2,87	2,74	2,64	2,55	2,48	2,44	2,32	2,24	2,11	2,03
100	3,94	3,09	2,70	2,46	2,30	2,19	2,10	2,03	1,97	1,92	1,88	1,85	1,79	1,75	1,68	1,63
	6,90	4,82	3,98	3,51	3,20	2,99	2,82	2,69	2,59	2,51	2,43	2,36	2,26	2,19	2,06	1,98
125	3,92	3,07	2,68	2,44	2,29	2,17	2,08	2,01	1,95	1,90	1,86	1,83	1,77	1,72	1,65	1,60
	6,84	4,78	3,94	3,47	3,17	2,95	2,79	2,65	2,56	2,47	2,40	2,33	2,23	2,15	2,03	1,94
150	3,91	3,06	2,67	2,43	2,27	2,16	2,07	2,00	1,94	1,89	1,85	1,82	1,76	1,71	1,64	1,59
	6,81	4,75	3,91	3,44	3,13	2,92	2,76	2,62	2,53	2,44	2,37	2,30	2,20	2,12	2,00	1,91
200	3,89	3,01	2,65	2,41	2,26	2,14	2,05	1,98	1,92	1,87	1,83	1,80	1,74	1,69	1,62	1,57
	6,76	4,71	3,88	3,41	3,11	2,90	2,73	2,60	2,50	2,41	2,34	2,28	2,17	2,09	1,97	1,88
400	3,86	3,02	2,62	2,39	2,23	2,12	2,03	1,96	1,90	1,85	1,81	1,78	1,72	1,67	1,60	1,54
	6,70	4,66	3,83	3,36	3,06	2,85	2,69	2,55	2,46	2,37	2,29	2,23	2,12	2,04	1,92	1,84
1000	3,85	3,00	2,61	2,38	2,22	2,10	2,02	1,95	1,89	1,81	1,80	1,76	1,70	1,65	1,58	1,53
	6,68	4,62	3,80	3,34	3,04	2,82	2,66	2,53	2,43	2,34	2,26	2,20	2,09	2,01	1,89	1,81
∞	3,84	2,99	2,60	2,37	2,21	2,09	2,01	1,94	1,88	1,83	1,79	1,75	1,69	1,64	1,57	1,52
	6,64	4,60	3,78	3,32	3,02	2,80	2,64	2,51	2,41	2,32	2,24	2,18	2,07	1,99	1,87	1,79

APPENDIX I

Percentage Points of The T Distribution

DF	A P	0.80	0.90	0.95	0.98	0.99	0.995	0.998	0.999
		0.20	0.10	0.05	0.02	0.01	0.005	0.002	0.001
1		3.078	6.314	12.706	31.820	63.657	127.321	318.309	636.619
2		1.886	2.920	4.303	6.965	9.925	14.089	22.327	31.599
3		1.638	2.353	3.182	4.541	5.841	7.453	10.215	12.924
4		1.533	2.132	2.776	3.747	4.604	5.598	7.173	8.610
5		1.476	2.015	2.571	3.365	4.032	4.773	5.893	6.869
6		1.440	1.943	2.447	3.143	3.707	4.317	5.208	5.959
7		1.415	1.895	2.365	2.998	3.499	4.029	4.785	5.408
8		1.397	1.860	2.306	2.897	3.355	3.833	4.501	5.041
9		1.383	1.833	2.262	2.821	3.250	3.690	4.297	4.781
10		1.372	1.812	2.228	2.764	3.169	3.581	4.144	4.587
11		1.363	1.796	2.201	2.718	3.106	3.497	4.025	4.437
12		1.356	1.782	2.179	2.681	3.055	3.428	3.930	4.318
13		1.350	1.771	2.160	2.650	3.012	3.372	3.852	4.221
14		1.345	1.761	2.145	2.625	2.977	3.326	3.787	4.140
15		1.341	1.753	2.131	2.602	2.947	3.286	3.733	4.073
16		1.337	1.746	2.120	2.584	2.921	3.252	3.686	4.015
17		1.333	1.740	2.110	2.567	2.898	3.222	3.646	3.965
18		1.330	1.734	2.101	2.552	2.878	3.197	3.610	3.922
19		1.328	1.729	2.093	2.539	2.861	3.174	3.579	3.883
20		1.325	1.725	2.086	2.528	2.845	3.153	3.552	3.850
21		1.323	1.721	2.080	2.518	2.831	3.135	3.527	3.819
22		1.321	1.717	2.074	2.508	2.819	3.119	3.505	3.792

23		1.319	1.714	2.069	2.500	2.807	3.104	3.485	3.768
24		1.318	1.711	2.064	2.492	2.797	3.090	3.467	3.745
25		1.316	1.708	2.060	2.485	2.787	3.078	3.450	3.725
26		1.315	1.706	2.056	2.479	2.779	3.067	3.435	3.707
27		1.314	1.703	2.052	2.473	2.771	3.057	3.421	3.690
28		1.313	1.701	2.048	2.467	2.763	3.047	3.408	3.674
29		1.311	1.699	2.045	2.462	2.756	3.038	3.396	3.659
30		1.310	1.697	2.042	2.457	2.750	3.030	3.385	3.646
31		1.309	1.695	2.040	2.453	2.744	3.022	3.375	3.633
32		1.309	1.694	2.037	2.449	2.738	3.015	3.365	3.622
33		1.308	1.692	2.035	2.445	2.733	3.008	3.356	3.611
34		1.307	1.691	2.032	2.441	2.728	3.002	3.348	3.601
35		1.306	1.690	2.030	2.438	2.724	2.996	3.340	3.591
36		1.306	1.688	2.028	2.434	2.719	2.991	3.333	3.582
37		1.305	1.687	2.026	2.431	2.715	2.985	3.326	3.574
38		1.304	1.686	2.024	2.429	2.712	2.980	3.319	3.566
39		1.304	1.685	2.023	2.426	2.708	2.976	3.313	3.558
40		1.303	1.684	2.021	2.423	2.704	2.971	3.307	3.551
42		1.302	1.682	2.018	2.418	2.698	2.963	3.296	3.538
44		1.301	1.680	2.015	2.414	2.692	2.956	3.286	3.526
46		1.300	1.679	2.013	2.410	2.687	2.949	3.277	3.515
48		1.299	1.677	2.011	2.407	2.682	2.943	3.269	3.505
50		1.299	1.676	2.009	2.403	2.678	2.937	3.261	3.496
60		1.296	1.671	2.000	2.390	2.660	2.915	3.232	3.460
70		1.294	1.667	1.994	2.381	2.648	2.899	3.211	3.435
80		1.292	1.664	1.990	2.374	2.639	2.887	3.195	3.416

90		1.291	1.662	1.987	2.369	2.632	2.878	3.183	3.402
100		1.290	1.660	1.984	2.364	2.626	2.871	3.174	3.391
120		1.289	1.658	1.980	2.358	2.617	2.860	3.160	3.373
150		1.287	1.655	1.976	2.351	2.609	2.849	3.145	3.357
200		1.286	1.652	1.972	2.345	2.601	2.839	3.131	3.340
300		1.284	1.650	1.968	2.339	2.592	2.828	3.118	3.323
500		1.283	1.648	1.965	2.334	2.586	2.820	3.107	3.310
∞		1.282	1.645	1.960	2.326	2.576	2.807	3.090	3.291