

THE EFFECT OF USING VIDEO AS ALTERNATIVE MEDIA ON THE STUDENTS' ABILITY TO CONSTRUCT PROCEDURE TEXT AT FIRST GRADE OF MAS AL-JAM'IYATUL WASHLIYAH JL.ISMA'ILIYAH MEDAN IN 2015/2016 ACADEMIC YEAR

SKRIPSI

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ABSTRACT

MUHAMMAD IHSAN. 34.12.3.053. THE EFFECT OF USING VIDEO AS ALTERNATIVE MEDIA ON THE STUDENTS' ABILITY TO CONSTRUCT PROCEDURE TEXT AT FIRST GRADE OF MAS AL-JAM'IYATUL WASHLIYAH JL.ISMA'ILIYAH MEDAN IN 2015/2016 ACADEMIC YEAR

Key Word: Video as Media, Students' Ability in writing, Procedure Text

This research aimed to find out whether there is significant effect on the students' writing procedure text achievement at Mas Al-Jam'iyatul Washliyah Jl.Isma'iliyah Medan In 2015/2016 Academic Year.

The population of the research was the first grade students of MAS Al-Jam'iyatul Washliyah Medan in 2015/2016 academic year that amount 58 students consist of two classes. The research methodology was an experimental research, which conducted the experimental group (X_A) and control group (X_B) as sample. The data collection methods of this research is documentations and test. In this research X_A was taught by using video as alternative media, while (X_B) was taught by using lecturing strategy. The researcher gave writing test to gather the data. There were two test; pre-test and post-test. The formula which was used to analyze the data was t-test. It was used to determine whether there is significant effect on the students' ability to construct procedure text at MAS Al-Jam'iyatul Washliyah Medan in 2015/2016 academic year.

After the data had been collected, it was found that the pre-test average of the experimental class was 52,22 and control class was 48,38. It could be concluded that both of XI_A and XI_B had non differences achievement early. While, the post-test average of the experimental class was 72,04 and control class was 62,74. The t-test score was higher than the t-table (5,77 > 1,90). It was mean that Ha was accepted while Ho was rejected. It means that there is significant effect of using video as alternative media to construct procedure text at MAS Al-Jam'iyatul Washliyah Medan in 2015/2016 academic year..

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The writer

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CHAPTER I

INTRODUCTION

A. The Background of the Study

English is an international language. It is used all over the world. It is the first foreign language taught in every school in Indonesia. It is important for people to master English whether spoken or written. In mastering English, students finds problem dealing with language skills and language components. Most of students in Indonesia consider English as a difficult subject which makes them feel frustrated. Beside that, students have to master four language skills, those are listening, speaking, reading and writing.

Writing is one of the important skills in learning English. Essentially, writing is not easy to do, because the good writing was born from good thought. Writing is already and will continue to be an important part of everyday life¹. Writing is the most difficult skill because it is a complex process. The result of writing is generally called text.

Text is a discourse or composition on which a note or commentary is written; the original words of an author, in distinction from a paraphrase, annotation, or commentary. Based on oxford dictionary, text is a book or other written or printed work, regarded in terms of its content rather than its physical form a text which explores pain and grief. There are many kinds of English text.

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¹Wilson, Edward, Writing and Grammar Communication in Action. (United States of America: 2001), p. 2

Those are recount, report, discussion, explanation, exposition, news item, narrative, procedures, descriptive, and review. But in this research, the text just focuses on recount text.

Procedure text is a set of steps that shows people how to make something in form of text. Procedure is a type of text that is proposed to teach and inform people about making, creating, or doing something. Writing a good Procedure text is influenced by many factors such as vocabulary, sentence pattern, good structure, strategy, method and media.

Media is generally human, material, or the event that make the students get knowledge, skills or attitude². In this definition, teachers, text book and the environment of school are called the media. Media can be seen, heard or read. In procedure text, many medias can be used in teaching by teachers that want to submit material taught. This is done to create an interesting class and not boring.

Video is one of the video as alternative media. Video as alternative media in is used to make the improvement of learning process. By using that media, the students will be more active and interested in learning procedure text because they do not only focus on teacher's explanation but also focus on the media so that they can understand the subject better.

Ideally, if the teacher used different and creative media in teaching, the students' ability in writing will be increased, especially in writing procedure text.

²Azhar, Arsyad, 2003. *Media Pembelajaran*. (Jakarta: PT Raja Grafindo Persada), p. 3

By the media which is used by the teacher, the students also will not be a passive recipient and the process of learning and teaching will be more active.

But, based on my first observation, I found that there are many students in MAS Al-Washliyah Jl. Ismailiyah still have difficulties in writing procedure text. It can be seen by the mistakes they made when they are asked to do the task, such as they are not able to write the steps well and the cannot remember the composition of the procedures. It is caused by the situation and condition when they studied.

Everyone should be able to write. But unfortunately, most of the students are not interested in this subject. In their opinion, writing is complicated and unattractive. Many problems make the students cannot write well. They still have mistakes in grammar and less appropriate use of words in writing. This condition happened because they still don't understand about material that was taught by the teacher. Beside that, in teaching, the teacher in MAS Al-Washliyah Jl. Ismailiyah always used boring media so that the students have less interest that affects their ability in writing.

From the problem above, The writer conducted a study on the title "The Effect of Using Video as Alternative Media on The Students' Ability to Construct Procedure Text at MAS Al-washliyah Jl. Ismailiyah".

B. The Identification of the study:

The problem was identified as the following aspects:

- 1. The students have studied grammar, but they still have not able to arrange the sentence.
- 2. The students have studied the theory of writing, but they still have not be able to practice it well.
- 3. The students have studied procedure text, but they still have not be able to write the text well.
- 4. The teachers have taught procedure text, but they explain the material monotounly.
- 5. The teachers can teach well, but they seldom use varied media in teaching.

C. The Limitation of the Study

Based on the identification above, The writer limited the study: The Effect of Using Video as Alternative Media on The Students' Ability to Construct Procedure Text at Mas. Al-Washliyah Jl. Ismailiyah.

D. The Formulation of the Study

Based on the limitation above, the formulation of the study in this research could be stated as follows:

- 1. How is the students' ability to construct procedure text?
- 2. How is the effect of using video as alternative media on the students' ability to construct Procedure text?

3. Is there any significant effect of using video as alternative media on the students' ability to construct procedure text?

E. The Objective of the Study

Based on the formulation above, the objective of the study in this research could be stated as follows:

- 1. To know the students' ability to construct procedure text.
- 2. To know the effect of using video as alternative media on the students' ability to construct procedure text.
- 3. To know whether there is significant effect of using alternative media on the students' ability to construct procedure text.

F. The Significance of the Study

The result of this study was hoped to be useful for:

- 1. The Headmaster of MAS Al-Washliyah Jl.Ismaliyah, to be able to improve the teaching and learning process of that school.
- 2. The teachers of MAS Al-Washliyah Jl.Ismailiyah, to be able to enrich their ideas to make the learning process more interesting.
- 3. The students at MAS. Al-Washliyah Jl.Ismailiyah to be motivated to study hard.
- 4. Other readers and researchers, to make this study as their resource to develop the other research.

CHAPTER II

THEORITICAL REVIEW

A. Theoritical Framework

To conduct a study, there are several theories that have been proposed by the experts, and it is necessary to explain some of the concepts and terms used in the study. This study also uses some terms that will be presented in the following sections.

A. 1. Ability

In Indonesian language dictionary, ability is being able to do something.³ Ability is the quality to be able to perform whether psychal, moral, intelectual, competence, skill, etc. According to Dr. Mardianto M.Pd, ability is a special thing that someone has, usually can be a skill or knowledge.⁴ It can be concidered that the ability is a skill needed to do something. People who have skill and knowledge are always better than others.

Hasan says that in basic potential there are three factors that can make the students' ability increasing more⁵, they are :

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³Peter Salim, Yenny Salim, Kamus Bahasa Indonesia Kontemporer, (Jogjakarta: 1991), p.

⁴Marianto, *Psikologi Pendidikan*, (Medan: Perdana Publishing, 2012), p. 99

⁵Chalifah Hasan, *Dimensi-Dimensi Psikologi Pendidikan*, (Surabaya: Al-Ikhlas, 1995), p.

a. The original ability

The original ability is a set of basic ability and it called fitrah ability (basic ability that can be developing automatically). Some factors that can improve original ability are talent, instinct, hereditary, intuition and human character.

b. Thinking ability

Hasan says that in the structure of human body there is what called brain extension, which is used to think of something.⁶ Thinking as a soul that can make correlation between incidents that has done.

c. Ability derived from willingness

Hasan says that willingness as a sign of soul, describes one active or feeling as an effort of individual soul. Willingness is an effort of someone to raise something. Ability derived from willingness can be seen from signs as follows: derives, wishing, interest, inclination and willingness. This ability comes from the inner side of human's brain.

A. 2. Writing

A.2.1. Definition of Writing

Writing is a process when the people want to show the ideas on their mind into written language. In a process of writing people use the words to express their feeling, idea, or intention into written form to communicate each other. It is expressing the ideas or information through organizing our thought into good

⁶Chalifah Hasan, *Op.Cit*, p. 65

arrangement of written text. This statement is supported by Al- Quran. Allah states in the glorious Al-Quran:

"Nun. By the pen and by the (record) which (men) write".

The verse above contains an order to write by using *qalam* (pen). Writing is a great gist coming from Allah. Writing has a function as a means to understand human-interest. If there are not writings, the knowledge will be lost, religion track will not exist, and life will not be comfortable. Because writing contains ideas, desires, and expressions that will be expressed.

When people will write something, they must have already been thinking about what they are going to say and they are going to write it. After they have finished writing, they read over what they have written and make correction of their writing.

Writing is not same speaking, because when we speak our communication will be expressed naturally. We say our words directly to the target, but when we use writing as communication, we can see our language and check it. As Meyers said that writing is a way to produce language which does naturally when someone speaks. Writing also an action process of discovering and organizing the ideas, putting them on a paper and reshaping and revising them.⁸

⁷Al-Qur'an Surah Nun

⁸Alan Meyers. 2005. Gateaway to Academic Writing: Effective Sentences, Paragraph and Essays. New York: Longman, p.1

In writing we must use one topic sentence in a paragraph as our head idea or central idea that will be expressed in written form. Hammond said that in writing we arrange clauses into a sentence: the main idea becomes the main clause; subsidiary ideas become subordinate clauses and so on.⁹

To create meaning in writing the writer must has the recognize composition, so the meaning of writing can be understood by the reader clearly. A lot of writing follows a defined discourse organization, typical English paragraph construction, for example, has a topic sentence followed by exemplification, then perhaps exception or further exemplification, and then resolution or conclusion.

Writing is a process of producing thought to be available which needs complex combination of skills, writers, especially L2 writers, has to concern with both high level skills and low level skills. High level skills including planning and organizing, whereas low level skills including spelling, punctuation and word choice.¹⁰

We must also consider what is genre in accordance with our writing goals. Harmer states that writing is a process that what we write is often heavily influenced by constraints of genres than these elements has to be presented in learning activities.¹¹

⁹Peter Knapp and Megan Watkins. 2005. *Genre Text Grammar: Technologies for Teaching and Assessing Writing*. Australia: UNSW Press Book. p. 15.

¹⁰Jack C. Richards and Willy A. 2002.Renandya, *Methodology in Language Teaching*. New York: Cambridge University. p.303

¹¹ Jeremy Harmer. 2004. How to Teach Writing. England: Longman. p.86

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In conclusion writing is a mental process of inventing the ideas, expressing them into written form, and organizing them into meaningful statements or paragraphs. The communications in writing is used to convey ideas to the readers.

A.2.2. The Process of Writing

The process of writing is an approach to write that focused on the steps involved a piece of work. In actually the writing process is not highly organized linear process, but rather a continual movement between the different steps of the writing model. There are many models of writing process.

Elbow as quoted by Brown stated that in writing we do two steps process, first, we figure out meaning, and then we put into language. Figure out what we want to say, do not start writing till we do, make a plan; use an outline; begin writing only afterward. Central to its model is the idea of keeping control, keeping things in hands.¹²

Brown clarifies that process writing approaches tend to be framed in three stages of writing process, pre-writing, drafting and revising. ¹³Don Snow also said that the writing process is often described as having three parts: planning, writing, and revising. ¹⁴ They are as follows:

1. Prewriting and Planning:

The planning of a composition can be broken down into three parts; generating ideas, organizing them down for later reference.

¹²H. Douglas Brown, *Teaching by Principles; An Interactive Approach to Language Pedagogy* 2nd ed. San Fransisco: San Fransisco University.2001 p.336

¹³*Ibid*, p. 348

¹⁴Don Snow. 2007. From Language Learner to Language Teacher: An Introduction to Teaching English as a Foreign Language. South Washington Street: TESOL. p. 159.

- a. Generating Ideas: means finding something to say. Many students' natural tendency is not to think about what they will at all until they actually sit down to start writing, so talking with students about where and how they do their best thinking will help underscore the importance of thinking as a part of composition process.
- b. Selecting and Organizing Ideas: Making an initial effort to select and organize material will give students a good to start. Having decided what to focus on, students need to look at their material and decide what ideas and details suit the focus.

c. Noting Ideas Down

Before starting to write, students should at the very least list the main points of their paper. More advanced-level students can often benefit from learning how to write formal outlines because their require students to decide what points they will make in what order and to consider how points relate to each other (e.g., which are main points and which are supporting points).

2. Editing and Revising

Editing can be divided into two processes: revising to improve its content and proofreading to catch and correct errors.

a. Revising

One problem is that students may see little reason to invest further time polishing a presentation of ideas they never had any real interest in. A

second problem is that, even when students do try to revise, they often do so the same night as they write, when they simply have neither the energy nor the freshness of perspective to see flaws of organization and logic.

b. Proofreading

Sometimes both teachers and students assume that proofreading is a process of mechanically applying grammar rules to every sentence in a composition in order to find the bits that are wrong. However it is more realistic and helpful to view proofreading as a process of looking through a text to find things that students are not sure about, which they can then check in a reference book if they have time and inclination. In short, students are not looking for mistakes; they are looking for places where they are not sure.¹⁵

There are four main stages in the writing process: prewriting, planning, writing and revising drafts, and writing the final copy to hand in.¹⁶

A.2.3. The Purpose of Writing

Written language is used to communicate with others who are not bound by space and time, or for events they are permanent or semi-permanent record is required as a proof. Every written language has a purpose to the writer or the reader. The students have to consider the purpose of their writing since this will influence not only on the type of text they wish to produce but also including the language that the use and the information that they choose.

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¹⁵*Ibid*, p. 159-162.

¹⁶Alice Oshima and Ann Hogue. 2006. Writing Academic English: a Writing and Sentence Structure Handbook 2nd ed. p.3.

According to Halliday suggests that written language is used for the following purposes:

- For action (for example, public signs, product labels, television and radio guides, bills menus, telephone directories, ballot papers, computer manual);
- For information (for example, newspapers, current affairs magazines, advertisements, political pamphlets);
- For entertainment (for example, comic strips, fiction books, poetry and drama, newspaper features, film subtitles).¹⁷

A. 3. Text

In general, text is an article we often read, we know that human beings are different from others. We live in a world with words. When these words are put together to communicate a meaning, a piece of text occur. They will think to express their expression. We can say that human need to express their own in many ways that can be understood by others. Human can use a text as one of the ways to express their own. But we must have appropriate grammatical, so the reader can understand our meaning. It is in accordance with the opinion text are often regarded as a series of appropriate grammatical structure, and so instruction may employee "slot and filter framework in which sentences with different meanings can be generated by verifying the words in the slots.¹⁸

Text is the expression of language that contains content, syntax, pragmatics that is a unity. A text is a set of language which is together cohesively through meaning. It means that when we use language to write, we are creating

¹⁷David Nunan. 1999. *Second Language Teaching & Learning*. Boston: Heinle & Heinle Publishers. p. 275

¹⁸Ken Hyland. 2003. Second Language Writing. USA: Cambridge University Press. p. 3

and constructing a text. When we read, we are interpreting texts. Moreover, when we talk and listen, we are also creating and interpreting texts.

A text is meaningful linguistic unit in a context.¹⁹ Language as a system of communication is organized as cohesive units we call texts. Different types of texts have distinctive characteristics, depending on what they are made to do.²⁰There are two main categories of text. They are literary and factual. Within these are various text types. Each text type has a common way of using language.

a. Literary texts

For the purposes of teaching English, literary texts might include the broad range of texts that reflect and interpret individual and social life, whether real or imaginary. Literary texts can deal with everyday experience in a way that lifts readers beyond the everyday. Literary texts include novels, epics, poems, dramas and sagas. ²¹Literary text is fiction text. It has purpose to entertain the reader.

b. Factual Text

Factual text is a text that presents information or ideas and aim to show, tell, or persuade the audience. This text includes advertisement, announcement, internet website, current affairs shows, debates, recipes, reports, and instructions. The main text types in this category are recount, response, explanation,

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¹⁹Sanggam Siahaan and Kisno Shinoda. 2008. *Generic Text Structure*. Yogyakarta: GrahaIlmu. p.1.

²⁰Peter Knapp and Megan Watkins. *Op.Cit.*p.29

²¹*Ibid.* p.30

discussion, information report, exposition, and procedure.²² It is non-fiction text that has function to give information to the reader.

A. 4. Genres

Genre is a text type that involves a particular set of characteristics in creating a particular text type which contains stages and grammatical form in order to achieve the purpose of the text. Students who are writing a certain genre need to consider several factors. They need to have knowledge of the topic, and the context in which their writing will be read, and by whom. Anne Freadman wrote that:

First, genre is an organizing concept for our cultural practices; second, any field of genres constitutes a network of contrasts according to a variety of parameters; third, genre is place occasion, function, behavior and interactional structures: it is very rarely useful to think of it as a kind of 'text'; fourth, cultural competence involves knowing the appropriateness principle for any genre, knowing the kind of margin you have with it, being able to vary it, knowing how to shift from one to another and how many factors would be involved in any such shift.²³

Because writing has many types of text, the genre is used to determine the type of the text and purpose of writing the text. This is related that genre refers to abstract, socially recognized ways of using language. It is based on the idea that members of a community usually have little difficulty in recognizing similarities

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²²Mark Anderson and Kathy Anderson. 1997. *Text Types in English*, South Yarra: Macmillan Education Australia, p. 3

²³Peter knap and Megan Watkins. op.cit. p. 21

in the texts they use frequently and are able to draw on their repeated experiences with such texts to read, understand, and perhaps write them relatively easily.²⁴

For many people, genre is a concept that helps to organize the commonsense labels we use to categorize texts and the situations in which they occur. According to Harmer genre is a type of writing which members of a discourse community would instantly recognize for what it was. ²⁵

Based on the explanation above, we can know that genre is type or kind of text, defined in terms of its social purpose also the level of context dealing with social purpose. By using genre, we can construct appropriate texts that can be understood clearly by others.

The types of genres in contemporary society are expanding and changing. This is due, in part, to the proliferation of information technologies. Based on Curriculum, there are many texts taught in Senior High School. They are procedure, descriptive, recount, narrative, report, news item, analytical exposition, hortatory exposition, discussion, review, and public speaking. Each genre has specific language features.

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²⁴Science Direct. 2007. *Genre Pedagogy: Language, Literacy and L2 Writing Instruction* Journal of Second Language Writing. p.149.

²⁵Jeremy Harmer. 2007. How to Teach English. England: Longman. p.113

Table I

Examples of Genres and Text Types

(based on Hammond)²⁶

Genre	Text Type
Recipe	Procedure
Personal letter	Anecdote
Advertisement	Descriptive
Police report	Descriptive
Student essay	Exposition
Formal letter	Exposition
Formal letter	Problem Solution
News item	Recount
Health brochure	Procedure
Student assignment	Recount
Biology text book	Report
Film review	Review

²⁶Brian Paltrige. July 1996. *Genre, Text Type, andThe Language Learning Classroom*. ELT Journal Vol.50/3: Oxford University Press, p. 239.

A. 5. Procedure Text

A.5.1. Definition of Procedure Text

Text is the main part of a book or magazine, any form of written material.²⁷ Creating a text requires u to make choice about the word they use and how they put them together. If they make the right choice then we can communicate with others. Our choice of word will depend on our purpose and our surroundings.

A procedure explains how to make or do something.²⁸ Other reference states that the main purpose of a procedure I to direct, inform, and explain. A procedure explains how to do something through a series of steps.

A.5.2. Generic Structure of Procedure Text

The structure of text is a device that supports communicative purpose.²⁹ Same with other tex type, procedure text also has generic tructure according to communicative purpose of the text itself. However there are certain similarities within the texts with the same purpose. The similarities create an expectation of the general schematic structure of the text that is called generic structure of a text.

²⁷Oxford, 1983. Learner' Pocket Dictionary. New York: Oxford University Pres, p. 446

²⁸Hyland, Maureen. 2008, *Another 60 Writing Topic*. Autralia; R.I.C. Publication p.v.

²⁹J. Swales, 1990. *Genre Analysis*. UK: Cambridge University Press, p.42.

The generic structure of procedure text is also called as constructing a procedure text. Constructing itself comes from the verb "construct", which has meaning: bulid something or put something together.³⁰

The structure of a procedure usually consists of these stages:³¹

- a. A paragraph containing an introduction or additional information (optional)
- b. A statement giving the heading the goal or the aim of the activity to achieve.
- c. The listing of materials or equipment to be used for the procedure. (not for directions)
- d. The sequence of steps written un the order in which they should be completed.

In other reference also stated at the same point that text structure of procedure are most procedural text begin with an outline of what is to be achieved, or an aim. This is followed by a list of required materials and then step by step instructions to reach the goal. The text can conclude with an evaluation.

Thus from the explanation above, it can be concluded that there are three points of generic structure of procedure text which is crucial and its can be stated without ones. Because they are in one unity to achieve, it is to tell someone how to do something or how to make/how to operate something.

³⁰ Oxford, *Op.Cit.*, *p.* 89.

³¹ Barwick, John, *Op.Cit*, p.35.

A.5.3. Language Features

Besides having social function and generic structure, procedure text also has significant lexicogrammatical features that support the form of a procedure text. There are:

a. Simple present Tense, especially imperative form

Eventually, procedure text has the social function is to tell someone to do something. So the instruction here is used by imperative verb in present tense. For examples get, chop, cut, add, boil, grind, etc.

b. Connective of Sequence

Sometimes, that was not enough to make a good instruction just using imperative form of present tense. But to make it better and easy to follow, we need the word like as then, after that, next, finally or first, second, thirs, etc. these were called comparative sequence markers.

A. 6. Media

A.6.1. Definition of Media

Media comes from Latin language "medius". It means middle, intermediary or companion. In Arabic, media is intermediary or message delivery from the sender to the receiver.³²

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³²Azhar Arsyad, *Op.Cit*, p. 16

A.6.2. Kinds of Media

According to Wina Sanjaya, there are three kinds of media³³:

1. Audio Aid

Audio aid is text and material recorded which used for listening skill and understanding oral discourse. It can be heard such as radio and tape recorder.

2. Visual Aid

Visual aid is a media that just can be seen, not a sound. There are picture, paint, photo or something can be called as graphic media.

3. Audio visual aid

Audio visual aid is a media that can be both heard and seen such as TV and film. Usually it shows story, event or condition in another place. This kind of media is considered as better and more interesting.

A.6.3. Video

Video is one of the kinds in video as alternative media. Oxford Advanced Learner's Dictionary stated that the video is the process of recording, reproducing, or broadcasting film on magnetic tape, using special camera. Video is a tool which able to present a picture that can move and produce voice.

³³Wina Sanjaya, *Media Komunikasi Pembelajaran*, (Jakarta: Kencana Prenadamedia Grup, 2012), p. 118

The advantages of Video:

- 1. Easy to be understood
- 2. Make literature lessons more attractive and interesting for students
- 3. Let the students learn and have fun
- 4. Develop imagination
- 5. Clarify matters abstract and provide more realistic exlplanation.

The Disadvantages of Video

- 1. Need more time
- 2. Need suitable place
- 3. The cost is more expensive
- 4. Can not used everywhere

B. Conceptual Framework

There are for basic part in language especially English, such as reading, listening, speaking and writing. People who want to master about English have to do those four parts. Writing is one of the important skill in mastering English. It is important to learn and teach writing. Writing skill is more complex and difficult to learn and teach, requiring the mastery not only the grammatical and theoretical devices, but also the conceptual and judgment.

Writing text is the ability to use the structure, lexical items to express the ideas in the form of written production. Procedure text is a form of writing used to

make or do something. To increase the students' ability in constructing procedure text is not easy work to the students. They find it difficult because some of them are still less of vocabularies to write something and also not interested in the subject of writing.

The writer made new concept. The writer offered the new alternative ways to make the improvement of the students' ability in writing procedure text. In teaching procedure text, the writer used video as alternative media in order to give the stimulus to the students to be more active when learning about that material. By using video as alternative media especially watching the video, the writer hoped that the student can be more interested and have the ability in writing procedure text. So this research is done to know the effect of using video as alternative media on the students' ability to construct procedure text.

C. Related Study

Albert P. Hutabarat (2011): 'Improving The Students' Speaking
 Achievement In Constructing Procedure Text By Using Video At SMAN
 7 Medan'. This study attempts to improve students' speaking achievement in constructing procedure text by using video. This study was conducted by using Classroom Action Research.

The subject of the research is class X-1 SMA Negeri & Medan that consisted of three meetings. The instruments for collecting Quantitative data (writing text) and Qualitative data (diary notes, observation sheet, interview, an questionnaire).

Based on the speaking test score, students' score kept impoing in every test. In the Test I the mean of speaking score was 50,03. In the Test II the score wa 71,52. Based on diary notes, observation sheet and questionnaire sheet, it was found. That teaching learning process ran well. Students were active and interested in speaking. The result of the research showed that video can improve students' speaking achievement in constructing procedure text.

2. Dewi Astuti Siregar (2013); "Improving Students' Achievement in Writing Procedural Paragraph by Using Still Picture". She concluded that after analyzing the data, it was found out that the students' writing test score increased from the first cycle. Still pictures succeed as a teaching media, especially for low-skilled students but did not give significant improvements for the high-skilled students. It states that the scores improve from the first test to the last test continuously. There are 60,25 in test I, 69,6 in Test II, and 80,23 in test III.

D. Hypothesis

The hypothesis in this study was:

- Ha : There is effect of using video as alternative media on the students' ability to construct procedure text.
- Ho : There is no effect of using video as alternative media on the students' ability to construct procedure text.

CHAPTER III

METHOD OF RESEARCH

A. Location of Research

This research had been conducted at Madrasah Aliyah Al-Washliyah Ismailiyah for academic year 2015/2016. This location of the school is at Jl.Ismailiyah, Medan.

The writer chose Madrasah Aliyah Al-Washliyah Ismailiyah because:

- 1. The problem was found in this school.
- 2. The location of the research is closed to the writer's house, so it could make the writer to be easy and seriously in doing the research.
- 3. Suitable with the ability and the limitation of the research in time and finance.

B. Population and Sample

B. 1. Population

Populasi adalah keseluruhan objek yang akan/ingin diteliti³⁴ (Population is the whole of objects that will be researched). In this Research, the population is the tenth grade of MAS Al Jami'yatul Washliyah Medan that consists of 76 students in two classes. It can be seen from the table:

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³⁴Syahrum, Salim. *Metodologi Penelitian Kuantitatif.* Bandung: Citapustaka Media.2007. p.113

Table II

The Population of Research

No	Class	Students
1	Xa	27
2	Xb	31
	Total	58

Source: MAS Al-Washliyah Jl. Ismiliyah Medan

B. 2. Sample

Experienced researchers started with the total population and worked down to the sample. The smaller group or subset of the population is the sample. This case, the writer used total sampling. Because the number of restrictions on the population was just 58 students, so the writer took the whole population as sample. Arikunto said that *jika populasi kurang dari 100 ,kita bisa menggunakan semuanya sebagai sampel. Jika populasi lebih dari100, kita bisa mengambil 10-15% atau lebih dari 20-25% dari sampel tersebut* (if the population of less than 100, we can use it as a sample. If the population is over than 100, we can take the 10-15% or more than 20-25% of the population as the samples.)³⁶

³⁵Louis Cohen, Laurence Manion& Keith Morison. 2007. *Research Method in Education*, London: Routledge. p.100.

³⁶Suharsimi Arikunto. 2006. *Prosedur Penelitian Suatu Pendekatan Praktik*. Jakarta: PT. Rineka Cipta. p. 134.

Table III
The Sample of Research

	No	Class	Students
	1	Xa	27
	2	Xb	31
		Total	58
(7	. MAC A1 XV a a1-1:	rich II Ismilirich Madar

Source: MAS Al-Washliyah Jl. Ismiliyah Medan

C. Operational Definition of Variable

This research had two variables, they were independent variable and dependent variable.

a. Independent variable was using video as alternative media in teaching

From the theoretical review, it was clear that using video as alternative media in teaching was more interesting and easier. It had many advantages for the teacher and the students.

The indicators of using video as alternative media:

- 1. Teacher showed the video as alternative media
- 2. Students paid attention to the video
- 3. Students had to understand about the steps of making something of that video.

b. Dependent variable was the students' ability to construct procedure text

From theoretical review, this was clear that the students' ability was the intelligence in doing something. Students' ability in this study was the students' scores based on result of the test that given by the writer, after the writer had explained them how to write procedure text.

The indicators of students' ability to construct procedure text:

- Students were able to have many vocabularies in writing procedure text
- 2. Students were able to understand about the generic structure of procedure text
- 3. Students were able in mastering simple present tense and connective of sequence in order to be able to construct procedure text

D. Research Design

This research was conducted by using experimental design. To collect the data, the sample was divided into two classes. The classes were assigned as experiment group and the other one as control group.

Experiment group was the class that receives treatment by using video as media, while the control group was the class that did not receive treatment by using video as media but only received conventional treatment.³⁷

The procedure of administering the assignment as the instrument of the study was the test administrated to both groups after they were taught about constructing procedure text.

The experiment design in this study was:

TABLE IV

Design of the Research

Name of Class	Step I	Step II	Step III
Experimental	Pre-test	Teaching Procedure Text by using	Post-test
Group		Video	
Control Group	Pre-test	Teaching Procedure Text by using conventional treatment	Post-test

E. Instrument for Collecting Data

a. Document

Documents are anything written that contains improving as proof. It is used to get information about students' improvement. It is one of

³⁷Suharsimi Arikunto, *Op.Cit.* p. 142

important instruments to get the real data. It helped researcher to find data about students. In this research, the document of proof was students' score.

b. Test

Test is a set of questions to be answered or job to do which is provided information or certain psychological aspects, based on the answer to the questions or subject manner and the results of performing a task. Test as an instrument of data collection is a set of questions or exercises that are used to measure the skills of knowledge, intelligence, ability or aptitude of the individual or group.³⁸ The writer gave essay test as the instrument. Essay test is a test that requires the students to structure a rather long written response up to several paragraphs.³⁹ It was given to know the students' ability to construct procedure text. The test consisted one item. The writer asked the students to write a procedure text.

F. Technique in Collecting Data

To get the data about students' ability in writing procedure text, the writer gave the test to the students.

- 1. The writer distributed the answer sheet to the students
- 2. The students wrote their name

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³⁸Subana,dkk, *Statistika pendidikan*.(Bandung: CV Pustaka Setia:2000), p. 28

³⁹ *Ibid,* p. 32

- 3. The writer gave instruction that the test was writing the procedure text
- 4. The writer gave the specific time for students to do the test
- 5. The writer collected the answer sheet from the students when the time was up.
- 6. The writer scored the students' test.

In scoring the data of this research, suggested by Brown and Bailey some components namely organization, logical development of ideas, grammar, punctuation/spelling/mechanics, and style and quality of expression. These components showed in the following table.⁴⁰

Table V
Scoring the Data

	20-18	17-15	14-12	11-16	5-1	
	Excellent to Good	Good to Adequate	Adequate to	Unacceptable -not	College- level work	
I	Appropriate	Adequate title,	Mediocre or	Shay or	Absence of	
Organiz	title, effective introductory	introduction,	scant introduction or	minimally recognizable	introduction or	

⁴⁰H. Douglas Brown, *Language Assessment Principles and Classroom Practices*, (California: Longman, 2003), p. 244

.

Introduct	paragraph,	conclusion;	conclusion;	introduction	conclusion;
ion,	topic is stated,	body of essay	problem with	organization	no apparent
body,	leads to body;	is acceptable,	the order of	can barely be	organization
conclusio	transitional	but some	ideas in body;	seen; severe	of body;
n.	expressions	evidence may	the	problems with	severe lack
	used;	be lacking,	generalization	ordering of	of
	arrangement of	some ideas are	may not be	ideas; lack of	supporting
	material shows	not fully	fully supported	supporting	evidence;
	plan (could be	developed;	by the	evidence;	writer has
	outlined by	sequence is	evidence	conclusion	not made
	reader);	logical but	given;	weak or	any effort to
	supporting	transitional	problems of	illogical;	organize the
	evidence given	expressions	organization	inadequate	composition
	for	may be absent	interfere.	effort at	(could not
	generalizations	or misused		organization	be outlined
					by reader)
II	Essay	Easy addresses	Development	Ideas	Essay is
Logical	addresses the	the issues but	of ideas not	incomplete;	completely
develop	assigned	misses some	complete or	essay does not	inadequate
ment of	topic; the	points; ideas	essay is	reflect careful	and does not
ideas:	ideas are	could be more	somewhat off	thinking or	reflect
content	concrete and	fully	the topic;	was hurriedly	college-level

	thoroughly	developed;	paragraphs are	written;	work; no
	developed; no	some	not divided	inadequate	apparent
	extraneous	extraneous	exactly right	effort in area	effort to
	material.	material is		of content	consider the
		presented.			topic
					carefully.
III	Native-lie	Advanced	Ideas are	Numerous	Severe
Gramma	fluency in	proficiency in	getting through	serious	grammar
r	English	English	to the reader,	grammar	problems
	grammar,	grammar; some	but grammar	problems	interfere
	correct use of	grammar	problems are	interfere with	greatly with
	relative	problems do	apparent and	communicatio	the message;
	clauses,	not influence	have a negative	n of writer's	reader
	preposition,	communication	effect on	ideas;	cannot
	modals,	, although the	communication	grammar	understand
	article, verb	reader is aware	; run-on	review of	what the
	forms and	of them; no	sentences or	some areas	writer was
	tense	fragments or	fragments	clearly	trying to
	sequencing;	run on-	present	needed;	say;
	no fragments	sentences.		difficulty to	unintelligibl
	or run-on			read sentence	e sentence
	sentences.				structure.

IV	Correct use of	Some problems	Usage general	Serious	Complete
Punctuat	English	with writing	writing	problems with	disregard for
ion,	writing	convention or	conventions	format of	English
spelling,	conventions:	punctuation;	but has errors;	paper; parts of	writing
and	left and right	occasional	spelling	essay not	conventions;
mechani	margins, all	spelling errors;	problems;	legible; errors	paper
cs	needed	left margin	distract reader;	in sentence	illegible;
	capitals,	correct; paper	punctuation	punctuation	obvious
	paragraphs,	is neat and	errors interfere	and final	capitals
	indented,	legible.	with ideas	punctuation;	missing, no
	punctuation,			unacceptable	margins,
	and spelling;			to educated	severe
	very neat.			reader.	spelling
					problems
V	Precise	Attempts	Some	Poor	Inappropriat
Style,	vocabulary	variety; good	vocabulary	expression of	e use of
and	usage; use of	vocabulary; not	misused; lack	ideas;	vocabulary;
quality	parallel wordy; register		awareness of	problems in	no concept
of	structures;	Ok; style fairly	register; may	vocabulary;	of register of
expressi	concise;	concise.	be too wordy	lacks variety	sentence
on	register good.			of structure	variety

G. Technique of Analyzing Data

Because this research was to compare the result of the test between two groups, so the writer used t-test formula in analyzing the data:

The formula was:

$$t_0 = \frac{\overline{X} 1 - \overline{X} 2}{S \sqrt{\frac{1}{n_1}} + \frac{1}{n_2}}$$

 $t_0 = t$ -test

 \overline{X} 1 = Different levels of pre-test score and post-test experimental class

 \overline{X} 2 = Different levels of pre-test score and post-test control group

 n_1 = The sample of experiment group

 n_2 = The sample of control group

S = Combining standard deviation

CHAPTER IV

RESEARCH FINDING

A. Data Analysis

In this chapter, the researcher had finished the process of pre-test, experiment treatment and post-test. After finishing that process, the writer calculated the significant difference between two means, and difference of average scores between experiment and control group.

Pre-test was given to both control and experimental class in order to measure how the condition of two classes before treatment. Both of classes got same pre-test, namely write a story. After doing the pre-test, the researcher conducted the experiment treatment. The teacher taught the experiment group by using video as alternative media and taught control group without video as alternative media. At the end of learning process, the teacher gave post-test to each class. They had to write the story again. It was conducted in order to analyze how far the students could understand about the narrative text.

TABLE VI

Find Mean, Variant and Deviation Standard of Experiment group in Pre-test

Score

No	Xi	Fi	FiXi	Xi2	FiXi2
1	40	2	80	1600	3200
2	45	7	315	2025	14175
3	50	5	250	2500	12500
4	55	7	385	3025	21715
5	60	3	180	3600	10800
6	65	2	130	4225	8450
7	70	1	70	4900	4900
	Total	27	1410	21875	75740

a. Mean

The score average of the students' ability to construct procedure text who were taught by using video as alternative media in pre-test:

$$\bar{x} = \frac{\sum FiXi}{\sum Fi}$$

$$\bar{x} = \frac{1410}{27}$$

$$\bar{x} = 52,22$$

b. Variant

The variant data of the students' ability to construct procedure text who were taught by using video as alternative media in pre-test:

$$(S^2) = \frac{N\sum FiXi^2 - (\sum FiXi)^2}{N(N-1)}$$

$$(S^2) = \frac{27.75740 - 1410^2}{27(27 - 1)}$$

$$(S^2) = \frac{2044980 - 1988100}{27(26)}$$

$$(S^2) = \frac{56880}{702}$$

$$(S^2) = 81,02$$

c. Deviation standard

The standard deviation of the students' ability to construct procedure text who were taught by using video as alternative media in pre-test:

$$S = \sqrt{S^2}$$

$$S = \sqrt{81,02}$$

$$S = 9,1$$

From the computation above, Mean, Variant and Deviation Standard of Experiment group in Pre-test Score can be seen as follows:

Mean : 52,22

Variant :81,02

Deviation Standard : 9,1

TABLE VII

Find Mean, Variant and Deviation Standard of Experiment group in Posttest Score

No	Xi	Fi	FiXi	Xi2	FiXi2
1	60	1	60	3600	3600
2	65	5	325	4225	21125
3	70	10	700	4900	49000
4	75	5	375	5625	28125
5	80	5	400	6400	32000
6	85	1	85	7225	7225
	Total	38	1945	31975	141075

a. Mean

The score average of the students' ability to construct procedure text who were taught by using video as alternative media in post-test:

$$\overline{x} = \frac{\sum FiXi}{\sum Fi}$$

$$\bar{x} = \frac{1945}{27}$$

$$\bar{x} = 72,04$$

b. Variant

The variant data of the students' ability to construct procedure text who were taught by using video as alternative media in post-test:

$$(S^2) = \frac{N\sum FiXi^2 - (\sum FiXi)^2}{N(N-1)}$$

$$(S^2) = \frac{27.141075 - 1945^2}{27(27 - 1)}$$

$$(S^2) = \frac{3809025 - 3783025}{27(26)}$$

$$(S^2) = \frac{2600}{702}$$

$$(S^2) = 37,04$$

c. Deviation standard

The standard deviation of the students' ability to construct procedure text who were taught by using video as alternative media in post-test:

$$S = \sqrt{S^2}$$

$$S = \sqrt{37,04}$$

$$S = 6.08$$

From the computation above, Mean, Variant and Deviation Standard of Experiment group in Post-test Score can be seen as follows:

Mean : 72,04

Variant :37,04

Deviation Standard : 6,08

TABLE VIII

Find Mean, Variant and Deviation Standard of Control group in Pre-test

Score

No	Xi	Fi	FiXi	Xi2	FiXi2
1	35	1	35	1225	1225
2	40	4	160	1600	6400
3	45	9	405	2025	18225
4	50	10	500	2500	25000
5	55	4	220	3025	12100
6	60	3	180	3600	10800
	Total	31	1500	13975	73750

a. Mean

The score average of the students' ability to construct procedure text who were taught without using video as alternative media in pre-test:

$$\overline{x} = \frac{\sum FiXi}{\sum Fi}$$

$$\bar{x} = \frac{1500}{31}$$

$$\bar{x} = 48,38$$

b. Variant

The variant data of the students' ability to construct procedure text who were taught without using video as alternative media in pre-test:

$$(S^2) = \frac{N\sum FiXi^2 - (\sum FiXi)^2}{N(N-1)}$$

$$(S^2) = \frac{31.73750 \!-\! 1500^2}{31(31 \!-\! 1)}$$

$$(S^2) = \frac{2286250 - 2250000}{31(30)}$$

$$(S^2) = \frac{36250}{930}$$

$$(S^2) = 38,97$$

c. Deviation standard

The standard deviation of the students' ability to construct procedure text who were taught without using video as alternative media in pre-test:

$$S = \sqrt{S^2}$$

$$S = \sqrt{38,97}$$

$$S = 6,24$$

From the computation above, Mean, Variant and Deviation Standard of Control group in Pre-test Score can be seen as follows:

Mean : 48,38

Variant :38,97

Deviation Standard : 6,24

TABLE IX

Find Mean, Variant and Deviation Standard of Control group in Post-test

Score

No	Xi	Fi	FiXi	Xi2	FiXi2
1	55	1	55	3025	3025
2	60	18	1080	3600	64800
3	65	6	390	4225	25350
4	70	6	420	4900	29400
	Total	31	1945	15750	122575

a. Mean

The score average of the students' ability to construct procedure text who were taught without using video as alternative media in post-test:

$$\overline{x} = \frac{\sum FiXi}{\sum Fi}$$

$$\bar{x} = \frac{1945}{31}$$

$$\bar{x} = 62,74$$

b. Variant

The variant data of the students' ability to construct procedure text who were taught without using video as alternative media in post-test:

$$(S^2) = \frac{N\sum FiXi^2 - (\sum FiXi)^2}{N(N-1)}$$

$$(S^2) = \frac{31.122575 {-} 1945^2}{31(31 {-} 1)}$$

$$(S^2) = \frac{3799825 - 3783025}{31(30)}$$

$$(S^2) = \frac{16800}{930}$$

$$(S^2) = 18,06$$

c. Deviation standard

The standard deviation of the students' ability to construct procedure text who were taught without using video as alternative media in post-test:

$$S = \sqrt{S^2}$$

$$S = \sqrt{18,06}$$

$$S = 4,24$$

From the computation above, Mean, Variant and Deviation Standard of Control group in Post-test Score can be seen as follows:

Mean : 62,74

Variant :18,06

Deviation Standard : 4,24

B. Normality Test

 $\label{eq:Table X} \textbf{The Normality Data of Experiment group in Pre-test}$

No	Xi	F	F.Kum	Zi	F(Zi)	S(Zi)	(Fzi-Szi)
1	40	2	2	-1,356	0,0869	0,074	0,0129
2	45	7	9	-0,801	0,2090	0,333	0,124
3	50	5	14	-0,246	0,3974	0,518	-0.1206
4	55	7	21	0,308	0,6480	0,777	-0.129
5	60	3	24	0,863	0,7939	0,888	-0,0941
6	65	2	26	1,418	0,9319	0,962	-0,0301
7	70	1	27	1,973	0,9726	1	-0.0274

To find Zi score by using this formula:

$$Zi = \frac{x - \bar{x}}{S}$$

$$ZiI = \frac{40 - 52,22}{9,01} \qquad ZiI = -1,356$$

$$Zi2 = \frac{40 - 52,22}{9.01} \qquad Zi2 = -0,801$$

$$Zi3 = \frac{45 - 52,22}{9.01} \qquad Zi3 = -0.246$$

$$Zi4 = \frac{55 - 52,22}{9.01} \qquad Zi4 = -0,308$$

$$Zi5 = \frac{60 - 52,22}{9.01} \qquad Zi5 = -0,863$$

$$Zi6 = \frac{65 - 52,22}{9.01} \qquad Zi6 = -1,418$$

$$Zi7 = \frac{70 - 52,22}{9.01} \qquad Zi7 = -1,973$$

To find S(Zi) score by using this formula:

$$S(Zi) = \frac{F.Kum}{N}$$

$$S(Zi)1 = \frac{2}{27} = 0.074$$
 $S(Zi)5 = \frac{24}{27} = 0.888$

$$S(Zi)2 = \frac{9}{27} = 0.333$$
 $S(Zi)6 = \frac{26}{27} = 0.962$

$$S(Zi)3 = \frac{14}{27} = 0.518$$
 $S(Zi)7 = \frac{27}{27} = 0.962$

$$S(Zi)4 = \frac{21}{27} = 0,777$$

So, from computation above, it can be seen:

Sample (N) : 27

Mean (x) : 52,22

Deviation standard (S) : 9,01

L.Observation (Lo) : 0,124

L table : 0,173

From the table above, it can be seen that liliefors observation or Lo = 0,124 with n= 27, and at real level α = 0.05 from the list critical value of liliefors table Lt = 0.173. It is known that the coefficient of Lo (0,124 < Lt (0.173), so it can be concluded that the data distribution of the students' ability to construct procedure text is **normal.**

Table XI

The Normality Data of Experiment group in Post-test

No	Xi	F	F.Kum	Zi	F(Zi)	S(Zi)	(Fzi-Szi)
1	60	1	1	-1,980	0,0287	0,037	-0,0083
2	65	5	6	-1,157	0,1210	0,222	-0,101
3	70	10	16	-0,335	0,3632	0,592	-0,2288

4	75	5	21	0,486	0,6772	0,777	-0,0998
5	80	5	26	1,309	0,9177	0,962	-0,0443
6	85	1	27	2,131	0,9826	1	-0,0174

To find Zi score by using this formula:

$$Zi = \frac{x - \bar{x}}{S}$$

$$ZiI = \frac{60 - 72,04}{6,08} \qquad ZiI = -1,980$$

$$Zi2 = \frac{65 - 72,04}{6,08} \qquad Zi2 = -1,157$$

$$Zi3 = \frac{70 - 72,04}{6.08} \qquad Zi3 = -0,335$$

$$Zi4 = \frac{75 - 72,04}{6,08} \qquad Zi4 = 0,486$$

$$Zi5 = \frac{80 - 72,04}{6,08} \qquad Zi5 = 1,309$$

$$Zi6 = \frac{85 - 72,04}{6,08} \qquad Zi6 = 2,131$$

To find S(Zi) score by using this formula:

$$S(Zi) = \frac{F.Kum}{N}$$

$$S(Zi)I = \frac{1}{27} = 0.037$$
 $S(Zi)4 = \frac{21}{27} = 0.777$

$$S(Zi)2 = \frac{6}{27} = 0.222$$
 $S(Zi)5 = \frac{26}{27} = 0.962$

$$S(Zi)3 = \frac{16}{27} = 0,592$$
 $S(Zi)6 = \frac{27}{27} = 1$

So, from computation above, it can be seen:

Sample (N) : 27

Mean (x) : 72,04

Deviation standard (S) : 6,08

L.Observation (Lo) : -0,0083

L table : 0,173

From the table above, it can be seen that liliefors observation or Lo = -0,0083 with n= 27, and at real level α = 0.05 from the list critical value of liliefors table Lt = 0.173. It is known that the coefficient of Lo (-0,0083 < Lt (0.173), so it can be concluded that the data distribution of the students' ability to construct procedure text is **normal.**

Table XII

The Normality Data of Control group in Pre-test

No	Xi	F	F.Kum	Zi	F(Zi)	S(Zi)	(Fzi-Szi)
1	35	1	1	-2,144	0,0162	0,032	-0,0158
2	40	4	5	-1,342	0,0934	0,161	-0,0676
3	45	9	14	-0,541	0,3050	0,451	-0,146
4	50	10	24	0,259	0,6141	0,774	-0,1599
5	55	4	28	1,060	0,8413	0,903	-0,0617
6	60	3	31	1,862	0,9656	1	-0,0344

To find Zi score by using this formula:

$$Zi = \frac{x - \bar{x}}{S}$$

$$ZiI = \frac{35 - 48,38}{6,24} \qquad ZiI = -2,144$$

$$Zi2 = \frac{40 - 48,38}{6,24} \qquad Zi2 = -1,342$$

$$Zi3 = \frac{45 - 48,38}{6,24} \qquad Zi3 = -0,541$$

$$Zi4 = \frac{50 - 48,38}{6,24} \qquad Zi4 = 0,259$$

$$Zi5 = \frac{55 - 48,38}{6,24} \qquad Zi5 = 1,060$$

$$Zi6 = \frac{60 - 48,38}{6.24}$$
 $Zi6 = 1,862$

To find S(Zi) score by using this formula:

$$S(Zi) = \frac{F.Kum}{N}$$

$$S(Zi)I = \frac{1}{31} = 0.032$$
 $S(Zi)4 = \frac{24}{31} = 0.774$

$$S(Zi)2 = \frac{5}{31} = 0.161$$
 $S(Zi)5 = \frac{28}{31} = 0.903$

$$S(Zi)3 = \frac{14}{31} = 0,451$$
 $S(Zi)6 = \frac{31}{31} = 1$

So, from computation above, it can be seen:

Sample (N) : 31

Mean (x) : 48,38

Deviation standard (S) : 6,24

L.Observation (Lo) : -0,0158

L table : 0.159

From the table above, it can be seen that liliefors observation or Lo = -0,0158 with n= 31, and at real level α = 0.05 from the list critical value of liliefors table Lt = 0.159. It is known that the coefficient of Lo (-0,0158 < Lt (0.159), so it can be concluded that the data distribution of the students' ability to construct procedure text is **normal.**

Table XIII

The Normality Data of Control group in Post-test

No	Xi	F	F.Kum	Zi	F(Zi)	S(Zi)	(Fzi-Szi)
1	55	1	1	-1,825	0,0322	0,032	0,0002
2	60	18	19	-0,646	0,2546	0,612	-0,3574
3	65	6	25	0,533	0,7019	0.806	-0,1041
4	70	6	31	1,712	0,9573	1	-0,0427

To find Zi score by using this formula:

$$Zi = \frac{x - \bar{x}}{S}$$

$$Zi1 = \frac{55 - 62,74}{4,24}$$

$$Zi1 = -1,825$$

$$Zi2 = \frac{60 - 62,74}{4,24}$$

$$Zi2 = -0,646$$

$$Zi3 = \frac{65 - 62,74}{4,24} \qquad Zi4 = 0,533$$

$$Zi4 = \frac{70 - 62,74}{4,24} \qquad Zi1 = 1,712$$

To find S(Zi) score by using this formula:

$$S(Zi) = \frac{F.Kum}{N}$$

$$S(Zi)I = \frac{1}{31} = 0.032$$
 $S(Zi)3 = \frac{25}{31} = 0.806$

$$S(Zi)2 = \frac{19}{31} = 0.612$$
 $S(Zi)4 = \frac{31}{31} = 1$

So, from computation above, it can be seen:

Sample (N) : 31

Mean (x) : 62,74

Deviation standard (S) : 4,24

L.Observation (Lo) : 0,0002

L table : 0,159

From the table above, it can be seen that liliefors observation or Lo = 0,0002 with n= 31, and at real level $\alpha = 0.05$ from the list critical value of liliefors table Lt = 0.159. It is known that the coefficient of Lo (0,0002 < Lt (0.159), so it can be concluded that the data distribution of the students' ability to construct procedure text is **normal.**

C. Homogeneity test

Based on the variant computation of the data of the students' ability in writing by using video as alternative media and without using video as alternative media, it would find out the homogeneity test.

a. Homogeneity test taught by using video as alternative media

According the data above, it was known that:

- Variant of pre-test score taught by using video as alternative media
 is 81,02
- Variant of post-test score taught by using video as alternative media is 37,04

Then it can be done homogeneity test with F test as follow:

$$F = \frac{\textit{The highest variant}}{\textit{The lowest variant}}$$

$$F = \frac{81,02}{37,04}$$

$$F = 2,18$$

From the computation above, it was found that coefficient of variant was 2.18. Based on the list critics value of F distribution with level $\alpha = 0.05$, and the freedom degree dk counter (N-1) = 27-1 = 26, and dk denominator (N-1) = 27-1 = 26, it was found that $F_{(0.05)(26.26)} = 2,58$. It showed that $F_{count}(2.19) < F_{table}$ (2.58), so can be concluded that pre-test and post-test are **homogeny.**

- Homogeneity test taught without using video as alternative media
 According the data above, it was known that:
 - Variant of pre-test score taught without using audio video media is 38,97

 Variant of post-test score taught without using video as alternative media is 18,06

Then it can be done homogeneity test with F test as follow:

$$F = \frac{The\ highest\ variant}{The\ lowest\ variant}$$

$$F = \frac{38,97}{18,06}$$

$$F = 2.15$$

From the computation above, it was found that coefficient of variant was 2,15. Based on the list critics value of F distribution with level $\alpha=0.05$, and the freedom degree dk counter (N-1) = 31-1 = 30, and dk denominator (N-1) = 31-1 = 30, it was found that $F_{(0.05)(30.30)}=2,38$. It showed that $F_{count}(2,15) < F_{table}$ (2.38), so can be concluded that pre-test and post-test are **homogeny**.

D. Hypothesis Test

Before doing hypothesis testing by using t-test, in this case is done by taken post-test score that using video as alternative media and post-test score without using video as alternative media. The post test score is taken because the score that have gotten after teaching learning process.

The formula t-test used as follows:

$$t_0 = \frac{\overline{X} \mathbf{1} - \overline{X} \mathbf{2}}{S \sqrt{\frac{1}{n_1}} + \frac{1}{n_2}}$$

The combination of variant was counted by using this formula:

$$S^{2} = \frac{(n_{1}-1) S_{1}^{2} + (n_{2}-1) S_{2}^{2}}{n_{1}+n_{2}-2}$$

$$S^2 = \frac{(27-1) + 37,04 (31-1)38,97}{27+31-2}$$

$$S^2 = \frac{(26)37,04 + (30)38,97}{58 - 2}$$

$$S^2 = \frac{963,04 + 1169,1}{56}$$

$$S^2 = \frac{2132,14}{56}$$

$$S^2 = 38,07$$

The deviation standard is

$$S = \sqrt{38,07}$$

$$S = 6.17$$

So, it can be known that the value of the combining deviation standard from pulled up the roots of variant values 38,07 is 6,17.

$$\overline{X}_1$$
 :72,04

$$\overline{X}_2$$
 :62,74

$$n_1$$
 :27

$$n_2$$
 :31

It can be counted as follow:

$$t_0 = \frac{\overline{X} \mathbf{1} - \overline{X} \mathbf{2}}{S \sqrt{\frac{1}{n_1}} + \frac{1}{n_2}}$$

$$t_0 = \frac{72,04 - 62,74}{6,17\sqrt{\frac{1}{27} + \frac{1}{31}}}$$

$$t_o = \frac{9.30}{6,17\sqrt{\frac{58}{837}}}$$

$$t_o = \frac{9.30}{1.61}$$

$$t_0 = 5,77$$

The coefficient of t_{count} was 5,77, was compared with t_{table} , where the coefficient of t_{table} at real level α 0.05 with dk = 27 + 31 - 2 = 56 gained the coefficient of $t_{(0.05)(56)} = 1,90$. In fact, the coefficient of $t_{count}(5,77) > t_{table}(1.90)$. It shows that t_{count} is in zero hypothesis rejection (Ho). Thus alternative hypothesis (Ha) is accepted. It means that the alternative hypothesis which is proposed by the

researcher that there is significant effect of using video as alternative media on the students' ability to construct procedure text is accepted.

E. Discussion

The focus of this research was on the students' ability to construct procedure text which taught by using video as alternative media. The result of the research showed the mean of score on the test of the students' ability to construct procedure text that was gotten from the class X-A of MAS Al-Washliyah Ismailiyah who were taught by using video as alternative media was higher than the mean of score on the test of the students' ability to construct procedure text that was gotten from the class X-B who were taught without using video as alternative media.

Video as alternative media would be an effective way to improve students' ability. Students were helped by their teacher to be able to write procedure text. It was prove (in experiment group was taught by using this media) that the media was helpful especially for the students who always feel bored when they learned about writing moreover if the teacher teaches monotonous. Beside that, the teacher in the class can improve the students' ability to construct procedure text.

Based on the explanation above, the researcher concluded that the implementation of using video as alternative media has significant effect to students' ability to construct procedure text.

CHAPTER V

CONCLUSIONS AND SUGGESTIONS

A. Conclusions

The writer concluded that:

- 1. The students' ability to construct procedure text of first grade students at MAS Al-Jam'iyatul Washliyah who were taught by using video as alternative media got average 52,22 in pre-test with the highest score 70 and the lowest score was 40. While in post-test the students got average 72,04 with the highest score 85 and the lowest score was 60.
- 2. The students' ability to construct procedure text at first grade students of MAS Al-Jam'iyatul Washliyah who were taught without using video as alternative media got average 48,38 in pre-test with the highest score 60 and the lowest score was 35. While in post-test the students got average 62,74 with the highest score 70 and the lowest score was 55.
- 3. Based on the statistical computation t-test was found that the coefficient of $t_{count} = 5,77$ where the value of $t_{table} = 1,90$. It means that there was significant effect of using video as alternative media on the students' ability to construct procedure text. It is also indicated that H_a is accepted and H_0 is rejected. It also indicated that there was significant difference to the students' ability to construct procedure text who were taught by using video as alternative media got higher score than the students' ability to

construct procedure text that were taught without using video as alternative media.

B. Suggestions

Based on the conclusion, the researcher gives some suggestions:

- For the Headmaster of MAS Al-Washliyah Ismailiyah, to improve the elements, strategies, methods, and media of learning process of that school.
- 2. For the English teachers who want to increase their students' ability, especially in writing, can use this media because this media helps the students increase their ability in writing.
- 3. For the students should learn more to develop their ability to construct procedure text and should keep study hard in other lessons.
- 4. For other researchers who are interested in conducting similar research have to explore knowledge in order to give more benefit on the research result.

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Appendix I

LESSON PLAN 1

(Control Class)

School : MAS Al-Washliyah Ismailiyah

Subject : English

Class/Semester : X/II

Time Alocation : 2 x 40 minutes

Skill Focus : Writing Procedure Text

A. Standard Competence

Expressing the meaning in functional text and simple short essay especially in narrative to interact with environment.

B. Basic Competence

Expressing the meaning and rhetoric step in simple short essay using kinds of written language, procedure text accurately, fluently, and acceptable to interact with environment.

C. Indicators

- 1. Students are able to identify the generic structure and language feature of procedure text.
- 2. Students are able to write procedure text.

D. Material/Subject

Procedure Text

a. Definition:

A procedure text explains how to do something through a series of steps.

b. Social Function:

To describe how something is accompished through a sequence of action or steps.

Example of Procedure Text:

How to Make Fried Noodle

Materials:

- Two slices of red onion and white onion
- Egg
- Salt
- Tomato
- Cucumber
- Sausage

Procedure or Step:

- First, boil two glasses of water in a pan.
- Then open the package of the noodle.
- Wait for the water to boil, pour the seasoning chili sauce and oil into a bowl.
- After the water has boiled, drain the noodle.
- Next, throw away the water.
- Then pour the noodle into a bowl.

- Mix the noodle with seasoning, sauce, egg, and the other r ingredients such as two slices of tomato and cucumber.
- Your noodle is ready.

F. Teaching Method

Presentation practice production

G. Teaching Media

- Book
- Work sheet

H. Teaching Learning Scenario

1. Opening Activities

- a. Teacher greets to the students.
- b. Teacher checks the attendance list.
- c. Teacher asks the students about their interest in English.
- d. Teacher motivates the students to give the best in learning.

2. Main Activities

- a. Teacher explains about procedure text and the generic structures.
- b. Teacher asks the students to write a procedure text.
- c. Teacher asks the students to submit their answer sheet.

3. Closing Activities

a. Teacher gives the chance to the students to ask some question

b. Teacher close the less	on
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1. Technique : Students are assigned to answer the question and write a procedure text

2. Form : Writing

3. Aspect to be assessed:

a. Content : the highest score is 20

b. Organization : the highest score is 30

c. Vocabulary : the highest score is 30

d. Grammar : the highest score is 20

Maximum Score is 100

Medan, 26 Maret 2016

Headmaster Teacher

H. Jamaluddin Batu Bara, Lc., M.Th Edy Zuhrawardi Pane, S.H

Researcher

Muhammad Ihsan

Appendix II

LESSON PLAN 2

(EXPERIMENTAL CLASS)

School : MAS Al-Washliyah Ismailiyah

Subject : English

Class/Semester : X/II

Time Alocation : 2 x 40 minutes

Skill Focus : Writing Procedure Text

A. Standard Competence

Expressing the meaning in functional text and simple short essay especially in procedure to interact with environment.

B. Basic Competence

Expressing the meaning and rhetoric step in simple short essay using kinds of written language, procedure text accurately, fluently, and acceptable to interact with environment.

C. Indicators

- 1. Students are able to identify the generic structure and language feature of procedure text.
- 2. Students are able to write procedure text.

D. Material/Subject

Procedure Text

a. Definition:

A procedure text explains how to do something through a series of steps.

b. Social Function:

To describe how something is accompished through a sequence of action or steps.

Example of Procedure Text:

How to Make Fried Noodle

Materials:

- Two slices of red onion and white onion
- Egg
- Salt
- Tomato
- Cucumber
- Sausage

Procedure or Step:

- First, boil two glasses of water in a pan.
- Then open the package of the noodle.
- Wait for the water to boil, pour the seasoning chili sauce and oil into a bowl.
- After the water has boiled, drain the noodle.
- Next, throw away the water.
- Then pour the noodle into a bowl.

- Mix the noodle with seasoning, sauce, egg, and the other r ingredients such as two slices of tomato and cucumber.
- Your noodle is ready.

F. Teaching Method

Presentation practice production

G. Teaching Media

- Book
- Work sheet
- Laptop
- Projector
- Speaker

H. Teaching Learning Scenario

1. Opening Activities

- a. Teacher greets to the students.
- b. Teacher checks the attendance list.
- c. Teacher asks the students about their interest in English.
- d. Teacher motivates the students to give the best in learning.

2. Main Activities

- a. Teacher explains about narrative text and the generic structures.
- b. Teacher explains that they are going to watch a video.
- c. Teacher plays the video and asks the students to understand the story of the video.
- d. Teacher asks the students to write a procedure text based on the video.

e. Teacher asks the students to submit their answer sheet.

3. Closing Activities

- a. Teacher gives the chance to the students to ask some question related to the subject
- b. Teacher closes the lesson.

I. Evaluation

- 1. Technique : Students are assigned to answer the question and write a procedure text.
- 2. Form : Writing
- 3. Aspect to be assessed:

a. Content : the highest score is 20

b. Organization : the highest score is 30

c. Vocabulary : the highest score is 30

d. Grammar : the highest score is 20

Maximum Score is 100

Medan, 26 Maret 2016

Headmaster Teacher

H. Jamaluddin Batu Bara, Lc., M.Th Edy Zuhrawardi Pane, S.H

Researcher

Muhammad Ihsan

Appendix III

Pre-test of Writing Procedure Text

Name :

Class :

Write a procedure text about *How to Make Fried Noodle!*

Appendix IV

Post-test of Writing	Procedure	Text
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Name :

Class :

Write a procedure text about *How to Make Fried Noodle!*

Appendix V

THE STUDENTS' INITIAL AND REAL NAME

OF EXPERIMENT CLASS (X_A)

No	Initial Name	Real Name
1	AH	Ahmad Harmani
2	AY	Ahmad Yomardi
3	FR	Fahrur Rozi
4	FH	Faisal Hariri
5	FWS	Febry Wahyudi Sholihin
6	HS	Hasan
7	НН	Hasan Hidayat
8	IS	Ibnu Sina
9	HAL	Haddad Alwi
10	IZY	Imam Zaki Yuddin Nur Hrp.
11	IHS	Ilham Hafiz Satrio
12	MAP	Muhammad Angga Pratama
13	MHI	Muhammad Hasan Ishfi
14	MFG	Muhammad Farhan Ginting
15	MA	Muhammad Akmal
16	MP	Mathlaul Pajri
17	MHN	Muhammad Habib Nst.
18	MAR	Muhammad Arafat

19	MS	Milwan Septian
20	MF	Muhammad Farhan Gurning
21	MFR	Muhammad Fakhru Rizqi
22	MNS	Muhammad Nur Syahputra
23	MSW	Muhammad Sofwan
24	MRN	Muhammad Rizky Nasution
25	MZF	Muhammad Zulham Fauzi
26	NIR	Nugraha Indra Rosadi
27	SW	Syawaluddin

Appendix VI

THE STUDENTS' INITIAL AND REAL NAME

OF CONTROL CLASS (X_B)

No	Initial Name	Real Name
1	AFH	Afifah Husnaini
2	AFR	Afnita Ragkuti
3	AIN	Ainun Nabila
4	AA	Aisyah Aura
5	AN	Aldina Novia
6	EI	Erni Indriani
7	FM	Fadhilah Mahfuza
8	НМ	Hary Mahmud
9	НН	Hafizatul Husna
10	IM	Indah Melati
11	IQS	Iqlima Saputri Saragih
12	KEP	Kamilah Era Pane
13	MIB	Madiha Ibrahim
14	MFK	M. Fauzan Khairi
15	MS	Muhammad Said
16	MR	Mulia Ruani
17	NHR	Nabila Humaira R
18	NS	Nadhila Sastra

19	NAB	Nur Afrizah BB
20	NH	Nur Hayati
21	NHD	Nur Hidayah
22	RM	Rifqah Mawaddah
23	RWA	Rizka Wahyu Arifah
24	RAA	Rizky Ananda Ariza
25	SR	Sara Rizky
26	SHS	Siti Hasanah S.
27	SHR	Siti Humairo R.
28	SHM	Suhaimi
29	SFM	Sultan Fajar Mirza
30	SAL	Syahrinal Azhar Lubis
31	THS	Taddang Harianto S.

Appendix VII

STUDENTS' SCORE OF EXPERIMENT CLASS (XIA)

NO	Initial Name	Real Name	Pre-test	Post-test
1	AH	Ahmad Harmani	55	70
2	AY	Ahmad Yomardi	55	75
3	FR	Fahrur Rozi	45	70
4	FH	Faisal Hariri	60	80
5	FWS	Febry Wahyudi Sholihin	45	65
6	HS	Hasan	45	70
7	НН	Hasan Hidayat	50	70
8	IS	Ibnu Sina	55	75
9	HAL	Haddad Alwi	70	85
10	IZY	Imam Zaki Yuddin Nur Hrp.	60	80
11	IHS	Ilham Hafiz Satrio	55	75
12	MAP	Muhammad Angga Pratama	40	65
13	MHI	Muhammad Hasan Ishfi	45	65
14	MFG	Muhammad Farhan Ginting	40	70
15	MA	Muhammad Akmal	55	70
16	MP	Mathlaul Pajri	60	80
17	MHN	Muhammad Habib Nst.	65	80
18	MAR	Muhammad Arafat	50	70
19	MS	Milwan Septian	55	80
20	MF	Muhammad Farhan Gurning	50	75

21	MFR	Muhammad Fakhru Rizqi	65	75
22	MNS	Muhammad Nur Syahputra	50	70
23	MSW	Muhammad Sofwan	45	70
24	MRN	Muhammad Rizky Nasution	45	65
25	MZF	Muhammad Zulham Fauzi	45	60
26	NIR	Nugraha Indra Rosadi	55	70
27	SW	Syawaluddin	50	65
		Total	1410	1945
		Average	52,22	72,04

Appendix VIII

STUDENTS' SCORE OF CONTROL CLASS (XIB)

No	Initial Name	Real Name	Pre-test	Post-test
1	AFH	Afifah Husnaini	50	70
2	AFR	Afnita Ragkuti	50	70
3	AIN	Ainun Nabila	45	60
4	AA	Aisyah Aura	45	60
5	AN	Aldina Novia	55	70
6	EI	Erni Indriani	40	60
7	FM	Fadhilah Mahfuza	60	70
8	НМ	Hary Mahmud	35	55
9	НН	Hafizatul Husna	50	60
10	IM	Indah Melati	40	60
11	IQS	Iqlima Saputri Saragih	45	60
12	KEP	Kamilah Era Pane	45	60
13	MIB	Madiha Ibrahim	50	65
14	MFK	M. Fauzan Khairi	50	65
15	MS	Muhammad Said	45	60
16	MR	Mulia Ruani	45	60
17	NHR	Nabila Humaira R	40	60
18	NS	Nadhila Sastra	55	65
19	NAB	Nur Afrizah BB	40	60
20	NH	Nur Hayati	55	65

21	NHD	Nur Hidayah	45	60
22	RM	Rifqah Mawaddah	50	60
23	RWA	Rizka Wahyu Arifah	55	65
24	RAA	Rizky Ananda Ariza	60	70
25	SR	Sara Rizky	60	70
26	SHS	Siti Hasanah S.	50	60
27	SHR	Siti Humairo R.	45	60
28	SHM	Suhaimi	50	60
29	SFM	Sultan Fajar Mirza	45	60
30	SAL	Syahrinal Azhar Lubis	50	65
31	THS	Taddang Harianto S.	50	60
		Total	1500	1945
		Average	48,38	62,74

Appendix IX

THE CRITICAL VALUE LILIEFORS TEST

Ukuran		Taraf Nyata (α)				
Sampel	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	0,022	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	
Source: Sudjar	ı /—	da St arssis a. B			<u>0,736</u>	
	√n	√n	√n	√n	√n	

Appendix X

Tabel Wilayah Luas di Bawah Kurva Normal 0 ke z

10 m	0,00	0,01	0,02	0,03	0,04	0.05	0,06	0,07	0.08	0.09
-3,4	0,0003	0,0003	0,0003	0,0003	0,0003	0,0003	0,0003	0,0003	0,0003	0,0002
-3,3	0,0005	0,0005	0,0005	0,0004	0,0004	0,0004	0,0004	0,0004	0,0004	0,0003
-3,2	0,0007	0,0007	0,0006	0,0006	0,0006	0,0006	0,0006	0,0005	0,0005	0,0005
-3,1	0,0010	0,0009	0,0009	0,0009	0,0008	0,0008	0,0008	0,0008	0,0007	0,0007
-3,0	0,0013	0,0013	0,0013	0,0012	0,0012	0,0011	0,0011	0,0011	0,0010	0,0010
-2,9	0,0019	0,0018	0,0018	0,0017	0,0016	0,0016	0,0015	0,0015	0,0014	0,0014
-2,8	0,0026	0,0025	0,0024	0,0023	0,0023	0,0022	0,0021	0,0021	0,0020	0,0019
-2,7	0,0035	0,0034	0,0033	0,0032	0,0031	0,0030	0,0029	0,0028	0,0027	0,0026
-2,6	0,0047	0,0045	0,0044	0,0043	0,0041	0,0040	0,0039	0,0038	0,0037	0,0036
-2,5	0,0062	0,0060	0,0059	0,0057	0,0055	0,0054	0,0052	0,0051	0,0049	0,6048
-2,4	0,0082	0,0080	0,0078	0,0075	0,0073	0,0071	0,0069	0,0068	0,0066	0,0064
-2,3	0,0107	0,0104	0,0102	0,0099	0,0096	0,0094	0,0091	0,0089	0,0087	0,0084
-2,2	0,0139	0,0136	0,0132	0,0129	0,0125	0,0122	0,0119	0,0116	0,0113	0,0110
-2,1	0,0179	0,0174	0,0170	0,0166	0,0162	0,0158	0,0154	0,0150	0,0146	0,0143
-2,0	0,0228	0,0222	0,0217	0,0212	0,0207	0,0202	0,0197	0,0192	0,0188	0,0183
-1,9	0,0287	0,0281	0,0274	0,0268	0,0262	0,0256	0,0250	0,0244	0,0239	0,0233
-1,8	0,0359	0,0351	0,0344	0,0336	0,0329	0,0322	0,0314	0,0307	0,0301	0,0294
-1,7	0,0446	0,0436	0,0427	0,0418	0,0409	0,0401	0,0392	0,0384	0,0375	0,0367
-1,6	0,0548	0,0537	0,0526	0,0516	0,0505	0,0495	0,0485	0,0475	0,0465	0,0455
-1,5	0,0668	0,0655	0,0643	0,0630	0,0618	0,0606	0,0594	0,0582	0,0571	0,0559
-1.4	0,0808	0,0793	0,0778	0,0764	0,0749	0,0735	0,0703	0,0708	0,0694	0,0681
-1,3	0,0968	0,0951	0,0934	0,0918	0,0901	0,0885	0,0869	0,0853	0,0838	0,0823
-1,2 -1,1	0,1151 0,1358	0,1131 0,1335	0,1112 0,1314	0,1093 0,1292	0,1075 0,1271	0,1056 0,1251	0,1038 0,1230	0,1020	0,1003 0,1190	0,0985 0,1170
-1,0	0,1587	0,1562	0,1514	0,1292	0,1271	0,1251	0,1230	0,1210 0,1423	0,1401	0,1170
-0,9 -0,8	0,1841 0,2119	0,1814 0,2090	0,1788 0,2061	0,1762 0,2033	0,1736 0,2004	0,1711 0,1977	0,1685 0,1949	0,1660	0,1635 0,1894	0,1611 0,1867
-0,7	0,2420	0,2388	0,2358	0,2327	0,2004	0,2266	0,1249	0,1922 0,2206	0,1237	0,2118
-0,6	0,2742	0,2709	0,2676	0,2643	0,2611	0,2578	0,2546	0,2514	0,2482	0,2451
-0,5	0,3085	0,3050	0,3015	0,2981	0,2946	0,2912	0,2877	0,2843	0,2810	0,2776
-0,4	0,3446	0,3409	0,3372	0,3336	0,3300	0,3264	0,3228	0,3192	0,3156	0,3121
-0,3	0,3821	0,3783	0,3745	0,3707	0,3669	0,3632	0,3594	0,3557	0,3520	0,3483
-0,2	0,4207	0,4168	0,4129	0,4090	0,4052	0,4033	0,3974	0,3936	0,3897	0,3859
-0,1	0,4602	0,4562	0,4522	0,4483	0,4443	0,4404	0,4364	0,4325	0,4286	0,4246
-0.0	0,5000	0,4960	0,4920	0,4880	0,4840	0,4801	0,4761	0,4721	1864,0	0,4641
0,0	0,5000	0,5040	0,5080	0,5120	0,5160	0,5199	0,5239	0,5279	0,5319	0,5359
0,1	0,5398	0,5438	0,5478	0,5517	0,5557	0,5596	0,5636	0,5675	0,5714	0,5754
0,2	0,5793	0,5832	0,5871	0,5910	0,5948	0,5967	0,6026	0,6064	0,6103	0,6141
0,3	0,6179	0,6217	0,6255	0,6293	0,6331	0,6368	0,6406	0,6443	0,6480	0,6517
0,4	0,6554	0,6591	0,6628	0,6664	0,6700	0,6736	0,6772	0,6808	0,6844	0,6879
0,5	0,6915	0,6950	0,6985	0,7019	0,7054	0,7088	0,7123	0,7157	0,7190	0,7224
0,6	0,7258	0,7291	0,7324	0,7357	0,7389	0,7422	0,7454	0,7486	0,7518	0,7549
0,7 0,8	0,7580 0,7881	0,7612 0,7910	0,7642 0,7939	0,7673 0,7967	0,7704 0,7996	0,7734 0,8023	0,7764 0,8051	0,7794 0,8078	0,7 82 3 0,81 0 6	0,7882 0,8133
0,9	0,8159	0,7510	0,8212	0,8238	0,7350	0,8289	0,8315	0,8340	0,8365	0,8389
1,0 1,1	0,8413 0,8642	0,8438 0,8665	0,8461 0,8686	0,8485 0,8708	0,8508 0,8729	0,8531 0,8749	0,8554 0,8770	0,8577 0,8790	0,8599 0,8810	0,8621 0,8830
1,1	0,8849	0,8869	0,8888	0,8907	0,8729	0,8749	0,8770	0,8790	0,8997	0,9015
1,3	0,9032	0,9049	0,9066	0,9082	0,9099	0,9115	0,9131	0,9147	0,9162	0,9177
1,4	0,9192	0,9207	0,9222	0,9236	0,9251	0,9265	0,9297	0,9292	0,9306	0,9319
1,5	0,9332	0,9345	0.9357	0,9370	0,9382	0,9394	0,9406	0,9418	0.9429	0,9441
1,6	0,9452	0,9463	0,9474	0,9484	0,9495	0,9505	0,9515	0,9525	0,9535	0,9545
1,7	0,9554	0,9564	0,9573	0,9582	0,9591	0,9599	0,9608	0,9616	0,9625	0,9633
1,8	0,9641	0,9649	0,9656	0,9664	0,9671	0,9678	0,9686	0,9693	0,9699	0,9706
1,9	0,9713	0,9719	0,9726	0,9732	0,9738	0,9744	0,9750	0,9756	0,9761	0,9767
2,0	0,9772	0,9778	0,9783	0,9788	0,9793	0,9798	0,9803	0,9808	0,9812	0,9817
2,1	0,9821	0,9826	0,9830	0,9834	0,9838	0,9842	0,9846	0,9850	0,9854	0,9857
2,2	0,9861	0,9864	0,9868	0,9871	0,9875	0,9878	0,9881	0,9884	0,9887	0,9890
2,3	0,9893	0,9896	0,9898	0,9901	0,9904	0,9906	0,9909	0,9911	0,9913	0,9916
2,4	0,9918	0,9920	0,9922	0,9925	0,9927	0,9929	0,9931	0,9932	0,9934	0,9936
2,5	0,9938	0,9940	0,9941	0,9943	0,9945	0,9946	0,9948	0,9949	0,9951	0,9952
2,6	0,9953	0,9955	0,9956	0,9957	0,9959	0,9960	0,9961	0,9962	0,9963	0,9964
2,7	0,9965	0,9966 0,9975	0,9967	0,9968	0,9969	0,9970	0,9971	0,9972	0,9973 0,9980	0,99 74 0,9981
2,8 2,9	0,9974	0,9973	0,9976 0,9982	0,9977 0,9983	0,9977 0,9984	0,9978 0,9984	0,9979 0,9985	0,9979 0,9985	0,9986	0,9986
3,0	0,9987	0,9987	0,9987	0,9988	0,9988	0,9989	0,9989 0,9992	0,9989	0,9990 0,9993	0,9990 0,9993
3,1 3,2	0,9990	0,9991 0,9993	0,9991 0,9994	0,9991 0,9994	0,9992 0,9994	0,9992 0,9994	0,9992	0,9992 0,9995	0,9995	0,9995
3,3	0,9995	0,9995	0,9995	0,9996	0,9994	0,9996	0,9994	0,9996	0,9996	0,9997
3,4	0,9997	0,9997	0,9997	0,9997	0,9997	0,9997	0,9997	0,9997	0,9997	0,9998

Appendix XI

TABLE OF F DISTRIBUTION

(Bilangan Dalam Badan Daftar Menyatakaan:

Fp : Baris Atas untuk p = 0.05 dan Baris Bawah untuk p = 0.01)

$v_2 = dk$	115 710								- 0,01			v,=dkpe	embilang											$\overline{}$
penyebut	1	2	3	. 4	5	6	7	8	9	10	11	12	14	16	:20	24	30	40	50	75	100	200	500	- oc
1	161 4062	200 4999	216 5403	225 5625	230 5764	234 5859	237 5928	239 5981	241 6022	242 6056	243 6082	244 6106	245 6142	246 6169	248 6208	249 6234	250 6258	251 6286	252 6302	253 6323	253 6334	254 6352	254 6361	254 6366
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	19,46	19,47	19,47	19,48	19,49	19,49	19,50	19,50
1 -	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	99,47	99,48	99,48	99,49	99,49	99,49	99,50	99,50
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	8,62	8,60	8,58	8,57	8,56	8,54	8,54	8,52
	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	26,69	26,50	26,41	26,30	26,27	26,23	26,18	26,14	26,12
4	7,17 21,20	6,94 18,00	16,59 16,69	6,39 15,98	6,26 15,52	6,16 15,21	6,09 14,98	6,04 14,80	6,00 14,66	5,96 14,54	5,93 14,45	5,91 14,37	5,87 14,24	5,84 14,15	5,80 14,02	5,77 13,93	5,74 13,83	5,71 13,74	5,70 13,69	5,68 13,61	5,66 13,57	5,65 13,52	5,64 13,48	5,63 13,46
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	4,53	4,50	4,46	4,44	4,42	4,40	4,38	4,37	4,36
(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	9,47	9,38	9,29	9,24	9,17	9,13	9,07	9,04	9,02
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 7,72	3,96	3,92	3,87 7,39	3,84	3,81	3,77	3,75	3,72	3,71 6,99	3,69 6,94	3,68 6,90	3,67 6,88
7	13,74 5,59	10,92 4,74	9,78	9,15 4,12	8,75 3,97	8,47 3,87	8,26 3,79	8,10 3,73	7,98 3,68	7,87 3,63	7,79 3,60	3,57	7,60 3,52	7,52 3,49	7,39 3;44	7,31 3,41	7,23 3,38	7,14 3,34	7,09 3,32	7,02 3,29	3,28	3,25	3,24	3,23
1 ' 1	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	6,07	5,98	5,90	5,85	5,78	5,75	5,70	5,67	5,65
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	3,12	3,08	3,05	3,03	3,00	2,98	2,96	2,94	2,93
	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	5,28	5,20	5,11	5,06	5,00	4,96	4,91	4,88	4,86
9	5,12 10,56	4,26 8,02	3,86 6,99	3,63 6,42	3,48 6,06	3,37 5,80	3,29 5,62	3,23 5,47	3,18 5,35	3,13 5,26	3,10 5,18	3,07 5,11	3,02 5,00	2,98 4,92	2,93 4,80	2,90 4,73	2,86 4,64	2,82 4,56	2,80 4,51	2,77 4,45	2,76 4,41	2,73 4,36	2,72 4,33	2,71 4,31
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	2,74	2,70	2,67	2,64	2,61	2,59	2,56	2,55	2,54
	10,04	7,56	16,55	5,99	5,64	5,39	5,21	5,06	4,95	4,85	4,78	4,71	4,60	4,52	4,41	4,33	4,25	4,17	4,12	4,05	4,01	3,96	3,93	3,91
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 4,40	2,74 4,29	2,70 4,21	2,65 4,10	2,61 4,02	2,57 3,94	2,53 3,86	2,50 3,80	2,47 3,74	2,45 3,70	2,42 3,86	2,41 3,62	3,50
12	9,65 4,75	7,20 3,88	3,49	5,67 3,26	5,32 3,11	3,07 3,00	4,88 2,92	4,74 2,85	4,63 2,80	4,54 2,76	4,46 2,72	2,69	2,64	2,60	2,54	2,50	2,46	2,42	2,40	2,36	2,35	2,32	2,31	2,30
'^	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	3,78	3,70	3,61	3,56	3,49	3,46	3,41	3,38	3,36
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	2,42	2,38	2,34	2,32	2,28	2,26	2,24	2,22	2,21
	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	3,51	3,42	3,37	3,30	3,27	3,21 2,16	3,18	3,15 2,13
14	4,60 8,86	3,74 6,51	3,34	3,11 5,03	2,96 4,89	2,85 4,46	2,77 4,28	2,70 4,14	2,65 4,03	2,60 3,94	2,56 3,86	2,53 3,80	2,48 3,70	2,44 3,62	2,39 3,51	2,35 3,43	2,31 3,34	2,27 3,26	2,24 3,21	2,21 3,14	2,19 3,11	3,06	2,14 3,02	3,00
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	2,29	2,25	2,21	2,18	2,15	2,12	2,10	2,06	2,07
	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	3,20	3,12	3,07	3,00	2,97	2,92	2,89	2,87
16	4,49	3,63	3,24	3,01	2,85	2,74 4,20	2,66	2,59 3,89	2,54 3,78	2,49 3,69	2,45 3,61	2,42 3,55	2,37 3,45	2,33 3,37	2,28 3,25	2,24 3,18	2,20 3,10	2,16 3,01	2,13 2,96	2,09 2,89	2,07 2,86	2,04 2,80	2,02	2,01 2,75
17	8,53 4,45	6,23 3,59	3,20	4,77 2,96	4,44 2,81	2,70	4,03 2,62	2,55	2,50	2,45	2,41	2,38	2,33	2,29	2,23	2,19	2,15	2,11	2,08	2,04	2,02	1,99	1,97	1,96
1 "	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	3,08	3,00	2,92	2,86	2,79	2,76	2,70	2,67	2,65
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	2,15	2,11	2,07	2,04	2,00	1,98	1,96	1,93	1,92
	8,28	6,61	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	3,00	2,91	2,88	2,78	2,71	2,68 1,94	2,62 1,91	2,59 1,90	2,57 1,88
19	4,38 8,18	3,52 5,93	.3,13 :5,01	2,90 4,50	2,74 4,17	2,63 3,94	2,55 3,77	2,48 3,63	2,43 3,52	2,38 3,43	2,34 3,36	2,31 3,30	2,26 3,19	2,21 3,12	2,15 3,00	2,11 2,92	2,07 2,84	2,02 2,76	2,00 2,70	1,96 2,63	2,60	2,54	2,51	2,49
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	2,08	2,04	1,99	1,96	1,92	1,90	1,87	1,85	1,84
	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	2,77	2,69	2,63	2,56	2,53	2,47	2,44	2,42
21	4,32	3,47	3,07	2,84	2,68	2,57	2,49	2,42	2,37	2,32	2,28 3,24	2,25 3,17	2,20 3,07	2,15 2,99	2,09 2,88	2,05 2,80	2,00 2,72	1,96 2,63	1,93 2,58	1,89 2,51	1,87 2,47	1,84 2,42	1,82 2,38	1,81 2,36
22	8,02	5,78 3,44	4,87	4,37 2,82	4,04 2,66	3,81 2,55	3,65 2,47	3,51 2,40	3,40 2,35	3,31 2,30	2,26	2,23	2,18	2,13	2,07	2,03	1,98	1,93	1,91	1,87	1,84	1,81	1,80	1,78
22	4,30 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	2,67	2,58	2,53	2,46	2,42	2,37	2,33	2,31
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	2,00	1,96	1,91	1,88	1,84	1,82	1,79	1,77	1,76
	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 2,02	2,70	2,62 1,94	2,53 1,89	2,48 1,86	2,41 1,82	2,37 1,80	2,32 1,76	2,28 1,74	1,73
24	4,26 7,82	3,40 5,61	3,01 4,72	2,78 4,22	2,62 3,90	2,51 3,67	2,43 3,50	2,36 3,36	2,30 3,25	2,26 3,17	2,22 3,09	2,18 3,03	2,13 2,93	2,09 2,85	2,02	1,98 2,66	2,58	2,49	2,44	2,36	2,33	2,27	2,23	2,21
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	1,96	1,92	1,87	1,84	1,80	1,77	1,74	1,72	1,71
	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	2,54	2,45	2,40	2,32	2,29	2,23	2,19	2,17

,																								
26	4,22 7,72	3,37 5,53	2,89 4,64	2,74 4,14	2,59 3,82	2,47 3,59	2,39 3,42	2,32 3,29	2,27 3,17	2,22 3,09	2,18 3,02	2,15 2,96	2,10 2,86	2,05 2,77	1,99 2,66	1,95 2,58	1,90 2,50	1,85 2,41	1,82 2,36	1,78 2,28	1,76	1,72	1,70 2,15	1,69 2,13
27	4,21 7,68	3,35 5,49	2,96 4,60	2,73 4,11	2,57 3,79	2,46 3,56	2,37 3,39	2,30 3,26	2,25 3,14	2,20 3,06	2,16 2,98	2,13 2,93	2,08 2,83	2,03 2,74	1,97 2,63	1,93 2,55	1,88 2,47	1,84	1,80 2,33	1,76	1,74	1,71	1,68	1,67
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	1,87	2,38 1,81	1,78	2,25 1,75	2,21 1,72	2,16 1,69	2,12 1,67	2,10 1,65
29	7,64 4,18	5,45 3,33	4,57 2,93	4,07 2,70	3,76 2,54	3,53 2,43	3,36 2,35	3,23 2,28	3,11 2,22	3,03 2,18	2,95 2,14	2,90 2,10	2,80 2,05	2,71 2,00	2,60 1,94	2,52 1,90	2,44 1.85	2,35 1,80	2,30 1,77	2,22 1,73	2,18 1,71	2,13 1,68	2,09 1,65	2,06 1,64
30	7,60 4,17	5,52 3,32	4,54 2,92	4,04 2,69	3,73 2,53	3,50 2,42	3,33 2,34	3,20 2,27	3,08 2,21	3,00 2,16	2,92	2,87 2,09	2,77	2,68 1,99	2,57 1,93	2,49 1,89	2,41	2,32	2,27	2,19	2,15	2,10	2,06	2,03
-	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	1,84 2,38	1,79 2, 2 9	1,76 2,24	1,72 2,16	1,69 2,13	1,66 2,07	1,64 2,03	1,62 2,01
32	4,15 7,50	3,30 5,34	29,00 4,46	2,67 3,97	2,51 3,66	2,40 3,42	2,32 3,25	2,25 3,12	2,19 3,01	2,14 2,94	2,10 2,86	2,07 2,80	2,02 2,70	1,97 2,62	1,91 2,51	1,86 2,42	1,82 2,34	1,76 2,25	1,74 2,20	1,69 2,12	1,67 2,08	1,64 2,02	1,61	1,59 1,96
34	4,13 7,44	3,28 5,29	2,88 4,42	2,65 3,93	2,49 3,61	2,38 3,38	2,30 3,21	2,23 3,08	2,17 2,97	2,12 2,89	2,08	2,05 2,76	2,00 2,66	1,95 2,58	1,89 2,47	1,84 2,38	1,80 2,30	1,74 2,21	1,71 2,15	1,67 2,08	1,64 2,04	1,61 1,98	1,59 1,94	1,57 1,91
36	4,11 7,39	3,26 5,25	2,86	2,63 3,89	2,48 3,58	2,36 3,35	2,28 3,18	2,21 3,04	2,15 2,94	2,10 2,86	2,06 2,78	2,03 2,72	1,89 2,62	1,93 2,54	1,87 2,43	1,82 2,35	1,78 2,26	1,72 2,17	1,69	1,65	1,62	1,59	1,56	1,55 1,87
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	1,76	1,71	2,12 1,67	2,04 1,63	2,00 1,60	1,94	1,90 1,54	1,53
40	7,35 4,08	5,21 3,23	4,34 2,84	3,86 2,61	3,84 2,45	9,32 2,34	3,15 2,25	3,02 2,18	2,91 2,12	2,82 2,07	2,75 2,04	2,69 2,00	2,59 1,95	2,51 1,90	2,40 1,84	2,32 1,79	2,22 1,74	2,14 1,69	2,08 1,66	2,00 1,61	1,97	1,90 1,55	1,86 1,53	1,84 1,5t
42	7,31 4,07	5,18 3,22	4,31 2,83	3,83 2,59	3,51 2,44	3,29 2,32	3,12 2,24	2,99 2,17	2,88 2,11	2,80 2,06	2,73	2,66 1,99	2,56 1,94	2,49 1,89	2,37 1,82	2,29 1,78	2,20 1,73	2,11 1,68	2,05 1,64	1,97 1,60	1,94 1,57	1,88 1,54	1,84	1,81
44	7,27 4,06	5,15 3,21	4,29 2,82	3,80 2,58	3,49	3,26 2,31	3,10	2,96	2,86	2,77	2,70	2,64	2,54	2,46	2,35	2,26	2,17	2,08	2,02	1,94	1,91	1,85	1,80	1,78
1	7,24	5,12	4,26	3,78	2,43 3,46	3,24	2,23 3,07	2,16 2,94	2,10 2,84	2,05 2,75	2,01 2,68	1,98 2,62	1,92 2,52	1,88 2,44	1,81 2,32	1,76 2,24	2,17 1,72	1,66 2,06	1,63 2,00	1,58 1,92	1,56 1,88	1,52 1,82	1,50 1,78	1,48 1,75
46	4,05 7,21	3,20 5,10	2,81 4,24	2,57 3,76	2,42 3,44	2,30 3,22	2,22 3,05	2,14 2,92	2,09 2,82	2,04 2,73	2,00 2,66	1,97 2,60	1,91 2,50	1,87 2,42	1,80 2,32	1,75 2,22	2,15 1,71	1,65 2,04	1,62 1,98	1,57 1,90	1,54 1,86	1,51 1,80	1,48	1,46
48	4,04 7,19	3,19 5,08	4,22	2,56 3,74	2,41 3,42	2,30 3,20	2,21 3,04	2,14 2,90	2,08 2,80	2,03 2,71	1,99 2,64	1,96 2,58	1,90 2,48	1,86 2,40	1,79 2,28	1,74 2,20	2,13 1,70	1,64 2,02	1,61 1,96	1,56 1,88	1,53 1,84	1,50 1,78	1,47 1,73	1,45
50	4,03 7,17	3,18 5,06	2,79 4,20	2,56 3,72	2,40 3,44	2,29 3,18	2,20 3,02	2,13 2,88	2,07 2,78	2,02 2,70	1,98 2,62	1,95 2,56	1,90 2,46	1,85 2,39	1,78 2,26	1,74 2,18	1,69 2,10	1,63	1,60 1,94	1,55	1,52 1,82	1,48 1,76	1,46	1,44
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	1,67	1,61	1,58	1,52	1,50	1,46	1,71	1.41
60	7,12 4,00	5,01 3,15	4,16 2,76	3,65 2,52	3,37 2,37	3,15 2,25	2,98 2,17	2,85 2,10	2,75 2,04	2,66 1,99	2,59 1,95	2,53 1,92	2,43 1,86	2,35 1,81	2,23 1,75	2,15 1,70	2,00 1,65	1,96 1,59	1,90 1,56	1,82 1,50	1,78 1,48	1,71 1,44	1,66 1,41	1,64
65	7,08 3,99	4,98 3,14	4,13 2,75	3,65 2,51	3,34 2,36	5,12 2,21	2,95 2,15	2,82 2,08	2,72	2,03 1,98	2,56 1,94	2,50 1,90	2,40 1,85	2,32 1,80	2,20 1,73	2,12 1,68	2,03 1,63	1,93 1,57	1,87 1,54	1,79 1,49	1,74 1,46	1,68 1,42	1,63 1,39	1,60
70	7,01 3,98	4,95	4,10	3,62 2,50	3,31 2,35	3,09 2,32	2,93	2,79	2,70	2,61	2,54	2,47 1,89	2,37	2,30	2,18 1,72	2,09	2,00	1,90	1,84	1,76	1,71	1,64	1,60	1,56
	7,01	3,13 4,92	4,08	3,60	3,29	3,07	2,14 2,91	2,07 2,77	2,67	1,97 2,59	1,93 2,51	2,45	1,84 2,35	1,79 2,28	2,15	1,67 2,07	1,62 1,98	1,56 1, 8 8	1,53 1,82	1,47	1,45 1,69	1,40 1,63	1,37 1,56	1,35
80	3,96 6,96	3,11 4,88	4,01	2,48 3,58	2,33 3,25	2,21 3,04	2,12 2,87	2,05 2,74	1,99 2,64	1,95 2,55	1,91 2,48	1,88 2,44	1,82 2,32	1,77 2,24	1,70 2,11	1,65 2,03	1,60 1,94	1,54 1,84	1,51 1,78	1,45 1,70	1,42 1,65	1,38 1,57	1,35 1,52	1,32 1,49
100	3,94 6,90	3,09 4,82	3,98	2,46 3,51	2,30 3,20	2,19	2,10 2,82	2,03 2,69	1,97 2,59	1,92 2,51	1,88 2,43	1,85 2,36	1,79 2,26	1,75 2,19	1,68 2,06	1,63 1,98	1,57 1,89	1,51 1,79	1,48 1,73	1,42 1,64	1,39 1,59	1,34 1,51	1,30 1,46	1,28
125	3,92 6,84	3,07 4,78	2,68 3,94	2,44 3,47	2,29 3,17	2,17 2,95	2,08	2,01	1,95 2,56	1,90 2,17	1,86 2,40	1,83 2,33	1,77 2,23	1,72 2,15	1,65	1,60 1,94	1,55	1,49 1,75	1,45	1,39	1,36 1,54	1,31 1,46	1,27	1,25 1,37
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	1,54	1,47	1,44	1,37	1,34	1,29	1,25	1,22
200	6,81 3,89	4,75 3,01	3,91 2,65	3,44 2,41	3,13 2,26	2,92 2,14	2,76 2,05	2,62 1,98	2,53 1,92	2,44 1,87	2,37 1,83	2,30 1,80	2,20 1,74	2,12 1,69	2,00 1,62	1,91 1,57	1,82 1,52	1,72 1,45	1,66 1,42	1,56 1,35	1,51	1,43 1,26	1,37 1,22	1,33
400	6,76 3,86	4,71 3,02	3,88	3,41 2,39	3,11	2,90 2,12	2,73	2,60 1,96	2,50 1,90	2,41 1,85	2,34 1,81	2,28 1,78	1,17 1,72	2,09 1,67	1,97	1,88	1,79 1,49	1,69	1,62 1,38	1,53	1,48	1,39	1,33 1,16	1,28
}	6,70	4,66	3,83	3,36	3,06	2,85	2,69	2,55	2,16	2,37	2,29	2,23	2,12	2,04	1,92	1,84	1,74	1,64	1,57	1,47	1,42	1,32	1,24	1,19
1000	3,85 6,68	3,00 4,62	:2,61 :3,80	2,38 3,34	2,22 3,04	2,10 2,82	2,02 2,66	1,95 2,53	1,89 2,43	1,81 2,34	1,80 2,26	1,76 2,20	1,70 2,09	1,65 2,01	1, 58 1, 8 9	1,53 1,81	1,47 1,71	1, 4 1 1,61	1,36 1,54	1,30 1,44	1,26 1,38	1,19 1,28	1,13 1,19	1,08
œ	3,84 6,64	2,99 4,60	.2,60 .3,78	2,37 3,32	2,21 3,02	2,09 2,80	2,01 2,64	1,94 2,51	1,88 2,41	1,83 2,32	1,79 2,24	1,75 2,18	1,69 2,07	1,64 1,99	1,57 1,87	1,52	1,46 1,69	1,40 1,59	1,35 1,52	1,28	1,24 1,36	1,17 1,25	1,11 1,12	1,00

Source: Sudjana. 2005. Metoda Statistika. Bandung: Tarsito.

Appendix XII

TABLE OF t DISTRIBUTION

v = dk (Bilangan Dalam Badan Daftar Menyatakan tp)

63,66 9,92 5,84	31,82 6,96	t _{0.975}	t _{0.95}	t _{0.90}	t _{0.80}	t ₀₇₅	t ₀₇₀	t _{0.60}	t _{0.55}
9,92 5,84	-		6 2 1						
5,84	6,96		6,31	3,08	1,376	1,000	0,727	0,325	0,158
•		4,30	2,92	1,89	1,061	0,816	0,617	0,289	0,142
	4,54	3,18	2,35	1,64	0,978	0,765	0,584	0,277	0,137
4,60	3,75	2,78	2,13	1,53	0,941	0,741	0,569	0,271	0,134
4,03	3,36	2,75	2,02	1,48	0,920	0,727	0,559	0,267	0,132
3,71	3,14	2,45	1,94	1,44	0,906	0,718	0,553	0,265	0,131
3,50	3,00	2,36	1,90	1,42	0,896	0,711	0,549	0,263	0,130
3,36	2,90	2,31	1,86	1,40	0,889	0,706	0,546	0,262	0,130
3,25	2,82	2,26	1,83	1,38	0,883	0,703	0,543	0,261	0,129
3,17	2,76	2,23	1,81	1,37	0,879	0,700	0,542	0,260	0,129
3,11	2,72	2,20	1,80	1,36	0,876	0,697	0,540	0,260	0,129
3,06	2,68	2,18	1,78	1,36	0,873	0,695	0,539	0,259	0,128
3,01	2,65	2,16	1,77	1,35	0,870	0,694	0,538	0,259	0,128
2,98	2,62	2,14	1,76	1,34	0,868	0,692	0,537	0,258	0,128
2,95	2,60	2,13	1,75	1,34	0,866	0,691	0,536	0,258	0,128
2,92	2,58	2,12	1,75	1,34	0,865	0,690	0,535	0,258	0,128
2,90	2,57	2,11	1,74	1,33	0,863	0,689	0,534	0,257	0,128
2,88	2,55	2,10	1,73	1,33	0,862	0,688	0,534	0,257	0,127
2,86	2,54	2,09	1,73	1,33	0,861	0,688	0,533	0,257	0,127
2,84	2,53	2,09	1,72	1,32	0,860	0,687	0,533	0,257	0,127
2,83	2,52	2,08	1,72	1,32	0,859	0,686	0,532	0,257	0,127
2,82	2,51	2,07	1,72	1,32	0,858	0,686	0,532	0,256	0,127
2,81	2,50	2,07	1,71	1,32	0,858	0,685	0,532	0,256	0,127
2,80	2,49	2,06	1,71	1,32	0,857	0,685	0,531	0,256	0,127
2,79	2,48	2,06	1,71	1,32	0,856	0,684	0,531	0,256	0,127
2,78	2,48	2,06	1,71	1,32	0,856	0,684	0,531	0,256	0,127
2,77	2,47	2,05	1,70	1,31	0,855	0,684	0,531	0,256	0,127
2,76					-				0,127
2,76	2,46	2,04	1,70	1,31	0,854	0,683	0,530	0,256	0,127
2,75	2,46	2,04	1,70	1,31	0,854	0,683	0,530	0,256	0,127
2,70		-			-	-		-	0,126
-							-		0,126
					-	-	-		0,126
							-		0,126
	3,71 3,50 3,36 3,25 3,17 3,11 3,06 3,01 2,98 2,95 2,92 2,90 2,88 2,86 2,84 2,83 2,82 2,81 2,80 2,79 2,78 2,77 2,76 2,76 2,75	3,71 3,14 3,50 3,00 3,36 2,90 3,25 2,82 3,17 2,76 3,11 2,72 3,06 2,68 3,01 2,65 2,98 2,62 2,95 2,60 2,92 2,58 2,90 2,57 2,88 2,55 2,86 2,54 2,84 2,53 2,83 2,52 2,81 2,50 2,80 2,49 2,79 2,48 2,77 2,47 2,76 2,46 2,70 2,42 2,66 2,39 2,62 2,36	3,71 3,14 2,45 3,50 3,00 2,36 3,36 2,90 2,31 3,25 2,82 2,26 3,17 2,76 2,23 3,11 2,72 2,20 3,06 2,68 2,18 3,01 2,65 2,16 2,98 2,62 2,14 2,95 2,60 2,13 2,92 2,58 2,12 2,90 2,57 2,11 2,88 2,55 2,10 2,86 2,54 2,09 2,84 2,53 2,09 2,83 2,52 2,08 2,82 2,51 2,07 2,81 2,50 2,07 2,80 2,49 2,06 2,79 2,48 2,06 2,79 2,48 2,06 2,78 2,48 2,06 2,77 2,47 2,05 2,76 2,47 2,05 2,76 2,46 2,04 2,70 2,42	3,71 3,14 2,45 1,94 3,50 3,00 2,36 1,90 3,36 2,90 2,31 1,86 3,25 2,82 2,26 1,83 3,17 2,76 2,23 1,81 3,11 2,72 2,20 1,80 3,06 2,68 2,18 1,78 3,01 2,65 2,16 1,77 2,98 2,62 2,14 1,76 2,95 2,60 2,13 1,75 2,92 2,58 2,12 1,75 2,90 2,57 2,11 1,74 2,88 2,55 2,10 1,73 2,86 2,54 2,09 1,73 2,84 2,53 2,09 1,72 2,83 2,52 2,08 1,72 2,81 2,50 2,07 1,71 2,80 2,49 2,06 1,71 2,79 2,48 2,06 1,71 2,79 2,48 2,06 1,71 2,79 2,48	3,71 3,14 2,45 1,94 1,44 3,50 3,00 2,36 1,90 1,42 3,36 2,90 2,31 1,86 1,40 3,25 2,82 2,26 1,83 1,38 3,17 2,76 2,23 1,81 1,37 3,11 2,72 2,20 1,80 1,36 3,06 2,68 2,18 1,78 1,36 3,01 2,65 2,16 1,77 1,35 2,98 2,62 2,14 1,76 1,34 2,95 2,60 2,13 1,75 1,34 2,92 2,58 2,12 1,75 1,34 2,92 2,58 2,12 1,75 1,34 2,90 2,57 2,11 1,74 1,33 2,88 2,55 2,10 1,73 1,33 2,84 2,53 2,09 1,72 1,32 2,83 2,52 2,08 1,72 1,32 2,81 2,50 2,07 1,71 1,32	3,71 3,14 2,45 1,94 1,44 0,906 3,50 3,00 2,36 1,90 1,42 0,896 3,36 2,90 2,31 1,86 1,40 0,889 3,25 2,82 2,26 1,83 1,38 0,883 3,17 2,76 2,23 1,81 1,37 0,879 3,11 2,72 2,20 1,80 1,36 0,876 3,06 2,68 2,18 1,78 1,36 0,873 3,01 2,65 2,16 1,77 1,35 0,870 2,98 2,62 2,14 1,76 1,34 0,868 2,95 2,60 2,13 1,75 1,34 0,866 2,92 2,58 2,12 1,75 1,34 0,865 2,90 2,57 2,11 1,74 1,33 0,862 2,88 2,55 2,10 1,73 1,33 0,861 2,84 2,53 2,0	3,71 3,14 2,45 1,94 1,44 0,906 0,718 3,50 3,00 2,36 1,90 1,42 0,896 0,711 3,36 2,90 2,31 1,86 1,40 0,889 0,706 3,25 2,82 2,26 1,83 1,38 0,883 0,703 3,17 2,76 2,23 1,81 1,37 0,879 0,700 3,11 2,72 2,20 1,80 1,36 0,876 0,697 3,06 2,68 2,18 1,78 1,36 0,873 0,695 3,01 2,65 2,16 1,77 1,35 0,870 0,694 2,98 2,62 2,14 1,76 1,34 0,868 0,692 2,95 2,60 2,13 1,75 1,34 0,865 0,690 2,92 2,58 2,12 1,75 1,34 0,865 0,690 2,92 2,58 2,12 1,75 1,34	3,71 3,14 2,45 1,94 1,44 0,906 0,718 0,553 3,50 3,00 2,36 1,90 1,42 0,896 0,711 0,549 3,36 2,90 2,31 1,86 1,40 0,889 0,706 0,546 3,25 2,82 2,26 1,83 1,38 0,883 0,703 0,543 3,17 2,76 2,23 1,81 1,37 0,879 0,700 0,542 3,11 2,72 2,20 1,80 1,36 0,876 0,697 0,540 3,06 2,68 2,18 1,78 1,36 0,873 0,695 0,539 3,01 2,65 2,16 1,77 1,35 0,870 0,694 0,538 2,98 2,62 2,14 1,76 1,34 0,866 0,691 0,536 2,99 2,57 2,11 1,75 1,34 0,866 0,691 0,536 2,88 2,55 <td< td=""><td>3,71 3,14 2,45 1,94 1,44 0,906 0,718 0,553 0,265 3,50 3,00 2,36 1,90 1,42 0,896 0,711 0,549 0,263 3,36 2,90 2,31 1,86 1,40 0,889 0,706 0,546 0,262 3,25 2,82 2,26 1,83 1,38 0,883 0,703 0,543 0,261 3,17 2,76 2,23 1,81 1,37 0,879 0,700 0,542 0,260 3,11 2,72 2,20 1,80 1,36 0,876 0,697 0,540 0,260 3,06 2,68 2,18 1,78 1,36 0,873 0,695 0,539 0,259 3,01 2,65 2,16 1,77 1,35 0,870 0,694 0,538 0,259 2,98 2,62 2,14 1,76 1,34 0,866 0,691 0,536 0,258 2,95 2,60</td></td<>	3,71 3,14 2,45 1,94 1,44 0,906 0,718 0,553 0,265 3,50 3,00 2,36 1,90 1,42 0,896 0,711 0,549 0,263 3,36 2,90 2,31 1,86 1,40 0,889 0,706 0,546 0,262 3,25 2,82 2,26 1,83 1,38 0,883 0,703 0,543 0,261 3,17 2,76 2,23 1,81 1,37 0,879 0,700 0,542 0,260 3,11 2,72 2,20 1,80 1,36 0,876 0,697 0,540 0,260 3,06 2,68 2,18 1,78 1,36 0,873 0,695 0,539 0,259 3,01 2,65 2,16 1,77 1,35 0,870 0,694 0,538 0,259 2,98 2,62 2,14 1,76 1,34 0,866 0,691 0,536 0,258 2,95 2,60

Source: Sudjana. 2005. Metoda Statistika. Bandung: Tarsito.