

**THE EFFECTIVENESS OF CLUSTERING TECHNIQUE TO TEACH WRITING
SKILL VIEWED FROM STUDENTS' LINGUISTIC INTELLIGENCE
(An Experimental Research on Descriptive Writing for the Second
Semester of English Department of IKIP PGRI Madiun
in the Academic Year of 2009/2010)**

THESIS



By:

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**ENGLISH EDUCATION DEPARTMENT
GRADUATE SCHOOL
SEBELAS MARET UNIVERSITY
SURAKARTA
2010**

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**This thesis is completed as partial fulfillment of requirement for Magister of
Education degree of English Language Teaching**

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APPROVAL

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LEGITIMATION

THE EFFECTIVENESS OF CLUSTERING TECHNIQUE TO TEACH WRITING SKILL VIEWED FROM STUDENTS' LINGUISTIC INTELLIGENCE
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PRONOUNCEMENT

This is to certify that I myself write this thesis entitled **“The Effectiveness of Clustering Technique to Teach Writing Skill Viewed from Students’ Linguistic Intelligence (An Experimental Research on Descriptive Writing for the Second Semester of English Department of IKIP PGRI Madiun in the Academic Year of 2009/ 2010)”** . It is not a plagiarism or made by others. Anything related to other’s work is written in quotation, the source of which is listed on the references.

If then this pronouncement proves incorrect, I am ready to accept any academic punishment, including the withdrawal or cancellation of my academic degree.

Surakarta, August 2010

Erlík Widiyani Styati

ABSTRACT

Erlik Widiyani Styati, S890209112. 2010. *The Effectiveness of Clustering Technique to Teach Writing Skill Viewed from Students' Linguistics Intelligence (An Experimental Research On Descriptive Writing for the Second Semester of English Department of IKIP PGRI Madiun In The Academic Year of 2009/ 2010)*. Thesis. Surakarta. English Education Department, Graduate School. Sebelas Maret University.

The objective of this research is to know whether (1) clustering technique is more effective than direct instruction in teaching writing for the second semester students of English Department of IKIP PGRI Madiun; (2) the second semester students of English Department of IKIP PGRI Madiun who have high linguistic intelligence have better writing skill than those having low linguistic intelligence; and (3) there is interaction between teaching techniques and students' linguistics intelligence to teach writing.

The research was carried out at IKIP PGRI Madiun from March to July 2010. It is an Experimental Research. Here, the writer takes the data from Second semester students 2B and 2C as the sample of the research. The class B is as an experimental class and class C is as control class. Each of classes consists of 40 students. Dealing with the research instrument of collecting the data, the researcher makes some step: (1) giving the linguistic intelligence test as an internal test; (2) dividing the colleges who have high and low mark; (3) applying the teaching technique to the students; (4) analyzing the students' mark to decide the teaching technique whether it is effective or not; and (5) giving post test. The data were obtained from linguistic intelligence test and writing test. To analyze the data, the researcher applied descriptive and inferential statistic using ANOVA and Tukey's test.

The result of the study leads to the conclusion that first, the students who are taught clustering technique have better writing ability than those who are taught using direct instruction. In other word, the use of clustering technique is more effective than direct instruction. Second, the students who have high linguistic intelligence have better writing ability than those who low linguistic intelligence. Third, there is no interaction between teaching technique and students' linguistic intelligence level for teaching writing. Teaching technique which is used by the teacher in teaching writing for the students' linguistic level in class does not give a big influence for the success of the teaching and learning process. The effect of teaching technique on the students' writing ability does not depend on the students' linguistic intelligence level.

Finally, the research findings imply that the use of clustering technique can affect the student's writing competence optimally. It is proved from the research findings showing that students who are taught using clustering technique have better writing competence than those who are taught using direct instruction. Therefore, it is recommended that English teachers are suggested to apply clustering technique in writing activities, to be more creative and innovative in using various kinds of interesting teaching techniques which accompany the materials. The students are suggested to apply clustering technique in writing and to write more by applying the technique so they will be more skillful in writing. For the researchers who intend to conduct the research more detail about the effect of using clustering technique for teaching writing, the writer hopes that the research findings can be used as a starting point and can be utilized as reference.

MOTTO

**Menjadi manusia
yang berbudi luhur tahu benar dan salah,
Seperti terate
yang mampu berdiri dimanapun tempatnya,
Sepiro gedhene sengsoro
yen tinompo among dadi coba
(Falsafah Jawa)**

DEDICATION

This Thesis is dedicated to:

- ❖ Her son, Kenzie Javas Naufal, his smile makes her survive in facing on top of the problems.
- ❖ Her beloved husband, Arif Hertanto, thank you for everything that has already been given to her.
- ❖ Her father, H. Puguh Suwito and her mother Hj. Sini, thank you for giving her love, care, and endless praying.
- ❖ Her sisters, Lailatul Rohmatin and Khusnul Khotimah, thanks for giving her spirit and support. She hopes she can be a good figure for them.

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In the name of ALLAH SWT the writer would like to say *Alhamdulillah* for blessing given in composing this thesis from the beginning to the end and powering her, so the thesis has been completed.

The writer realizes that she gets a lot of helps from many parties. In this good opportunity, she would like to express her sincerest thanks and appreciation to:

1. The Director of Graduate School of Sebelas Maret University Surakarta who has given opportunity to conduct the research.
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This thesis is still far from being perfect. Therefore, constructive suggestion is needed for the progress of the next study. The writer hopes that this research can give benefit to everyone who concerns with this research.

Surakarta, August 2010

Erlík Widiyáni Styati

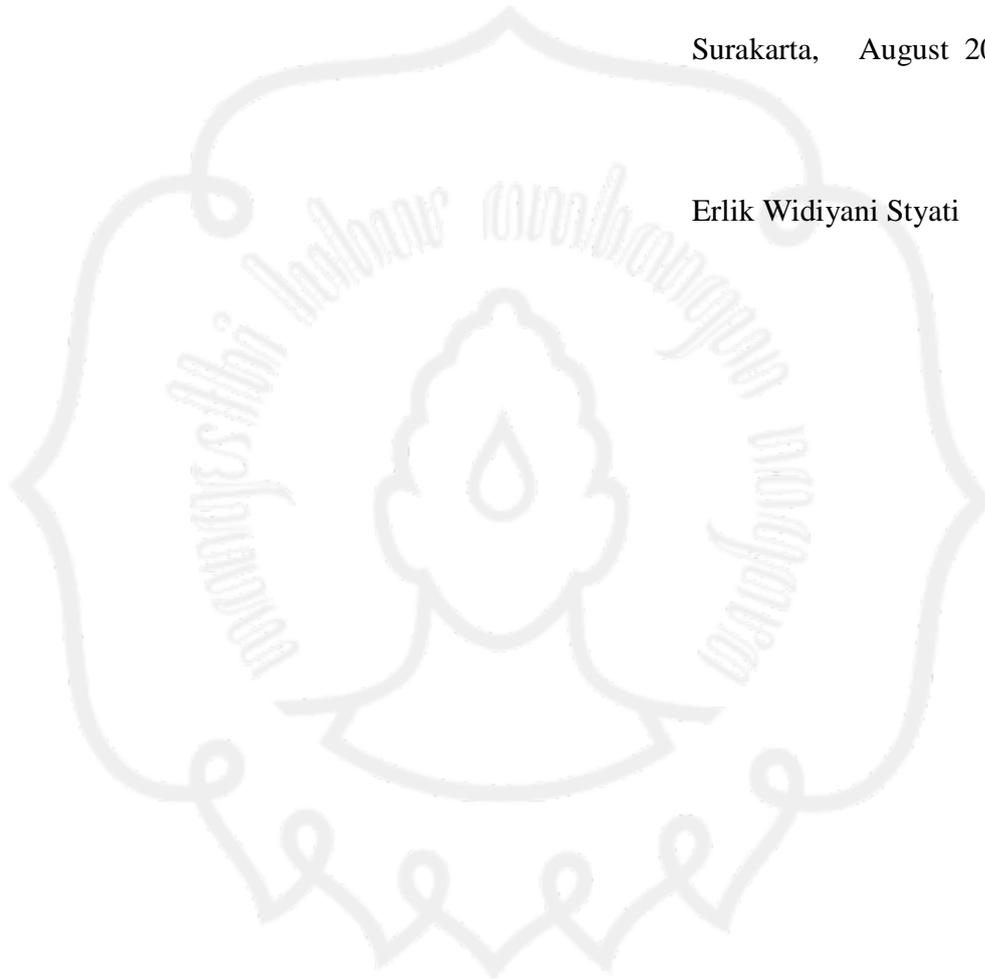
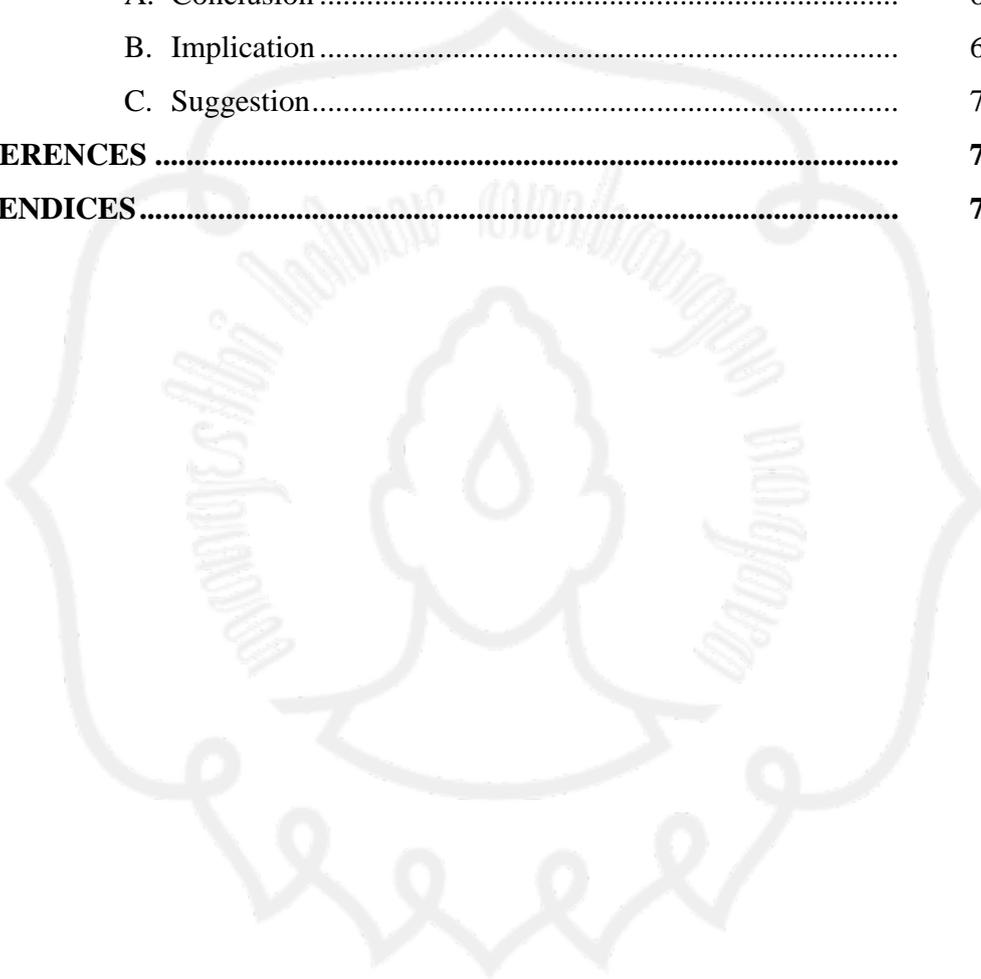


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CHAPTER I INTRODUCTION

A. Background of the Study

Language is primarily an instrument of communication among human being in a community. Larsen (2003: 2) states that language is a means of interaction between and among people. Here, it has function as a tool which connects them in their surrounding. People realize that without language they cannot interact to each other. Language can become a bridge to connect one another that live in different places and cultures. By using a language one can gain information, knowledge, and express one's feeling, and emotions. Nowadays, many people learn the international languages. One of the international languages is English.

English is an international language which has an important role in communication by people to interact with other people in the world. As international language, English is used to conduct communication, in almost the entire world in many countries. Budiharso (2004: 4) states that English is the major language which is used by people in some sectors. Furthermore, Shahomy (2001: 74) defines that English is being the worlds' current lingua franca. It is used for obtaining successful jobs, promotions, academic function, and business interactions. Consequently, many people tend to master English to compete in globalization. Therefore, English is taught as the first foreign language as one of the important subjects in Indonesia from elementary to university level.

The purpose of learning English in the university level especially in English Department is to graduate qualified English bachelors. The English Department is

divided into English education and English literary. Both of them study language, culture, and get English skill. The colleges get English skill such as listening, speaking, reading and writing.

Writing is a complex activity since it requires students' comprehensive abilities such as mastering grammar, vocabulary, and punctuation. Besides, to write well, the students are expected to be able to present their ideas in the written form as writing is a means of communication. However, some think that writing is not only delivering ideas to others but also using a sheer energy to complete the writing process itself: thinking the ideas, preparing the outline, transferring the outline into draft, revising the draft, and finally proofreading the draft to prepare for the final outcome.

Fegerson and Mickerson (1992: 7) state that writing is a skill that is acquired through study. Writing is one of English skills that should be taught integratedly, but it is regarded as the most difficult language skill to learn for learners. It is often perceived as the most difficult language skill since it requires a higher level of productive language control than the other skills. In fact, the students are not capable to make a good writing. The reason that they cannot make a good writing is caused by poor vocabulary, difficulty in generating their idea, poor grammar, and so on.

To solve the problems as mentioned above, the English teachers can use some techniques to teach writing such as using various pictures, contextual teaching and learning approach, using parallel writing technique, using mind mapping/clustering technique, etc. By applying one of the techniques, the teacher can encourage the students to participate in the classroom activities. The teacher should be able to encourage the students to express their ideas into good writing. The teacher gives opportunities to the

students to write their ideas without being afraid of making mistake. It can be done by introducing topics and a good writing process.

The writing process has steps or procedures which must be carried out by the learners. According to Hoshima and Hogue (1997: 2) writing is never a one-step action; it is a process that has several steps. In other word, writing has more than one step. The steps in writing process are prewriting, planning, writing and revising draft, and writing the final copy to hand in. A good writing is done from a set of rules and principles. In prewriting there are two steps: choosing and narrowing and brainstorming. There are three techniques in brainstorming: listing, free writing, and clustering.

Hoshima and Hogue (1999: 8) state that clustering technique is another brainstorming activity that the students can use to generate ideas. This technique is hoped to solve the problem because usually students get difficulties to develop their idea in writing activity because they are poor in vocabulary and grammar. It gives the influence in quality of writing. The form of clustering technique is easy to understand especially by the students and it can give a new style in writing activity.

Improving students writing can also be viewed from the students' intelligence. Intelligence is an umbrella term used to describe a property of the mind that encompasses many related abilities, such as the capacities to reason, to plan, to solve problems, to think abstractly, to comprehend ideas, to use language, and to learn (http://en.wikipedia.org/wiki/Intelligence_%28information_gathering%29 accessed on January 18th 2010). There are several ways to define intelligence. In some cases, intelligence may include traits such as creativity, personality, character, knowledge, or wisdom. The theory of intelligence can be divided into those based on a unilinear

construct of general intelligence and those based on multiple intelligences. One of the types of multiple intelligences is linguistic intelligence.

Linguistic Intelligence is the capacity to use language, native language, and perhaps other languages, to express what's on in mind and to understand other people (http://www.wilywalnut.com/linguistic_intelligence/linguistic_intelligence.htm accessed on December 7th 2009). The students with linguistic intelligence like and are talented with words. They enjoy reading, writing, and learning languages. They have an ability to teach and explain things to others. They learn best by reading, taking notes, and going to lectures.

Based on the explanation above, the research will be conducted under the title

The Effectiveness of Clustering Technique in Teaching Writing Skill Viewed from Students' Linguistics Intelligence (An Experimental Research on Descriptive Writing for the Second Semester of English Department of IKIP PGRI Madiun in the Academic Year of 2009/ 2010).

B. Problem Identification

In relation with the background, the problem can be formulated as follows:

1. Why do the students in the second semester students of IKIP PGRI Madiun get difficulties in writing skill?
2. What are the techniques to make a good writing for the second semester of English Department of IKIP PGRI Madiun?
3. Are the techniques effective to guide the students in making a good writing for the second semester students of IKIP PGRI Madiun?

4. How is students' achievement in writing skill by using the techniques at the second semester students of IKIP PGRI Madiun viewed from linguistics intelligence?

C. Problem Limitation

Based on the background and identification of the problem, the research is limited on teaching descriptive writing by using clustering technique and direct instruction viewed from the students' linguistic intelligence. It will be conducted at the second semester students of IKIP PGRI Madiun.

D. Statement of the Problem

Based on the background of the study, the problems of the study can be formulated as follows:

1. Is clustering technique more effective than direct instruction in teaching writing for the second semester students of English Department of IKIP PGRI Madiun?
2. Do the second semester students of English Department of IKIP PGRI Madiun who have high linguistic intelligence have better writing skill than those having low linguistic intelligence?
3. Is there any interaction between teaching technique and students' linguistic intelligence in teaching writing for the second semester students of English Department of IKIP PGRI Madiun?

E. Purpose of the Study

Based on the problem statements above, the purposes of the study are as follows:

1. To know whether clustering technique is more effective than direct instruction in teaching writing for the second semester students of English Department of IKIP PGRI Madiun;
2. To know whether the second semester students of English Department of IKIP PGRI Madiun who have high linguistic intelligence have better writing skill than those having low linguistic intelligence;
3. To know whether there is the interaction between teaching techniques and students' linguistics intelligence to teach writing for the second semester students of English Department of IKIP PGRI Madiun.

F. Benefits of the Study

The result of the study is expected to bring some significance and contribution in teaching and learning English as follows:

a. For English Teacher

The result of this research is expected to be useful for the teachers. The teacher can use this technique in teaching writing.

b. For Researcher

It can give an experience in teaching writing by using clustering technique which is appropriate and effective in teaching writing skill.

c. For The Students

It can give input to improve their ability and competence in writing skill. The students will also learn how to write easily by using clustering technique.

d. For the other Researcher

It can give the view to the other researcher that the research has contribution in teaching writing.

CHAPTER II

REVIEW OF RELATED LITERATURE

In this chapter, some theories are provided to support the research. The theories are divided into some parts. Those are the nature of writing, the nature of teaching, and the nature of linguistic intelligence. Besides those mentioned, there are some parts which are still divided into sub unit.

A. The Nature of Writing

1. The Definition of Writing

Writing is an act of communication. It is an act of making marks on certain surface in a form of graphic presentation, to make meaning. Writing is the fourth skill in English learning language. It is a process. Oshima and Hogue (1997: 2) state that writing takes study and practice to develop this skill. For both native speakers and new learners of English, it is important to note that writing is a Process, not a “Product”. Writing is a progressive activity. It means that when learners for the first time write something down, learners have already been thinking about what they are going to say and how they are going to say it. Then after learners have finished writing, they read over what they have written and make changes and corrections. Therefore, writing is never a one-step action; as it is a process that has several steps. A lot of students said that writing is difficult

skill. But it is actually easy and enjoyable activity if there is an appropriate method and interesting teaching technique.

Nunan (2003: 88) defines that writing is the process of thinking to invent ideas, thinking about how to express into good writing, and arranging the ideas into statement and paragraph clearly. It indicates that the learners are expected to explore the ideas and make them into good paragraph. Besides, writing is both a physical and a mental act. It is the physical act of committing words or ideas to some medium, whether it is an object or a symbols or an email message.

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Writing is a complex activity since it requires students' comprehensive abilities such as mastering grammar, vocabulary, and punctuation. Besides, to write well, the students are expected to be able to present their ideas in the written form as writing is a means of communication. However, some think that writing is not only delivering ideas to others but also using a sheer energy to complete the writing process itself: thinking the ideas, preparing the outline, transferring the outline into draft, revising the draft, and finally proofreading the draft to prepare for the final outcome. The fact is that the students find it difficult to do so since they have limited ability and mastery of English.

Based on the theories above, writing is an act of putting letters, symbols, numbers, or words on paper or a computer screen which is used to express and explain ideas. Specifically, writing is the expression of language in the form of symbols, letters, or words. The primary function of writing is to communicate the writers' ideas to their readers.

According to Hogue (1996: 6) good writing is more than just using correct grammar; it is also thinking, planning, checking, and revising. So, the writing process

needs thinking, planning, good idea and good grammar to make a good writing. Writing is an important part in language. Learners must realize that writing a language is much more difficult than speaking it. Lyons and Heasley in Nunan (2000: 91) state that writing is clearly a complex process and competent. Writing is frequently accepted as being the last skill acquired. Based on this statement, it can be concluded that writing is a complex process. Writing is a continuous activity that has more than one step, but it needs steps. The most important in writing is process not a product.

Brown (2001: 335) states that written products are often the result of thinking, drafting, and revising procedures that require specialized skill, skill that not every speaker develops naturally. Writing needs thinking that focuses students on how to generate ideas. In written product it involves thinking, drafting, and procedure. Skills are also important in writing activity.

Brookes & Grundy (1991: 3) state that the purposes of writing for each person are different. The answer may be to get information to someone. A second answer might be to solve the problem of volume, of having to store more than the human brain can remember. The third reason for writing might be to filter and shape our experience. So, based on this statement, someone in writing activities has a purpose to get their experience in the real world, from their imagination, to give information, to solve the problem and et cetera.

Nunan (1991: 3) writes successful writing involves mastering the mechanics of letter formation and obeying conventions of spelling and punctuation, using the grammatical system to convey one's intended meaning, organizing content at the level of paragraph and the complete text to reflect given/new information and topic/comment

structures, polishing and revising one's initial efforts, and selecting an appropriate style for one's audience. It can be concluded that if students want to be successful in writing, they must do some steps, and each step involves the grammar rule, spelling, punctuation, how to organize content at the level of paragraph.

The importance of writing cannot be overestimated. It lies at the basis of other crucial skill, such as reading: Teachers train to teach students to be able to write; they have to read, and therefore have something interesting they want to write about (Psaila: www.timesofmalta.com/articles/view/20080912/education/teaching-writing-skill-49k). It means that in writing activity, the learners must be interested in what they want to write because it influences in writing product. If the learners are not interested in what they write, of course the writing product is not maximal.

The final product in writing is important. The teacher would like to produce final products that are imaginative and accurate. In writing process, typically make one aspect of the writing process as the central focus on a lesson. So, it's possible to give an opportunity for the students to discuss the writing process.

Writing is a process rather than an event that needs more time in process to work the better. The teacher should be clear on what skill is to develop. According to Brannon (in <http://www.timesofmalta.com/articles/view/20080912/education/teaching-writing-skill-49k>) one of the methodologies to encourage children to express themselves is through writing, and emphasizing the funding of knowledge rather than spelling mistakes. Spelling mistakes occur in a pattern, and therefore teachers are encouraged to correct the pattern rather than the mark every single mistake. Moreover, an easy covered in red circles discourages learners, the circling of good ideas encourages them to bring out

better ideas. It can be concluded that in teaching writing process, the teacher should correct the spelling mistake and improve it to bring out the better ideas.

Based on the theories of writing, it can be concluded that writing is the process of thinking to invent ideas, thinking about how to express into good writing, and arrange the ideas into statement and paragraph clearly. It indicates that the learners are expected to explore the ideas and make them into good paragraph. The indicator of the writing skill in this research is exploring the ideas and making them into good descriptive paragraph. The scoring is based on indicators of writing competence, namely organization, content, grammar, punctuation, spelling, mechanics, style, and quality of expression.

2. The Purpose of Writing

The purposes of writing have to do with goals or aims of writing. Thinking about purposes of writing, a writer should think to motivate people to write.

a. To express ideas

A writer expresses his feeling, expressions, personality, likes, and dislikes in his writing in order to make readers understand something within the materials.

b. To provide information

It means to give information and explain it. This purpose is to focus on the materials being discussed.

c. To persuade readers

It means to convince readers about a matter of an opinion. This also focuses on the readers' point of view.

d. To create literary work

It means that a work which is based on one's point of view (opinion, attitude, and observation) of other matters occurring in one's environment.

When the receiver of the communication is not physically present, writing is used. Except professional people like writers, journalists, lawyers, teachers etc., others have very few occasions to resort to this mode of communication. Writing also fulfills a pedagogic purpose in second language teaching. It is used to fix the structures and vocabulary already learnt. Verghese (1990: 78) writes that the student who learns to write English has not only to cope with the mechanical problems connected with the script of the language but also with the problems of ease and fluency of expression, of grammatical and lexical accuracy, and of the appropriateness of the style of writing as demanded by the occasion or situation.

3. Writing Skill

Writing skill can be defined as an ability to communicate all the ideas or imaginations into the form of structured pattern so that the readers may understand what the writers mean in their writing. Lennenberg in Brown (2001: 334) says that writing is similar to swimming which means that somebody is able to swim if someone else teaches him how to do so and so is writing. Briefly, if a student is willing to be able to express his ideas in the written form, he needs someone else to guide and teaches him how to do so well and appropriately.

A good writing skill will not appear at once. Writing skill needs process which has four stages. Hogue (1999: 3) mentions them as follows:

- a. Pre-writing

Pre-writing is the first stage in the writing process. There are two steps namely choosing and narrowing a topic and brainstorming.

b. Planning (Outlining)

It organize the ideas the learners generated by brainstorming into an outline.

There are three steps on planning that is: making sublists, writing the topic sentence, and outlining.

c. Writing and Revising Draft

In this stage, a writer does three steps: writing the first rough draft, revising content and organization, and proofreading the second draft

d. Writing the Final Copy to Hand in

As the final activity in a writing process, a writer has to rework the written drafts and polish them for the presentation or publication.

Baruah (1991: 246) states that the main aim of developing the skill of writing is to train the student in expressing himself effectively in good English. The learners who have a good writing skill can:

- a. write the letters of the alphabet at a reasonable speed,
- b. spell the words correctly,
- c. recall appropriate words and put them in sentences,
- d. use appropriate punctuation marks,
- e. link sentences with appropriate sentence connectors and sequence signals (e.g. pronouns, definite article, etc.),

- f. organize thoughts and ideas in logical sequence and in suitable paragraphs around topic sentences,
- g. evaluate the significance of a word or a sentence in the overall materials of the written passage,
- h. use the form and register appropriate for the subject matter and the audience.

Writing competence is the ability to write well. According to <http://nadanbs.tripod.com/teachingwriting.htm>, writing allows us to express ourselves. Through writing, we can inform others, carry out transactions, persuade, infuriate, and tell how we feel, come to terms with problems, and learn to shape our thoughts, our ideas, and our lives.

Good writing involves the knowledge of the conventions of written discourse in the ESL culture as well the ability to (1) choose the most appropriate synonyms of certain words that convey certain meaning; (2) select from a variety of syntactic structures that transmit one's message precisely; and (3) adopt a style that will have the most positive rhetorical effect.

4. Macro and Micro Skill of Writing

Macro skills are parts of academic writing that focus on working at the section and whole text level (e.g. structure/ organization). English Language Centre (2008: 1) presents macro skill as follows: (1) Selecting and order information; (2) Writing explanation; (3) Summarizing academic texts; (4) Writing in an impersonal style; (5) Understanding the difference between an abstract and a summary; (6) Learning how to approach exam questions; (7) Analyzing assignment titles; (8) Using cohesive devices to link paragraphs/ideas throughout a piece of writing; (9) Producing a

discursive/argumentative essay; (10) Using appropriate tense; and (11) Others are identified the students or teacher.

Writing is the productive skill in the written mode. It, too, is more complicated than it seems at first, and often seems to be the hardest of the skills, even for native speakers of a language, since it involves not just a graphic representation of speech, but the development and presentation of thoughts in a structured way. Here are some of the micro-skills involved in writing:

- a. Use the orthography correctly, including the script, and spelling and punctuation conventions.
- b. Use the correct forms of words. This may mean using forms that express the right tense, or case or gender.
- c. Put words together in correct word order.
- d. Use vocabulary correctly.
- e. Use the style appropriate to the genre and audience.
- f. Make the main sentence constituents, such as subject, verb, and object, clear to the reader.
- g. Make the main ideas distinct from supporting ideas or information.
- h. Make the text coherent, so that other people can follow the development of the ideas.
- i. Judge how much background knowledge the audience has on the subject and make clear what it is assumed they don't know ([http://74.125.153.132/ search?q=cache:iO_UwZqI93cJ:www.sil.org/lingualinks/LANGUAGELEARNING/OtherResources/GudlnsFrAlnggAndCltrLrnngPrgrm/WritingSkill.htm+micro+skill+of+writing&cd=1&hl=en&ct=clnk&gl=id](http://74.125.153.132/search?q=cache:iO_UwZqI93cJ:www.sil.org/lingualinks/LANGUAGELEARNING/OtherResources/GudlnsFrAlnggAndCltrLrnngPrgrm/WritingSkill.htm+micro+skill+of+writing&cd=1&hl=en&ct=clnk&gl=id) accessed on 20th 2010).

B. The nature of Teaching Technique

1. The Nature of Teaching

Teaching is defined as an activity of transferring knowledge and skill from the teacher to the students. It means that teaching is a process that is done by the teacher to make the students understand the lesson. Brown (2000: 7) in his *Principles of language Learning and Teaching* argues that teaching is guiding and facilitating learning, enabling the learner to learn, setting the condition for learning. Based on this statement, teaching is to guide and facilitate in learning process.

Freeman and Richards (1996: 242) say that teaching is a cognitive as well as a behavioral activity and teachers' theories which believe about teaching, teachers and learners' guide in practical classroom actions. This statement means that teaching is all activities are that done by teachers and learners in guiding practical classroom actions to reach out the teaching and learning purpose.

Based on this statement it can be concluded that teaching and learning are very close related and both of them cannot be separated. If the teaching emphasizes on teacher behavior, learning emphasizes on learners behavior as outcomes of the teaching.

2. Teaching Writing Skill

Writing is a real-life reality. It is in social, work or study situations. Teaching writing on EFL is to get things done and to form and maintain social relationships. In reality, the teacher can teach the students such as letter, journals, notes, instructions, essays, reports, menus. Teaching writing is a way of conveying messages or just to keep a record of what is in our mind.

Adamson (2006: 208) states that in a recent research study, teaching writing in ELT classroom is considered as a means to consolidate language. Students very often write from some one else's ideas. It is "writing as language learning". In this stage, students are given a topic for building up their writing. Moreover, in the ELT classroom, especially in traditional pedagogy, the teacher gives a topic or selection of topics, a set of requirements, and a time limit. The students finish the task within the time limit and hand in the product. The students' work is evaluated based on the accuracy of the final product.

In ELT, there are many techniques to teach writing which are very crucial means to consolidate language used in learning EFL. Therefore, to motivate students, applying techniques to teach writing is necessary to engage them in some acts of communication. Brown (1994: 320-321) summarizes the features of writing process as follows: (1) Focus on the process of writing that leads to the final written products; (2) Help student writers understand their own composing process; (3) Help students build repertoires of strategies for prewriting, drafting, and rewriting; (4) give students time to write and rewrite; (5) Place central importance on the process of revision; (6) Let students discover what they want to say as they write; (7) Give students feedback throughout the composing process (not just on the final product) to consider as they attempt to bring their expression closer and closer to intention; (8) Encourage feedback both from the instructor and peers; and (9) Include individual conferences between teacher and student during the process of composition.

There are some steps to teach writing skill regarding the ages, interests, and abilities of the students. Those aspects will become the considerations to determine the

learning process, materials, and activities carried out in the classroom. It is better to prepare a graded steps starting from the easiest way to the most difficult ones so that the students successfully possess a systematic and graded way of thinking.

To achieve the goal, of course, practices will make them perfect. The more the students practice writing with a systematic and graded way, better results will be in the students which sharpen their sensitivity in choosing the diction, using the appropriate grammar as well as the writing styles and genres. In this process, a student-centered activity will give the students more chances to improve their writing by the guidance of the lecturers functioning themselves as the facilitators and guides.

a. The meaning of Clustering Technique

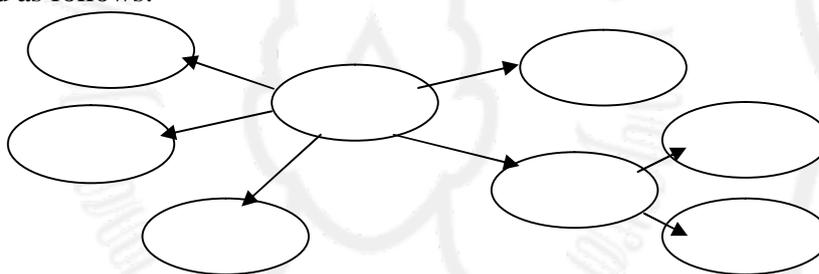
A clustering technique developed by Rico 1983 to improve writing skill is adapted by Henry (1985-1986) to facilitate thinking in classroom setting (in <http://Sekolah - menulis.com/blog/penulisan/mengatasi-hambatan-menulis>). Hogue (1996: 91) states that clustering like listing is another way to get ideas to write about something and write them in circle or bubbles, around the topic. Based on this statement, clustering is the writing technique to develop their ideas (learners) and write the words or phrases in circles or bubbles. Proett and Gill (in Seow, 2002: 316) define that clustering is a simple yet powerful strategy. Its visual character seems to stimulate the flow of association and particularly good for students who know what they want to say but just can't say it.

Based on this statement, it can be concluded that clustering is a strategy to stimulate the learner for developing their idea that's difficult to say. In other words, clustering means a group of activities. It is the writing technique in grouping the idea by

using pictures. Based on this statement, clustering is kind of teaching writing technique by using a group or pictures.

Dawson and Essid in (www.writing2.richmond.edu/writing/wweb/cluster.html-4k), say that clustering is a type of prewriting that allows the learners to explore many ideas as soon as they occur to the learners. Like brainstorming or free associating, clustering allows learners to begin without clear ideas. So, it can be concluded that clustering can explore many ideas from mind. It is a good way to develop idea before starting the writing activity. The learners can do it on their own or with friends or classmates to try to find inspiration or ideas

Clustering is a nonlinear activity that generates ideas, images and feelings around a stimulus word as follows:



(www.sdcoe.k12.ca.us/score/actbank/tcluster.htm-2k-)

Based on this statement, clustering is an activities that generate idea by using circles and it starts from a stimulus word or the words expectation, then develop them into several groups.

Reid (1993: 6) mentions that the invention of clustering helps writers to generate, develop, and arrange their ideas. It can be said that clustering helps the learners in developing their idea. The goal of clustering is to determine the intrinsic grouping a set of unlabeled data. It can be shown that there is no absolute “best” criterion which would be

independent of the final aim of the clustering. Consequently, it is used to supply this criterion, in such way that the result of the clustering will suit their needs (www.home.dei.polimi.it/matteucc/clustering/tutorial.html). Based on this statement it can be concluded that clustering is to help generate ideas and arrange them into good writing.

A cluster is therefore a collection of objects which are “similar” between them and are “dissimilar” to the object belonging to the other clusters (www.home.dei.polimi.it/matteucc/clustering/tutorial.html). It means that clustering is collecting the similar word or phrases related to the topic and losing the dissimilar word or phrases that are not related to the topic.

Dawson and Essid(<http://www.writing2.richmond.edu/writing/wweb/cluster.html>) state that:

To begin to cluster, choose a word that is central to your assignment. For example, if you “expectations” and write that word in the middle of your sheet of paper. Circle “expectations,” then write words all around it—words that occur to you as you think of “expectations.” Write down all words that you associate with “expectations,” words that at first may seem to be random. Write quickly, circling each word, grouping words around your the central word. Connect your new words to previous ones with lines; when you feel you have exhausted a particular avenue of associations, go back to your central word and begin again.

Based on the statement, it can be concluded that in clustering technique, there are some steps: (1) Choosing a word or phrases; (2) Putting the word or phrases in central; (3) Circling the word or phrases; (4) Writing words all around the word or phrases that associate with the word in central; and (5) Connecting the new word or phrases to previous ones with lines. Moreover, clustering technique helps the writer or learners to start the writing activity from the new expectation words and develop them in a bubbles or circles form. Clustering involves writing down a word or phrase and engaging in free association. Each association is written down and connected to the original stimulus by

an arrow or line. If association generates further associations, chains of associated words are produced (<http://www.questia.com/PM.qst?a=o&se=gglsc&=76993974>). Furthermore clustering is related to words or phrases. The learners start to write down the ideas and then the ideas are connected by using an arrow or line. It is used to overcome the difficulty in developing ideas. It is effective in reading activity and developing writing skill. It is also effective if the learners are rich in vocabulary.

b. Benefit of Using Clustering Technique

In general, clustering provides high availability by allowing your writing-critical applications to keep running in the event of a failure. Although clustering adds additional complexity to your messaging in writing, it provides a number of advantages over using stand-alone (non-clustered) technique. Clustering provides: (1) Reduced single points of failure functionality; (2) Ability to perform maintenance and upgrades with limited downtime; and (3) Ability to easily scale up your cluster to a maximum of seven active EVSs.

c. Disadvantages of Using Clustering Technique

Since it is one of the brainstorming techniques, it is called as the natural way in developing the writing. It is only the surface of technique in teaching writing actually, so it does not a good technique when it is used to write an essay writing which has long paragraph. Sometimes the learners are confused how to use it because the learners confused where to start writing. Besides, the learners do this way under pressure to make this technique as an effective way.

d. Teaching Procedures of Clustering Technique

One of the best techniques for stimulating ideas and finding a direction for a piece of writing is "clustering." Clustering is a powerful tool because it taps into the right brain, which drives creativity. The right brain is where fresh ideas and original insights are generated. The left brain, in contrast, is more logical and orderly. Both are essential to good writing, but if the left brain is too dominant when starting writing, it inhibits the free flow of thought. Meade (2010) (in <http://www.meadecomm.com/clustering.html>) mentions that there are some procedures to do clustering technique:

- 1). Write a word or phrase on a clean piece of paper;
- 2). Circle the word and let connections flow, writing down each new word or phrase that comes to mind, circling it, and connecting it with a line;
- 3). Keep the hand moving all the time;
- 4). Cluster for a while;
- 5). Continue adding to the cluster;
- 6). Write a piece without worrying about perfection.

Cahyono (2009: 88) states that the teaching and learning process is conducted through the following procedures:

1. Pre-writing
 - a. write the theme on the whiteboard;
 - b. draw a sample of cluster. Ask the students to competitively complete the provided cluster;
 - c. give the example of descriptive phrase based on cluster;

d. ask the students to make a cluster on their own.

2. Whilst-Writing

Ask the students to write individually a descriptive text based on a certain theme.

3. Post-Writing

a. ask the students if clustering technique helps them in writing text;

b. evaluate the students' writing products.

Dawson and Essid (<http://www.writing2.richmond.edu/writing/wweb/cluster.html>) state that there are some teaching procedures of clustering technique: (1) Choosing a word or phrases; (2) Putting the word or phrases in central; (3) Circling the word or phrases; (4) Writing words all around the word or phrases that associate with the word in central; (5) Connecting the new word or phrases to previous ones with lines.

3. The Nature of Direct Instruction

a). The Meaning of Direct Instruction

Arends (1997: 64) defines that direct instruction is a conventional in teaching that helps students to learn basic skill and acquire information that can be taught in step by step fashion. Engelmann and Becker from NIFDI (The National Institute for Direct Instruction) in their article "*NIFDI Consultants Only*" say that direct instruction (DI) is a model for teaching that emphasizes well developed and carefully planned lessons designed around small learning increments and cleanly defined and prescribed teaching tasks. Arends (1997: 66) says direct instruction is rather straight forward and people mastered in a relatively short period of time. It was especially designed to promote students learning of procedural knowledge that is well structured and can be taught in a

step by step fashion. Joyce (2000: 337) in his book *Models of Teaching* explains psychologists have emphasized the design and planning of instruction which address the interaction between teacher and students. They speak of modeling, reinforcement, feedback, and successive approximation.” It is clear that direct instruction can help student to learn basic knowledge or skill because first, every step in direct instruction is applied carefully. Second, there are many exercises to control students’ understanding after teachers explain the skill.

Direct instruction is a traditional technique that is specifically designed to enhance academic learning time. It does not assume that students will develop ideas on their own. Instead, it takes learners through the steps of learning systematically, helping them see both the purpose and the result of each step. When teachers explain exactly what students are expected to learn, and demonstrate the steps needed to accomplish a particular academic task, students are likely to use their time more effectively and to learn more.

The basic components of direct instruction are: (1) Setting clear goals for students and making sure they understand these goals; (2) Presenting a sequence of well-organized assignments; (3) Giving students clear, concise explanations and illustrations of the subject matter; (4) Asking frequent questions to see if the students understand the work; and (5) Giving students frequent opportunities to practice what they have learned (<http://education.calumet.purdue.edu/vockell/edpsybook/Edpsy2/edpsy2direct.htm>). Not all topics can be treated by direct instruction. Indeed, even within a single grade level or subject area it is possible that some learners will profit from direct instruction, while others will profit from a less direct teaching to instruction. Direct instruction has proved

especially effective in teaching basic skills (such as reading and math) and skills that are fundamental to more complex activities (such as basic study skills or the prerequisite skills for long division). Direct instruction is not likely to be useful for teaching less structured topics, such as English composition or discussion of social issues. On the other hand, Joyce (2000: 343) describes that direct instruction model consists of five phases of activity: orientation, presentation, structured practice, guided practice, and independent practice. Direct instruction is a suitable direct teaching when the teachers want students to learn specific skills. It is the most applicable for skill oriented subjects such as mathematics, reading, writing, music and physical education where the subjects matter can be taught in a step by step fashion.

b. Benefit of Direct Instruction

Direct teaching is best for learning specific concepts or skills. The specificity of the objectives or learning targets also makes it easier for teachers to create assessment tests of high validity and high reliability. Students, for their part, do not suffer much confusion in determining which part of the lesson is important and which part is not. However, to take advantage of these benefits of direct teaching or direct instruction, the teacher must ensure that the contents of instruction are logically organized. The teacher must also ensure that the students already possess the prerequisite knowledge (<http://www.brighthub.com/education/special/articles/5487.aspx>).

c. Disadvantages of Direct Instruction

The structure of direct teaching can be rigid enough to hinder the creativity of the teacher. There is very little room to improvise because this technique follows a step-by-step procedure. The procedure usually starts with an introduction, followed by the

rationale for the instruction, then by the instruction itself. The procedure ends with a summary and then followed by an assessment.

Direct teaching, if utilized by unprepared teachers, can be disastrous. For direct teaching or direct instruction to be effective, the teacher must have a mastery of the subject matter, must prepare a well-organized content, and must have excellent communication skills. Without these traits, a teacher could not effectively carry out direct teaching or direct instruction. And without these traits, direct teaching could not develop higher order thinking skills in the student (<http://www.brighthub.com/education/special/articles/5487.aspx>).

d. Teaching Procedures of Direct Instruction

There are five steps in direct instruction, here is the table of the syntax of the direct instruction model according to Arends (1997: 67).

SYNTAX OF THE DIRECT INSTRUCTION	
Phases	Teacher Behavior
Phases 1 Provide objectives and establish set	Teacher goes over objectives for the lesson, gives background information and explains why the lesson is important. Gets students ready to learn.
Phases 2 Demonstrate knowledge or skill	Teacher demonstrates the skill correctly or presents step by step information.
Phases 3 Provide guided practice	Teacher has students apply in exercise

Phases 4 Check understanding and provide feedback	Teacher checks to see if students are performing correctly and provides feedback.
Phases 5 Provide extended practice and transfer	Teacher sets conditions for extended practice with attention to transfer to more complex and real life situations.

(Adapted from *Classroom Instruction and Management* by Arends 1997: 67)

C. The Nature of Linguistic Intelligences

1. The Meaning of Linguistic Intelligence

Intelligence is an umbrella term used to describe a property of the mind that encompasses many related abilities, such as the capacities to reason, to plan, to solve problems, to think abstractly, to comprehend ideas, to use language, and to learn. There are several ways to define intelligence. In some cases, intelligence may include traits such as creativity, personality, character, knowledge, or wisdom. However, there is no agreement on which traits define the phenomenon of intelligence agreed upon by a majority across the various concerned disciplines.

According to American Psychological Association in 1995 (http://en.wikipedia.org/wiki/Intelligence:_Knowns_and_Unknowns) individuals differ from one another in their ability to understand complex ideas, to adapt effectively to the environment, to learn from experience, to engage in various forms of reasoning, to overcome obstacles by taking thought. Although these individual differences can be substantial, they are never entirely consistent: a given person's intellectual performance will vary on different occasions, in different domains, as judged by different criteria. Concepts of "intelligence"

are attempts to clarify and organize this complex set of phenomena. Although considerable clarity has been achieved in some areas, no such conceptualization has yet answered all the important questions and none commands universal assent. Indeed, when two dozen prominent theorists were recently asked to define intelligence, they gave two dozen somewhat different definitions

The theory of multiple intelligences was proposed by Gardner in 1983 to more accurately define the concept of intelligence and to address the question whether methods which claim to measure intelligence (or aspects thereof) are truly scientific. Gardner's theory argues that intelligence, particularly as it is traditionally defined, does not sufficiently encompass the wide variety of abilities humans display. In his conception, a child who masters multiplication easily is not necessarily more intelligent overall than a child who struggles to do so. The second child may be stronger in another kind of intelligence and therefore: (1) may best learn the given material through a different approach; (2) may excel in a field outside of mathematics; or (3) may even be looking at the multiplication process at a fundamentally deeper level, which can result in a seeming slowness that hides a mathematical intelligence that is potentially higher than that of a child who easily memorizes the multiplication table (http://74.125.153.132/search?q=cache:VMMMbIOfy5gJ:en.wikipedia.org/wiki/Theory_of_multiple_intelligences+definition+of+multiple+intelligences&cd=1&hl=en&ct=clnk&gl=id).

Linguistic intelligence manifests itself in terms of linguistic abilities possessed by the intelligent view. Not all learners among them possess linguistic skills; nor do all of them have a flair for learning different languages. Those who exhibit unusual ability in languages are said to possess linguistic intelligence. Linguistically intelligent learners

take pleasure in the rhythms and the phonetics of words. The learners take keen interest in learning correct pronunciation and experiencing the hidden melody in words.

Linguistically intelligent learners like to read and write. The students are good with spelling words and sensitive towards language patterns. They are mostly fond to be orderly and systematic with a strong ability to reason. They are often observed possessing good memory and doing well in word games. People possessing linguistic intelligence are good orators and public speakers.

To enhance linguistic intelligence, it is recommended that the learners practice story-telling, participate in debates and discussions, learn new words, solve word puzzles and crosswords, practice letter writing and essay writing, and read voraciously. Participation in debates and discussions helps in the development of reasoning skills, reading books, and solving crosswords the enhancement of vocabulary and writing encourages expression of thoughts in the right words.

According to Wessman from the work of Gardner, Armstrong, Campbell, and Lazear there are three levels of verbal linguistic capacities as follows:

a. Basic Skill Level

It involves acquisition and basic development of “building block” language arts capacities, including simple reading and writing, and basic patterns of speaking: (1) To recite and recognize various letters; (2) To recognize of one’s own name in writing and in conversation; (3) To make utterances in speaking pairs of words and meaningful phrases; (4) To create simple sentences; and (5) To perform imitation writing.

b. Complex Skill Level

It involves understanding various aspects of language as a system, for example, grammar, syntax, and the development of language comprehension skills: (1) To use a

complex and proper of language to communicate ideas, desires, and feelings; (2) To tell jokes and understand various kinds of language-based humor; (3) To expand vocabulary in speaking and writing; (4) To execute of self-initiated writing to communicate thoughts, opinions, feelings and so on; (5) To comprehend of information presented in a written format; and (6) To express various creative writing forms.

c. Coherence Level

It involves development of the creative and self-expressive dimensions of linguistic communication and expanded comprehension and interpretive capacities: (1) To create original stories and relate classical and previously heard stories; (2) To execute various types of formal speaking; (3) To use various figures of speech; and (4) To engage in metalinguistic (<http://www.verbal-linguistic-intelligencecapacities.com/articles/multiple-intelligences/html>).

Some of them often have difficulties in putting their thoughts in right words. Some face problems in wording their emotions. They fail in expressing what they want to say. Being able to word every emotion verbally is one skill, while wording one's thoughts and emotions in the written form is another. However, a blend of these capacities is found in some of the blessed individuals among us, the linguistically intelligent ones (<http://www.linguisticintelligence.com/articles/multiple-intelligences/html>).

Based on the explanation, it can be concluded that linguistic intelligence is the ability to display words and languages. The students who have high linguistic intelligence like to read and write. They are mostly fond of learning languages. The levels on linguistic capacities are divided into basic skill level, complex skill level, and coherence level. The learners in basic skill have skills to recite and to organize various letter where

they can make utterances in speaking and also produce simple sentence. In complex skill, the learners are capable to use complex and proper language to communicate, to tell and to understand various kinds of language, and to expand vocabulary in speaking and writing. Furthermore, in coherence level the learners can create stories, to execute various of formal speaking, and to engage metalinguistic.

D. Rationale

1. The difference between clustering technique and direct instruction to teach writing;

Clustering is a strategy to stimulate the learner for developing their idea that's difficult to say. It is developed to improve writing skill and used to facilitate thinking in the classroom setting and also used to stimulate for classroom discussion. The learners will use the technique easily to generate their ideas. Furthermore they will enjoy writing well. On the other hand, direct instruction is a model for teaching that emphasizes well developed and carefully planned lessons designed around small learning increments and cleanly defined and prescribed teaching tasks. It is specifically designed to enhance academic learning time. It does not assume that students will develop ideas on their own. Instead, it takes learners through the steps of learning systematically, helping them see both the purpose and the result of each step. When teachers explain exactly what students are expected to learn, and demonstrate the steps needed to accomplish a particular academic task, students are likely to use their time more effectively and to learn more. The learners are hoped to write under the teacher instruction. Based on the statement, it can be assumed that clustering technique is more effective than direct instruction to teach writing skill.

2. The difference between students with high linguistic intelligence and students with low linguistic intelligence in writing;

The students with high verbal-linguistic intelligence display a facility with words and languages. They are typically good at reading, writing, telling stories, and memorizing words along with dates. They tend to learn best by reading, taking notes, listening to lectures, and discussion and debate. They are also frequently skilled at explaining, teaching and oration or persuasive speaking. Those with verbal-linguistic intelligence learn foreign languages very easily as they have high verbal memory and recall, and an ability to understand and manipulate syntax and structure.

The students with low linguistic intelligence will find difficulty in learning a language. They are not good at reading, writing, listening, and speaking. They are not capable to memorize the words so they are lack of vocabulary.

Based on the statement, it can be assumed that the students who have high linguistic intelligence will have better writing skill than the students who have low linguistic intelligence.

3. Interaction between teaching technique and students' linguistic intelligence.

Clustering technique is a way to write easily. It is used to help the learners in writing process. It is a strategy to stimulate the learners for developing their ideas. The learners who have high intelligence will get easy way using clustering technique because they have high capacities to use a language.

On the other hand, the learners who have low linguistic intelligence will get difficulty in how they use clustering technique because they lack of vocabulary. They

find difficulty to acquire new language. It is assumed that for the learners who have low linguistic intelligence using direct instruction is more suitable.

Based on the statement, it can be supposed that clustering technique is suitable for the students who have high linguistic intelligence and direct instruction is suitable for the students who have low linguistic intelligence. Moreover, there will be an interaction between teaching technique and students' linguistic intelligence.

E. Hypothesis of the Research

This research formulates the hypotheses as follows:

1. Clustering technique is more effective than direct instruction to teach writing for the second semester students of English Department of IKIP PGRI Madiun.
2. The second semester students of English Department of IKIP PGRI Madiun who have high linguistic intelligence have better writing skill than the students with low linguistic intelligence.
3. There is an interaction between teaching techniques and students' linguistic intelligence to teach writing for the second semester students of English Department of IKIP PGRI Madiun.

CHAPTER III

RESEARCH METHODOLOGY

This chapter will discuss about the research method. Research method is the way how the writer gets the result of the study. Here, the writer arranges this chapter into the research design, setting of the research, population, sample, and sampling technique, technique of collecting the data, and technique of analyzing the data.

A. Research Design

Research designs are the structure of research. It is the foundation of the study. Research design consists of observations, measures, treatments, programs, groups, assignment to groups, and time. Among the designs to consider are the True-Experimental design, Quasi-Experimental design, and the Non-Experimental design (http://www.associatedcontent.com/article/14427/experimental_designs_structures_of_pg_2.html?cat=4).

Ary (2007: 317) states that the research is categorized as an experimental design since it attempts to provide treatment to experimental group and maintain control over all factors that may affect the result of an experiment. In other word, the experimental research attempts to investigate the influence of one or more variables to other variables. Experimental research can be roughly divided into five phases: (1) Identifying a research problem; (2) Planning an experimental research study; (3) Conducting the experiment,

Analyzing the data; and (4) Writing the paper/presentation describing the findings (<http://writing.colostate.edu/guides/research/experiment/pop4c.cfm>).

Ary (2007: 338) mentions that experimental research has some characteristics as follows: (1) manipulation or treatment of an independent variable; (2) other extraneous variables are controlled; and (3) effect is observed of the manipulation of the independent variable on the dependent variable. This experimental research is aimed at observing whether there is an interaction between teaching technique and students' linguistic intelligence to teach writing. The technique used in the experimental class is clustering while used in control group is direct instruction. Each group is classified into two different levels of linguistic intelligence: high and low

The design of this research uses factorial design 2x2 by technique of multifactor analysis of variance (ANOVA). The design can be seen in table below:

Table 1
Table of Research Plan

Student Linguistic Intelligence \ Teaching Technique	Clustering Technique A ₁	Direct Instruction A ₂
High (B ₁)	A ₁ B ₁	A ₂ B ₂
Low (B ₂)	A ₁ B ₂	A ₂ B ₂

Note:

A₁ = Clustering Technique

A₂ = Direct Instruction

B₁ = Students who have high Linguistic Intelligence

B₂ = Student who have low Linguistic Intelligence

A₁ B₁ = Students who have high Linguistic Intelligence who are taught by clustering technique

A₁ B₂ = Students who have low Linguistic Intelligence who are taught by clustering technique

A₂ B₁ = Students who have high Linguistic Intelligence who are taught by direct instruction

A₂ B₂ = Students who have low Linguistic Intelligence who are taught by direct instruction

Based on these statements, it can be concluded that experimental research is the manipulative research to know the causal effect between the variables by controlling the variable in order to get the comparison. This research is important to develop the innovation which is useful to increase the quality of learners.

B. Place and Time of Research

1. Place of Research

The research will be carried out at English Department, IKIP PGRI Madiun.

The subject of the research is the second semester students of English Department at Language and Art Faculty.

2. Time of Research

This research will be carried in the even semester of the 2009/2010 Academic Year. There are three steps in this research: preparation, implementation, analyses of the data, and report writing. The details of each activity are as follows:

a. Preparation

- 1) January 2010 : Title Consultation
- 2) February 2010 : Proposal Draft Consultation
- 3) February 2010 : Proposal Draft Seminar
- 4) March 2010 : Instrument Consultation

b. Implementation

- 1) March 2010 : Research Permission
- 2) March- April 2010 : Data collection
- c. Analyses of Data and Research Report
April-June 2010 : Data Analysis and research report.

C. Population, Sample, and Sampling Technique

1. Population

Arikunto (2004: 115) states that population is all subjects of a research. Sekaran (2000: 266) writes that population refers the entire group of people, events, or things of interest that the researcher wishes to investigate. Based on these two theories, it can be concluded that population is all subjects or individuals with certain characteristics that will be analyzed.

The population of this research is second semester students of English Department, IKIP PGRI Madiun in the academic year of 2009/2010. The total number of the population in this research is 320 students who are divided into 8 classes, A, B, C, D, E, F, G and H. The division of the students is based on their English Proficiency Test conducted in the first semester.

2. Sample

Sample is part of all representatives of a population that are analyzed. Sekaran (2000: 267) writes that a sample is a subset of the population. It comprises some members selected from the population. In other words, some, but not all, elements of the population would form the sample. Sprinthall, as quoted by Ary (2007: 328) mentions

that a sample is a smaller number of observations taken from the total number making up a given population.

Based on the population which is grouped into classes, the sample of this research is class or cluster. In this case, class is considered as a unit or group. In this research, there are two samples based on purposive technique. The samples are class B and C because these two classes are considered having similar number of students and similar writing competence seen from the average score of writing subject of semester two. Class B will be the experiment class and C will be the control class.

3. Sampling Technique

Sekaran (2000: 267) mentions that technique of taking sample is the process of selecting a sufficient number of elements from the population so that by studying the sample, it would be possible to generalize the properties or characteristic to the population elements.

The sample is taken by random sampling because the population is considered as groups. In this case, class is considered as unit of group. The steps to take the sample are as follows:

- a. Grouping the existing writing classes of the first semester students:

Table 2
Writing Classes and Scores

Class	Total Number	Average Score
A	40	72
B	40	70
C	40	70
D	40	71
E	40	78
F	40	76

G	40	71
H	40	70

- b. Documenting their writing scores of first semester in order to find out which classes have similar average of writing scores.
- c. Deciding which class will be used as the sample purposively. The decision of taking the class is based on the similar number of students and similar average writing score of first semester.
- d. Two classes are taken to determine which class will use clustering technique or direct instruction. B class will have clustering technique and class C will have direct instruction.

D. Technique of Collecting Data

1. Research Variables

There are one dependent variable and two independent variables in this research. The dependent variable is writing skill and the independent variables are teaching technique and linguistic intelligence.

a) Dependent Variable

1) Writing Skill

(a) Variable Operational Definition

Writing is the process of thinking to invent ideas, thinking about how to express into good writing, and arrange the ideas into statement and paragraph clearly. It indicates that the learners are expected to explore the ideas and make them into good paragraph.

(b) Indicator

The indicator of the writing score in this research is exploring the ideas and making them into good descriptive paragraph. The scoring is based on indicators of writing competence, namely organization, content, grammar, punctuation, spelling, mechanics, style, and quality of expression.

(c) Measurement Scale

The measurement scale in this research is nominal scale that is based on the scoring rubrics covering organization, content, grammar, punctuation spelling and mechanics, and style. The aspects scored for each point are as follows:

Table 3
Scoring Rubrics for Writing

Writing Elements	Scores				
	5	4	3	2	1
Organization	Appropriate title, effective introductory paragraph. Topic is stated, leads to body transitional expressions used: arrangement of material shows plan (could be outlined by reader), supporting evidence given for generalization; conclusion	Adequate title introduction and conclusion; body of essay is acceptable, but some ideas aren't fully developed; sequence is logical but transitional expressions may be absent or misused.	Mediocre or scant introduction or conclusion; problems with the order of ideas in body; the generalizations may not be fully supported by the evidence given; problems of organization interfere	Shaky or minimally recognizable introduction; organization can barely be seen; severe problems with ordering of ideas; lack of supporting evidence conclusion weal of illogical inadequate effort at organization	Absence of introduction or conclusion; no apparent organization of body; severe lack of supporting evidence; writer has not made any effort to organize the composition (could not be outlined by reader)

	logical and complete.				
Logical development of ideas (Content)	Essay addresses the assigned topic; the ideas are concrete and thoroughly developed; no extraneous material; essay reflects thought.	Essay addresses the issues but misses some points; ideas could be more fully developed, some extraneous material is present.	Development of ideas not complete of essay is somewhat off the topic; paragraphs aren't divided exactly right.	Ideas incomplete essay does not reflect careful thinking or was hurriedly written, inadequate effort in area of content.	Essay is completely inadequate and does not reflect college-level work, no apparent effort to consider the topic carefully.
Grammar	Native-like fluency in English grammar, correct use of relative clauses, prepositions, modals, articles, verb forms and tense sequencing; no fragments or run-on sentences	Advanced proficiency in English grammar, some grammar problems don't influence communication, although the reader is aware of them, no fragments or run-on sentences.	Ideas are getting through to the reader, but grammar problems are apparent and have a negative effect on communication; run-on sentences; or fragments present.	Numerous serious grammar problems interfere with communication of the writer's ideas; grammar review of some areas clearly needed difficult to read sentences.	Severe grammar problems interfere greatly with the message; reader can't understand what the writer was trying to say; unintelligible sentence structure
Punctuation, spelling, and mechanic	Correct use of English writing conventions left and right margins, allophone needed capitals, paragraph indented, punctuation and spelling; very neat.	Some problems with writing conventions or punctuation; occasional spelling errors; left margin correct, paper is neat and legible.	Uses general writing conventions but has errors; spelling problems distract reader; punctuation errors interfere with ideas	Serious problems with format of paper parts of essay not legible errors in sentence punctuation and final punctuation, unacceptable to educated readers.	Complete disregard for English writing conventions; paper illegible; obvious capitals missing, no margins, severe spelling problems.

Style and quality of expression (Vocabulary)	Precise vocabulary usage; use of parallel structure; concise; register good.	Attempts variety; good vocabulary; not wordy; register OK; style fairly concise.	Some vocabulary misused; lacks awareness of register; may be too wordy.	Poor expression of ideas; problems in vocabulary; lacks variety of structure.	Inappropriate use of vocabulary; no concept of register or sentence variety.
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b) Independent Variables

There are two independent variables in this research teaching that are technique and linguistic intelligence.

1) Teaching Technique

(a) Operational Definition

It is all the teaching techniques used in a classroom in order to achieve the intended objectives. The teaching techniques in this research are clustering and direct instruction.

2) Linguistic Intelligence

(a) Linguistic Intelligence

It has to do with words, spoken or written. The students with high verbal-linguistic intelligence display a facility with words and languages. They are typically good at reading, writing, telling stories and memorizing words along with dates. They tend to learn best by reading, taking notes, listening to lectures, and discussion and debate. They are also frequently skilled at explaining, teaching and oration or persuasive speaking. Those with verbal-linguistic intelligence learn foreign languages very easily as they have high verbal memory and recall, and an ability to understand and manipulate syntax and structure.

The students with low linguistic intelligence will find difficulty in learning a language. They are not good at reading, writing, listening, and speaking. They are not capable to memorize the words so they are lack of vocabulary.

(b) Indicator

The learners in basic skill have skills to recite and to organize various letter where they can make utterances in speaking and also produce simple sentence. In complex skill, the learners are capable to use complex and proper language to communicate, to tell and to understand various kinds of language, and to expand vocabulary in speaking and writing. Furthermore, in coherence level the learners can create stories, to execute various of formal speaking, and to engage metalinguistic. .

(c) Measurement Scale

It is in the form likert scale.

2. Research Instrument

The instruments of collecting data in this research are as follows:

a. Linguistic Intelligence Test (Internal Test)

Internal test is generally arranged and scored by the teacher who will use the test in his or her class. Johnson and Johnson (2002:62) state that internal test is written or oral assessments of students' achievement that are (a) designed specifically for the students and (b) not commercially produced or standardized. The linguistic intelligence as an internal test is tried out in order to know the validity and the reliability. It is applied to measure the student's achievement based on the objectives in teaching learning process It is given before the

treatment. To know the validity of students' linguistic intelligence test Product Moment correlation by Karl Pearson is used. The formula is defined as follows:

$$r_{it} = \frac{\sum x_i x_t}{\sqrt{(\sum x_i^2)(\sum x_t^2)}}$$

r_{it} = coefficient of validity

$\sum x_i x_t$ = total of item variance

$\sum x_i^2$ = total variance of item

$\sum x_t^2$ = total variance

The item is valid if $r_0 > r_t$. In this case, it uses the level of significance $\alpha = 0.05$.

Then, to know the reliability of students' linguistic intelligence test, the formula is:

$$r_{kk} = \frac{k}{k-1} \left(1 - \frac{\sum S_i^2}{S_t^2} \right)$$

r_{kk} = coefficient of reliability

k = total of valid item

S_i^2 = total variance of all items

S_t^2 = total variance

b. Test

Arikunto (2004: 139) defines that test is a set of questions or exercises or other means used to measure skill, knowledge, intelligence, ability, or talent of an individuals or group of people. Based on the definition above, test is a profile of the study results in the written form. This profile is then used to know standard of students' achievement. For educators, this profile will be used to determine the

next learning process. In administering a test, it is important to set and determine an understandable instruction. It is necessary since there have been some cases in which students failed to do the test due to their inability to understand the given instruction

E. Technique of Analyzing the Data

Data analysis explains the kind of statistics analysis which is used. There are two kinds of data analysis method. First, descriptive statistics (to analyze data by using frequency distribution: mean, median, modus, deviation standard, histogram and polygon) and second is inferential analysis. The descriptive approach is used. McMillan (1992:144) states that descriptive research is a study simply describing a phenomenon. Descriptive study is usually in the form of statistics and such frequencies or percentage, averages, and sometimes variability. Descriptive research is designed to obtain information dealing with the current phenomena. Descriptive statistics is one of the types from statistical analysis. Brown (2005:97) states that descriptive statistics are numerical presentations of how a group of students performed on test.

The technique used to examine the hypothesis is ANOVA test as the following:

1. Total sum of square

$$\sum x^2_t = \sum X_{t^2} - \frac{(\sum X_t)^2}{n}$$

2. The sum of squares between groups

$$\sum x^2_b = \frac{(\sum X_1)^2}{n} + \frac{(\sum X_2)^2}{n} + \frac{(\sum X_3)^2}{n} + \frac{(\sum X_4)^2}{n} + \frac{(\sum X_t)^2}{n}$$

3. The sum of squares within groups

$$\sum x^2_w = \sum x_{t^2} - \sum x_{b^2}$$

4. The between – columns sum of squares

$$\sum x^2_{bc} = \frac{(\sum X_{c_1})^2}{n_{c_1}} + \frac{(\sum X_{c_2})^2}{n_{c_2}} + \frac{(\sum X_{c_t})^2}{n}$$

5. The between – columns sum of squares

$$\sum x^2_{br} = \frac{(\sum X_{r_1})^2}{nr_1} + \frac{(\sum X_{r_2})^2}{n} - \frac{(\sum X_t)^2}{N}$$

6. The sum of square interaction

$$\sum x^2_{int} = \sum x^2_b - (\sum x^2_{bc} - \sum x^2_{br})$$

7. df for between – columns sum of square = C - 1

df for between – rows sum of square = R - 1

df for interaction (C - 1)(R - 1)

df for between – groups sum of square = G - 1

df for within – columns sum of squares = N - 1

Note:

C = the number of column

R = the number of rows

G = the number of groups

n = the number of subjects in one group

N = the number subjects in all groups

8. Beside ANOVA test, Tukey's test is used to find the level of mean difference.

The finding of q is found by dividing the difference between the means by the square root of the ratio of the within group variation and the sample size (<http://people.richard.edu/james/lecturer/m170>)

$$\text{a. Between columns } q = \frac{\bar{X}_{c_1} - \bar{X}_{c_2}}{\sqrt{\text{Error variance} / n}}$$

$$\text{b. Between column (HLI) } q = \frac{\bar{X}_{c_1 r_1} - \bar{X}_{c_2 r_2}}{\sqrt{\text{Error variance} / n}}$$

$$\text{c. Between column (LLI) } q = \frac{\bar{X}_{c_1 r_2} - \bar{X}_{c_1 r_1}}{\sqrt{\text{Error variance} / n}} \text{ or } \frac{\bar{X}_{c_2 r_2} - \bar{X}_{c_1 r_2}}{\sqrt{\text{Error variance} / n}}$$

$$\text{d. Between rows } q = \frac{\bar{X}_{A_1 B_1} - \bar{X}_{A_1 B_2}}{\sqrt{\text{Error Variance} / n}}$$

$$\text{e. Between rows } q = \frac{\bar{X}_{A_2 B_1} - \bar{X}_{A_2 B_2}}{\sqrt{\text{Error Variance} / n}}$$

$$\text{f. Between rows } q = \frac{\bar{X}_{r_1} - \bar{X}_{r_2}}{\sqrt{\text{Error variance} / n}}$$

CHAPTER IV RESEARCH FINDINGS AND DISCUSSION

A. Research Findings

The data used for the research are in the form of scores which are obtained from the result of the student's linguistic intelligence test and writing test. The score of the student's writing test in more detail can be described as follows:

1. Scores of the students who are taught using clustering technique (A_1).

Based on the calculation result of scores of the students who are taught using clustering technique, the highest score achieved by students is 92 and the lowest one is 63. The range is 29, from the student's number (N) = 26. The number of class used is 6, and the class width (interval) used is 5. From the calculation result of statistics, the mean score (\bar{X}) achieved by students is 74.6, the mode score is 70, the median score is 70, and the standard deviation is 49 (Appendix 5a).

The frequency distribution of scores of the students who are taught using clustering technique on the whole can be seen in table 4 and histogram and polygon in figure 1.

Table.4 Frequency Distribution of Scores of A₁

Class Limit	Class Boundaries	Midpoint (X_i)	Tally	Frequency (f_i)	Percentage %
63-67	62.5-67.5	65	III II	7	26.92
68-72	67.5-72.5	70	II I	6	23.07
73-77	72.5-77.5	75	III	4	15.38
78-82	77.5-82.5	80	II	2	7.69
83-87	82.5-87.5	85	III	5	19.23
88-92	87.5-92.5	90	II	2	7.69
				26	100%

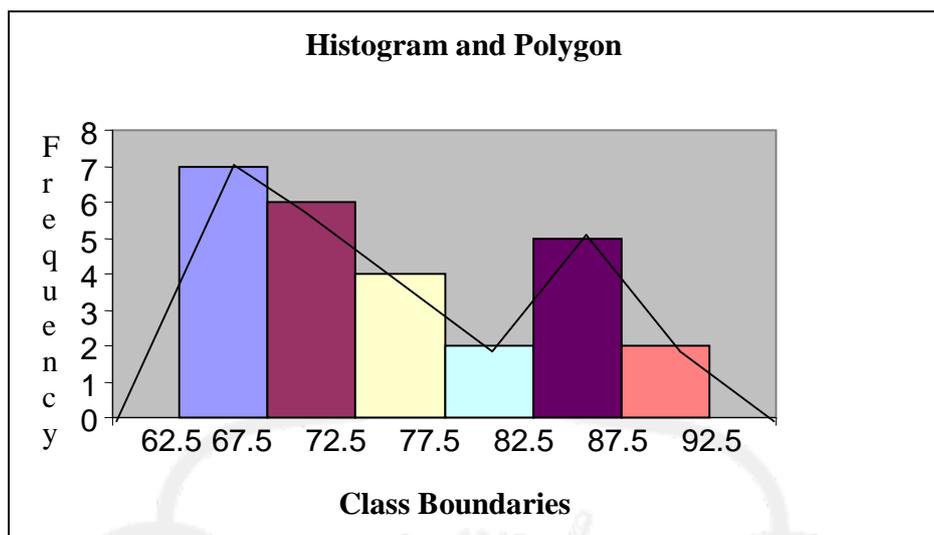


Figure 1. Histogram and Polygon of Scores of A₁

2. Scores of the students who are taught using direct instruction (A₂)

Based on the calculation result of scores of the students who are taught using direct instruction, the highest score achieved by students is 80 and the lowest one is 50. The range is 30, from the student's number (N) =26. The number of class used is 6, and the class width (interval) used is 5. From the calculation result statistics, the mean score (\bar{X}) achieved by students is 65.11, the mode score is 60.25, the median score is 64.25 and the standard deviation is 19.29 (Appendix 5b)

The frequency distribution of scores of the students who are taught using direct instruction on the whole can be seen in table 5 and histogram and polygon in figure 2.

Table.5 Frequency Distribution of Scores of A₂

Class Limit	Class Boundaries	Midpoint (X_i)	Tally	Frequency (f_i)	Percentage %
50-54	49.5-54.5	52	III	3	11.53
56-60	54.5-60.5	58	IIII III	8	23.07
61-65	60.5-65.5	63	II	2	7.69

66-70	65.5-70.5	65	III	4	15.38
71-75	70.5-75.5	73	III	3	11.53
76-80	75.5-80.5	78	III I	6	23.07
				26	100%

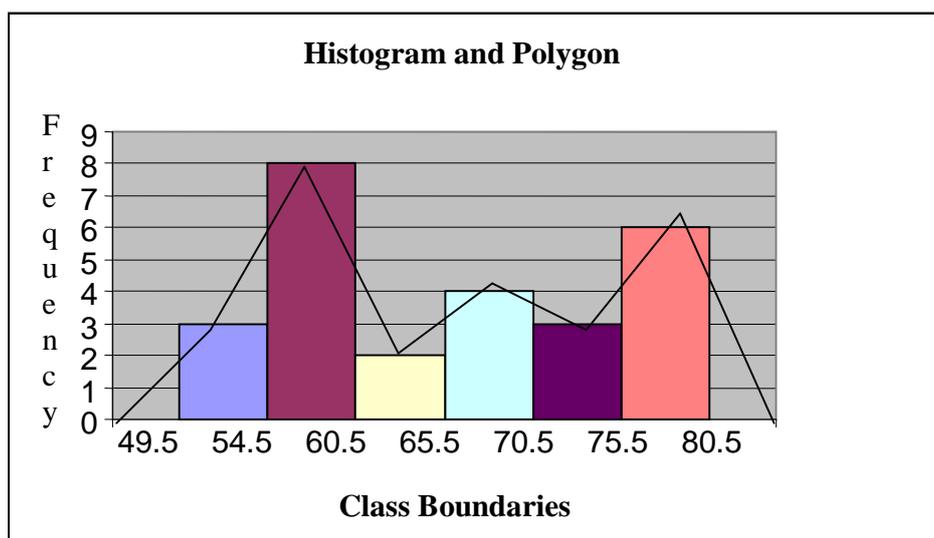


Figure 2. Histogram and Polygon of Scores of A2

- Scores of the students who have high linguistic intelligence who are taught using clustering technique (A_1B_1)

Based on the calculation result of scores of the students who have high linguistic intelligence who are taught using clustering technique, the highest score achieved by students is 92 and the lowest one is 74. The range is 18, from the student's number (N) =13. The number of class used is 4, while the class width (interval) used is 5. From the calculation result of statistics, the mean score (\bar{X}) achieved by students is 82, the mode score is 87.5, the median score is 85.5 and the standard deviation is 11.64 (**Appendix 5c**)

The frequency distribution of scores of the students who are taught using clustering technique on the whole can be seen in table 6 and histogram and polygon in figure 3.

Table.6 Frequency Distribution of Scores of (A₁B₁)

Class Limit	Class Boundaries	Midpoint (X_i)	Tally	Frequency (f_i)	Percentage %
73-77	72.5-77.5	75	III	4	30.76
78-82	77.5-82.5	80	II	2	15.38
83-87	82.5-87.5	85	IIII	5	38.46
88-92	87.5-92.5	90	II	2	15.38
				13	100

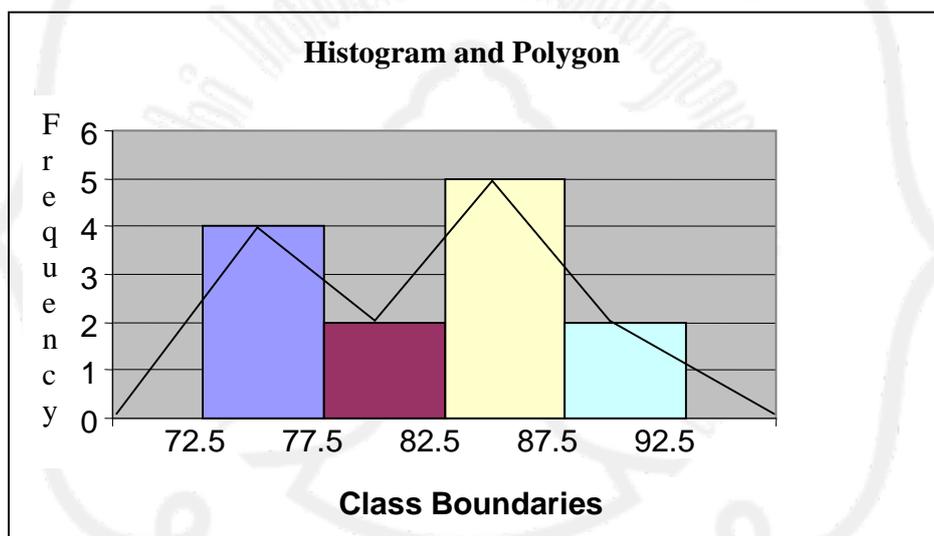


Figure 3. Histogram and Polygon of Scores of A₁B₁

4. Scores of the students who have low linguistic intelligence who are taught using clustering technique (A₁B₂)

Based on the calculation result of scores of the students who have low linguistic intelligence who are taught using clustering technique, the highest score achieved by student is 69 and the lowest one is 63. The range is 6, from the student's number (N) =13. The number of class used is 4, while the class

width (interval) used is 2. From the calculation result of statistics, the mean score (\bar{X}) achieved by students is 66.4, the mode score is 69, the median score is 68 and the standard deviation is 4.50(**Appendix 5d**)

The frequency distribution of scores of the students who have low linguistic intelligence who are taught using clustering technique on the whole can be seen in table 7 and histogram and polygon in figure 4.

Table.7 Frequency Distribution of Scores of (A₁B₂)

Class Limit	Class Boundaries	Midpoint (X_i)	Tally	Frequency (f_i)	Percentage %
62-63	61.5-63.5	62.5	II	2	15.38
64-65	63.5-65.5	64.5	III	3	23.07
66-67	65.5-67.5	66.5	II	2	15.38
68-69	67.5-69.5	68.5	III I	6	46.15
				13	100%

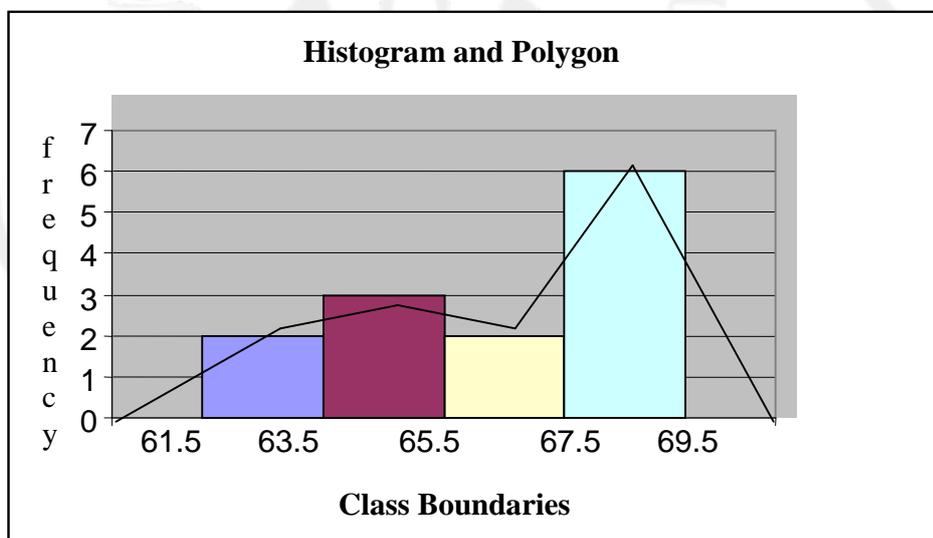


Figure 4. Histogram and Polygon of Scores of A₁B₂

5. Scores of the students who have high linguistic intelligence who are taught using direct instruction (A₂B₁)

Based on the calculation result of scores of the students who have high linguistic intelligence who are taught using direct instruction, the highest score achieved by student is 80 and the lowest one is 69. The range is 11, from the student's number (N) = 13. The number of class used is 4, while the class width (interval) used is 3. From the calculation result of statistics, the mean score (\bar{X}) achieved by students is 74, the mode score is 71.65, the median score is 71 and the standard deviation is 10.2 (**Appendix 5e**)

The frequency distribution of scores of the students who have high linguistic intelligence who are taught using direct instruction on the whole can be seen in table 8 and histogram and polygon in figure 5.

Table.8 Frequency Distribution of Scores of (A2B1)

Class Limit	Class Boundaries	Midpoint (X_i)	Tally	Frequency (f_i)	Percentage %
69-71	68.5-71.5	70	III I	6	46.15
72-74	71.5-74.5	73	I	1	7.69
75-77	74.5-77.5	76	II	2	15.38
78-80	77.5-80.5	79	III	4	30.76
				13	100%

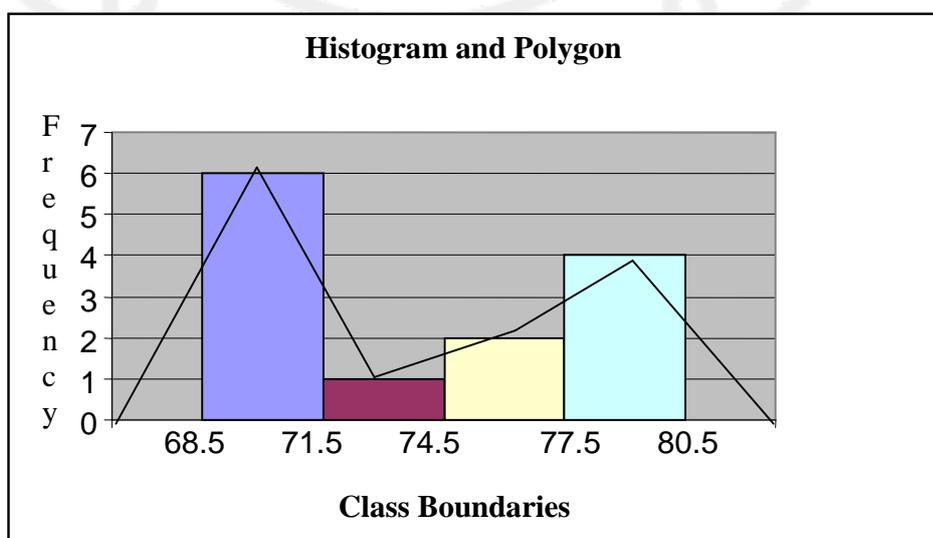


Figure 5. Histogram and Polygon of Scores of A2B1

6. Scores of the students who have low linguistic intelligence who are taught direct instruction (A2B2)

Based on the calculation result of scores of the students who have low linguistic intelligence who are taught using direct instruction, the highest score achieved by student is 63 and the lowest one is 50. The range is 13, from the student's number (N) = 13. The number of class used is 4, while the class width (interval) used is 4. From the calculation result of statistics, the mean score (\bar{X}) achieved by students is 59.5, the mode score is 60.78, the median score is 60.26 and the standard deviation is 7.18 (**Appendix 5f**).

The frequency distribution of scores of the students who have low linguistic intelligence who are taught direct instruction on the whole can be seen in table 9 and histogram and polygon in figure 6.

Table.9 Frequency Distribution of Scores of (A2B2)

Class Limit	Class Boundaries	Midpoint (X_i)	Tally	Frequency (f_i)	Percentage %
49-52	48.5-52.5	50.5	III	1	7.69
53-56	52.5-56.5	54.5	0	0	0
57-60	56.5-60.5	58.5	III	8	61.53
61-64	60.5-64.5	62.5	II	2	15.38
				13	100%

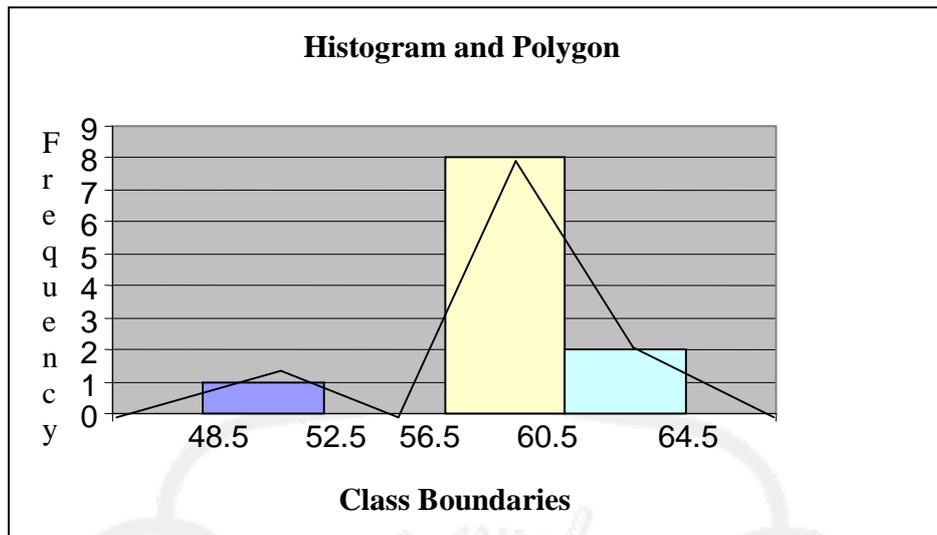


Figure 6. Histogram and Polygon of Scores of A2B2

B. Normality and Homogeneity Test

1. Normality Test

- a. Normality test of scores of the students who are taught using clustering technique (A₁)

Based on the calculation result of scores of the students who are taught using clustering technique, the highest value of $|F(z_i) - s(z_i)|$ or L_o is 0.1584 and $L_t = 0.173$ (**Appendix 6a**). From the table of critical value of *Liliefors* test with the student's number (N) = 26 at the significance level $\alpha = 0.05$, the score of L_t is 0.173. Because L_o is lower than L_t or L_o (0.1584) < L_t (0.173), it can be concluded that the data are in normal distribution.

- b. Normality test of scores of the students who are taught using direct instruction (A₂)

Based on the calculation result of scores of the students who are taught using direct instruction, the highest value of $|F(z_i) - s(z_i)|$ or L_o is 0.1494 and $L_t = 0.173$. (**Appendix 6b**). From the table of critical value of *Liliefors* test with the student's number (N) = 26 at the significance level $\alpha = 0.05$, the score of L_t is 0.173. Because L_o is lower than L_t or L_o (0.1494) < L_t (0.173), it can be concluded that the data are in normal distribution.

- c. Normality test of scores of the students who have high linguistic intelligence who are taught using clustering technique and direct instruction (B_1)

Based on the calculation result of scores of the students who have high linguistic intelligence who are taught using clustering technique and direct instruction the highest value of $|F(z_i) - s(z_i)|$ or L_o is 0.1217 and $L_t = 0.173$. (**Appendix 6c**). From the table of critical value of *Liliefors* test with the student's number (N) = 26 at the significance level $\alpha = 0.05$, the score of L_t is 0.173. Because L_o is lower than L_t or L_o (0.1217) < L_t (0.173), it can be concluded that the data are in normal distribution.

- d. Normality test of scores of the students who have low linguistic intelligence who are taught using clustering technique and direct instruction (B_2)

Based on the calculation result of scores of the students who have low linguistic intelligence who are taught using clustering technique and

direct instruction the highest value of $|F(z_i) - s(z_i)|$ or L_o is 0.1056 and $L_t = 0.173$. (**Appendix 6d**). From the table of critical value of *Liliefors* test with the student's number (N) = 26 at the significance level $\alpha = 0.05$, the score of L_t is 0.173. Because L_o is lower than L_t or L_o (0.1056) < L_t (0.173), it can be concluded that the data are in normal distribution.

- e. Normality test of scores of the students who have high linguistic intelligence who are taught using clustering technique (A1B1)

Based on the calculation result of scores of the students who have high linguistic intelligence who are taught using clustering technique, the highest value of $|F(z_i) - s(z_i)|$ or L_o is 0.1561 and $L_t = 0.234$ (**Appendix 6e**). From the table of critical value of *Liliefors* test with the student's number (N) = 13 at the significance level $\alpha = 0.05$, the score of L_t is 0.234. Because L_o is lower than L_t or L_o (0.1561) < L_t (0.234), it can be concluded that the data are in normal distribution.

- f. Normality test of scores of the students who have low linguistic intelligence who are taught using clustering technique (A1B2)

Based on the calculation result of scores of the students who have low linguistic intelligence who are taught using clustering technique, the highest value of $|F(z_i) - s(z_i)|$ or L_o is 0.1587 and $L_t = 0.234$ (**Appendix 6f**). From the table of critical value of *Liliefors* test with the student's number (N) = 13 at the significance level $\alpha = 0.05$, the score of $L_t = 0.234$.

Because L_o is lower than L_t or L_o (0.1587) < L_t (0.234), it can be concluded that the data are in normal distribution

- g. Normality test of scores of the students who have high linguistic intelligence who are taught using direct instruction (A2B1)

Based on the calculation result of scores of the students who have high linguistic intelligence who are taught using direct instruction, the highest value of $|F(z_i) - s(z_i)|$ or L_o is 0.1972 and $L_t = 0.234$ (**Appendix 6g**). From the table of critical value of *Liliefors* test with the student's number (N) = 13 at the significance level $\alpha = 0.05$, the score of L_t is 0.234. Because L_o is lower than L_t or L_o (0.1972) < L_t (0.234), it can be concluded that the data are in normal distribution

- h. Normality test of scores of the students who have low linguistic intelligence who are taught using direct instruction (A2B2)

Based on the calculation result of scores of the students who have low linguistic intelligence who are taught using direct instruction, the highest value of $|F(z_i) - s(z_i)|$ or L_o is 0.1454 and $L_t = 0.234$ (**Appendix 6h**). From the table of critical value of *Liliefors* test with the student's number (N) = 13 at the significance level $\alpha = 0.05$, the score of $L_t =$

0.234. Because L_o is lower than L_t or L_o ($0.1454 < L_t$ (0.234), it can be concluded that the data are in normal distribution

Table 10. Summary of Normality Test

No	Normality Test	Result L_o	L_t	Criteria
A	A_1	0.1584	0.173	normal distribution
B	A_2	0.1494	0.173	normal distribution
C	B_1	0.1217	0.173	normal distribution
D	B_2	0.1056	0.173	normal distribution
E	$A_1 B_1$	0.1561	0.234	normal distribution
F	$A_1 B_2$	0.1587	0.234	normal distribution
G	$A_2 B_1$	0.1972	0.234	normal distribution
H	$A_2 B_2$	0.1454	0.234	normal distribution

2. Homogeneity Test

Homogeneity test is conducted to know whether data are homogeneous or not. The data can be said homogeneous if χ_o^2 is lower than $\chi_t^2(0.05)$

Based on the result of homogeneity test, the score of χ_o^2 is 7.18 (**Appendix 7**). From the table of Chi-Square distribution with the total of group of 3 at the significance level $\alpha = 0.05$, the score of $\chi_t^2_{0.95(3)}$ (7.81). Because χ_o^2 (7.18) is lower than $\chi_t^2_{0.95(3)}$ (7.81), it can be concluded that the data are homogeneous.

Table 11. Summary of Homogeneity Test

Sample	df	1/df	s_i^2	$\log s_i^2$	(df) $\log s_i^2$
1	12	0.0833	33.67	1.53	18.36
2	12	0.0833	6.10	0.79	9.48
3	12	0.0833	22.58	1.35	16.2
4	12	0.0833	14.19	1.15	13.8
	48	0.3332			57.84

C. Testing Hypothesis

The calculation of hypothesis test which is conducted by ANOVA test can be seen in more detail in appendix 8.

Table 12. Summary of 2x2 Multifactor Analysis of Variance

Source of Variance	SS	df	MS	F _o	F _{t(0.5)}
Between Columns	964.92	1	964.92	50.44	4.08
Between Rows	3392.31	1	3392.31	177.33	
Interaction	6.57	1	6.57	0.34	
Between Groups	4363.5	3	1454.5		
Within groups	918.42	48	19.13		
Total	5281.92	51	103.57		

From the computation result of ANOVA test, it can be concluded that:

1. The score of F_o between columns (technique) is 50.44, and the score of F_t at the level of significance $\alpha = 0.05$ is 4.08. Because $F_o > F_t$ or F_o (50.44) is higher than F_t (4.08), the difference between columns is a significant. Thus, it can be concluded that there is significant difference on the student's writing competence between those who are taught using clustering technique and those who are taught using direct instruction. Based on the calculation result, the mean score (\bar{X}) of the students who are taught using clustering technique (74.3) is higher than those who are taught using direct instruction (65.7). Thus, it can be concluded that the students who are taught using clustering have better writing competence than those who are taught using direct instruction.
2. The score of F between rows (technique) is 177.33, while the score of F_t at the level of significance $\alpha = 0.05$ is 4.08. Because $F_o > F_{t(0.05)}$ or F_o 177.33 is

higher than $F_t(4.08)$, the difference between rows is significant. Thus, it can be concluded that there is a significant difference on the student's writing competence between those who have high linguistic intelligence and those who have low linguistic intelligence. Based on the calculation result, the mean score (\bar{X}) of the students who have high linguistic intelligence (78.04) is higher than those who have low linguistic intelligence (61.88). Thus, it can be concluded that the students who have high linguistic intelligence have better writing competence than those who have low linguistic intelligence.

3. The score of F columns by rows (interaction) is 0.34, and the score of F_t at the level of significance $\alpha = 0.05$ is 4.08. Because $F_o < F_{t(0.05)}$ or F_o 0.34 is lower than $F_t(4.08)$, there is no an interaction between the two variables, student's linguistic intelligence and teaching techniques. It means that the effect of teaching techniques on the student's writing competence does not depend on the student's linguistic intelligence level.

Furthermore, to test the significant level of mean difference, Tukey's HSD test is used (**Appendix 8b**). Based on the computation result of testing the mean difference (\bar{X}) between groups, it can be known that:

1. The score of q_o between columns is 10.02 and the score of q of Tukey's table at the level of significance $\alpha = 0.05$ is 3.00. Because $q_o > q_t$ or q_o (10.02) is higher than $q_{t(0.05)}$ (3.00), it can be concluded that there is a significant difference on the student's writing competence between those who are taught using clustering technique and those who are taught using direct instruction.

Based on the calculation result, the mean score (\bar{X}) of the students who are taught using clustering technique (74.3) is higher than those who are taught using direct instruction (65.7). Thus, it can be concluded that the students who are taught using clustering technique have better writing competence than those who are taught using direct instruction.

2. The score of q between columns (HLI) is 6.6 and the score of q of Tukey's table at the level of significance $\alpha = 0.05$ is 3.26. Because $q_o > q_t$ or q_o (6.6) is higher than $q_{t(0.05)}$ (3.26), it can be concluded that there is a significant difference on the student's writing competence between those who have high linguistic intelligence who are taught using clustering technique and those who have high linguistic intelligence who are taught using direct instruction.

Based on the calculation result, the mean score (\bar{X}) of the students who have high linguistic intelligence who are taught using clustering technique (81.30) is higher than those who have high linguistic intelligence who are taught using direct instruction (70.34). Thus, it can be concluded that the students who have high linguistic intelligence who are taught using clustering technique have better writing competence than those who have high linguistic intelligence who are taught using direct instruction.

3. The score of q between columns (LLI) is 7.83 and the score of q_o of Tukey's table at the level of significance $\alpha = 0.05$ is 3.26. Because $q_o > q_t$ or q_o (7.83) is higher than $q_{t(0.05)}$ (3.26), it can be concluded that there is a significant difference on the student's writing competence between those who have low

linguistic intelligence who are taught using clustering technique and those who have low linguistic intelligence who are taught using direct instruction.

Based on the calculation result, the mean score (\bar{X}) of the students who have low linguistic intelligence who are taught using clustering technique (66.75) is higher than those who have low linguistic intelligence who are taught using direct instruction (57.38). Thus, it can be concluded that the students who have low linguistic intelligence who are taught using clustering technique have better writing competence than those who have low linguistic intelligence who are taught using direct instruction.

4. The score of q_o between rows is 12.78 and the score of q of Tukey's table at the level of significance $\alpha = 0.05$ is 3.00. Because $q_o > q_t$ or q_o (12.78) is higher than $q_{t(0.05)}$ (3.00), it can be concluded that there is a significant difference on the student's writing competence between those who have high linguistic intelligence who are taught using clustering technique than those who have low linguistic intelligence. Based on the calculation result, the mean score (\bar{X}) of the students who have high linguistic intelligence who are taught using clustering technique (82) is higher than those who have low linguistic intelligence (66.5). Thus, it can be concluded that the students who have high linguistic intelligence who are taught using clustering technique have better writing competence than those who have low linguistic.
5. The score of q_o between rows is 14.01 and the score of q of Tukey's table at the level of significance $\alpha = 0.05$ is 3.00. Because $q_o > q_t$ or q_o (14.01) is

higher than $q_{t(0.05)}$ (3.00), it can be concluded that there is a significant difference on the student's writing competence between those who have high linguistic intelligence who are taught using direct instruction than those who have low linguistic intelligence. Based on the calculation result, the mean score (\bar{X}) of the students who have high linguistic intelligence who are taught using direct instruction (74) is higher than those who have low linguistic intelligence (57). Thus, it can be concluded that the students who have high linguistic intelligence who are taught using direct instruction have better writing competence than those who have low linguistic intelligence.

6. The score of q between rows (HLI and LLI) is 18.83 and the score of q_o of Tukey's table at the level of significance $\alpha = 0.05$ is 3.26. Because $q_o > q_t$ or q_o (18.83) is higher than $q_{t(0.05)}$ (3.26), it can be concluded that there is a significant difference on the student's writing competence between those who have high linguistic intelligence who are taught using clustering technique and direct instruction than those who have low linguistic intelligence who are taught using clustering technique and direct instruction. Based on the calculation result, the mean score (\bar{X}) of the students who have high linguistic intelligence who are taught using clustering technique and direct instruction (78.04) is higher than those who have low linguistic intelligence who are taught using clustering technique and direct instruction (61.88). Thus, it can be concluded that the students who have high linguistic intelligence who are taught using clustering technique and direct instruction have better

writing competence than those who have low linguistic intelligence who are taught using clustering technique and direct instruction.

Table 13. Summary of Tukey's Test

No	Significance level of mean difference	Result q_0
A	Between columns q	10.02
B	Between column (HLI)	6.6
C	Between column (LLI)	7.83
D	Between rows A_1	12.78
E	Between rows A_2	14.01
F	Between rows HLI and LLI	18.83

D. Discussion

Based on the calculation result of testing hypothesis, it can be explained as follows:

1. The difference between clustering technique and direct instruction to teach writing;

The result of first hypothesis test shows that clustering technique is more effective than direct instruction to teach writing for the second semester students of English Department of IKIP PGRI Madiun. It can be known from a significant difference on the student's writing competence between those who are taught using clustering technique and those who are taught using direct instruction. It can be proved from the score result of $F_o > F_t$ or F_o (50.44) is higher than F_t (4.08). The result of analysis shows that the mean score (\bar{X}) of the students

who are taught using clustering technique (74.5) is higher than those who are taught using direct instruction (65.7). Thus, it can be concluded that the students who are taught using clustering have better writing competence than those who are taught using direct instruction. It means that the students who are taught using clustering technique have better writing competence than those who are taught using direct instruction.

The use of clustering technique in teaching writing gives the students good way how they explore their writing ability well. The students are given a cluster and asked to write for specific information. Furthermore, it gives the students' opportunity to begin to write as they want freely. By presenting variety of different main words, then, it is easier to find something that will attract the learner and may even encourage further writing for. Moreover, students who are taught using clustering technique feel that they are learning a real language which is alive. Some are motivated when they come to know that they are trying to learn a real language; language that is used for communication in written form. They learn how to generate, develop, and arrange the ideas that have to be used in their everyday lives as a valuable and satisfying writing. Reid (1993: 6) mentions that the invention of clustering helps writers to generate, develop, and arrange their ideas. It can be said that clustering helps the learners in developing their idea. The goal of clustering is to determine the intrinsic grouping a set of unlabeled data. It can be shown that there is no absolute "best" criterion which would be independent of the final aim of the clustering. Consequently, it is used to supply this criterion, in such way that the result of the clustering will suit their needs.

On the other hand, Arends (1997: 66) says direct instruction is rather straight forward and people master in a relatively short period of time. It was especially designed to promote students learning of procedural knowledge that is well structured and can be taught in a step by step fashion. Besides, direct instruction is a traditional technique that is specifically designed to enhance academic learning time. It does not assume that students will develop ideas on their own. Instead, it takes learners through the steps of learning systematically, helps them see both the purpose and the result of each step. When teachers explain exactly what students are expected to learn, and demonstrate the steps needed to accomplish a particular academic task, students are likely to use their time more effectively and to learn more (<http://education.calumet.purdue.edu/vockell/edpsybook/Edpsy2/edpsy2direct.htm>).

Clustering involves writing down a word or phrase and engaging in free association. Each association is written down and connected to the original stimulus by an arrow or line. If association generates further associations, chains of associated words are produced. Dawson and Essid (<http://www.writing2.richmond.edu/writing/wweb/cluster.html>) state that there are some steps: (1) Choosing a word or phrases; (2) Putting the word or phrases in central; (3) Circling the word or phrases; (4) Writing words all around the word or phrases that associate with the word in central; and (5) Connecting the new word or phrases to previous ones with lines. Moreover, clustering technique helps the writer or learners to start the writing activity from the new expectation words and develop them in bubbles or circle form. Furthermore clustering is related to words

or phrases. The learners start to write down the ideas and then the ideas are connected by using an arrow or line. It is used to overcome the difficulty in developing ideas. It is effective in developing writing skill. It is also effective if the learners are rich in vocabulary. (<http://www.questia.com/PM.qst?a=o&se=gglsc&d=76993974>).

On the other hand, teaching writing using direct instruction tends to develop the idea mastery which comes up in the students' mind. Direct instruction often lacks of attention to the student characteristic, need, condition, and proficiency. The technique presented is like teacher-centered, so teacher is as source of information and knowledge. Consequently, the students are being freely how they begin to write in learning activities. The students tend to receive what teacher has given previously. They are discouraged to learn, they are not interested in the lesson. The condition, certainly, can cause the students to be bored and hard to think. It can also make students become strongly depend on the teacher how to begin writing. As a result, the student's competent will be low.

2. The difference between students with high linguistic intelligence and students with low linguistic intelligence in writing;

The result of second hypothesis test shows that the score of F between rows (technique) is 177.33, while the score of F_t at the level of significance $\alpha = 0.05$ is 4.08. Because $F_o > F_{t(0.05)}$ or F_o 177.33 is higher than F_t (4.08), the difference between rows is significant. Thus, it can be concluded that there is a significant difference on the student's writing competence between those who have high linguistic intelligence and those who have low linguistic intelligence.

Based on the calculation result, the mean score (\bar{X}) of the students who have high linguistic intelligence (78.04) is higher than those who have low linguistic intelligence (61.88). Thus, it can be concluded that the second semester students of English Department of IKIP PGRI Madiun who have high linguistic intelligence have better writing ability than those who have low linguistic intelligence.

The students with high verbal-linguistic intelligence display a facility with words and languages. They are typically good at reading, writing, telling stories, and memorizing words along with dates. They tend to learn best by reading, taking notes, listening to lectures, and discussion and debate. They are also frequently skilled at explaining, teaching and oration or persuasive speaking. Those with verbal-linguistic intelligence learn foreign languages very easily as they have high verbal memory and recall, and an ability to understand and manipulate syntax and structure. (<http://www.verbal-linguistic-intelligencecapacities.com/articles/multiple-intelligences/html>).

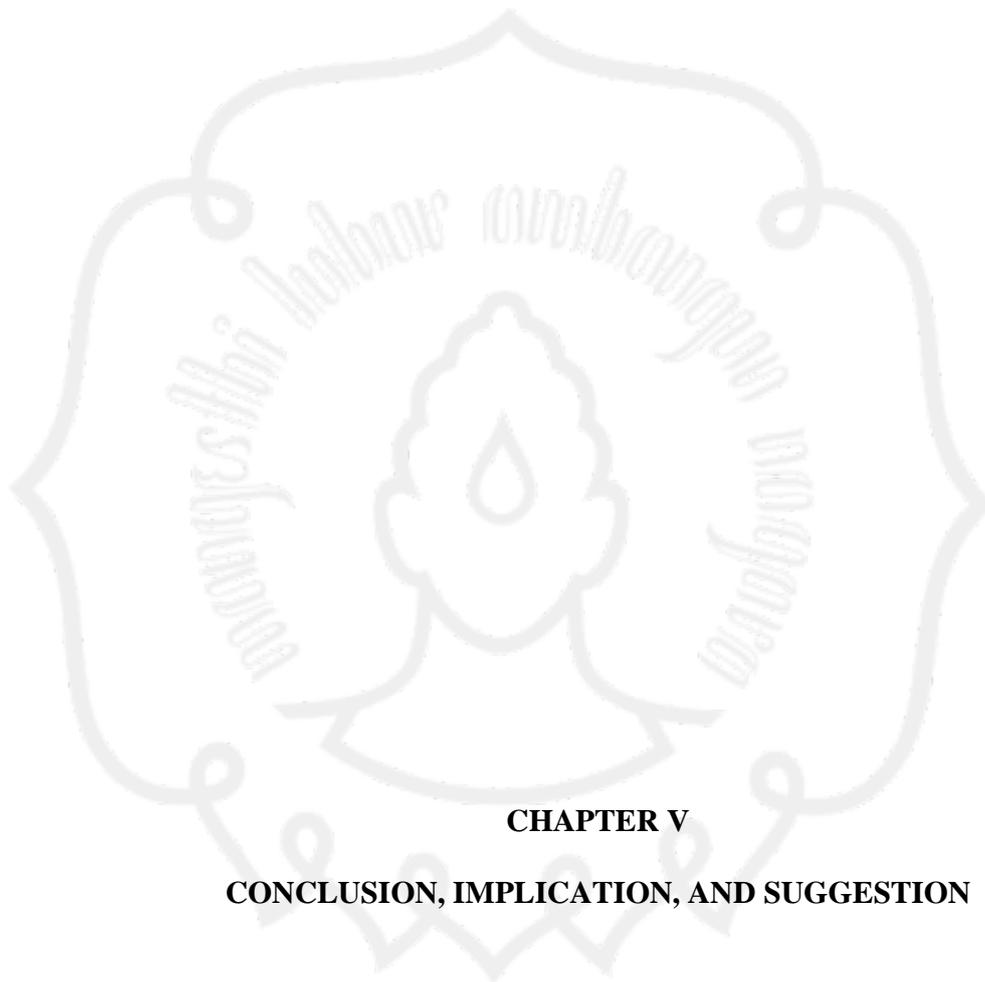
On the other hand, the students with low linguistic intelligence will find difficulty in learning a language. They are not good at reading, writing, listening, and speaking. They are not capable to memorize the words so they lack of vocabulary. They always depend on someone else, don't try hard, give up easily in the face of challenge, and don't have desire to improve their competencies. They often have difficulties in putting their thoughts in right words. They face problems in wording their emotions. They fail in expressing what they want to say

and write (<http://www.buzzle.com/chapters/education-and-higherlearningclassroomnetworks-and-technology.asp>)

3. Interaction between teaching technique and students' linguistic intelligence in teaching writing;

The result of third hypothesis test shows that there is no interaction between the two variables, teaching techniques and students' linguistic intelligence level to teach writing for the second semester students of English Department of IKIP PGRI Madiun. The result of the score of F columns by rows (interaction) is 0.34, and the score of F_t at the level of significance $\alpha = 0.05$ is 4.08. Because $F_o < F_{t(0.05)}$ or $F_o 0.34$ is lower than $F_t(4.08)$, there is no interaction between the two variables, students' linguistic intelligence and teaching techniques. It means that the effect of teaching techniques on the students' writing ability does not depend on the students' linguistic intelligence level. The difference between high and low linguistic intelligence level for clustering technique is the same as difference between high and low linguistic intelligence level for direct instruction. Furthermore, the result show that the effect of teaching technique does not depend on whether high and low linguistic intelligence level. The techniques and the students' linguistic intelligence level are not operating together. McMillan (1992:183) an important aspect in interpreting result interaction is that because of possible interaction, what may not be true for a total group may not be true for certain subject population. That is, the research shows that for all students' linguistic intelligence level, together, it makes no difference whether they have clustering technique or direct instruction

show the same. Students do not benefit greatly from clustering technique compared to other students who receive direct instruction. Finally, there is no interaction between teaching technique and the students' linguistic intelligence because the effect of teaching techniques on the students' writing ability does not depend on the students' linguistic intelligence level.



CHAPTER V

CONCLUSION, IMPLICATION, AND SUGGESTION

A. Conclusion

Based on the hypotheses testing research findings can be concluded as follows:

1. The students who are taught clustering technique have better writing ability than those who are taught using direct instruction. In other word, the use of clustering technique is more effective than direct instruction for the second semester students of English Department of IKIP PGRI Madiun.
2. The students who have high linguistic intelligence have better writing ability than those who have low linguistic intelligence for the second semester students of English Department of IKIP PGRI Madiun.
3. There is no interaction between teaching technique and students' linguistic intelligence level for teaching writing. The effect of teaching technique on the students' writing ability does not depend on the students' linguistic intelligence level for the second semester students of English Department of IKIP PGRI Madiun.

B. Implication

The research findings imply that the use of clustering technique can affect the students' writing competence optimally. It is proved from the research findings showing that students who are taught using clustering technique have better writing skill than those who are taught using direct instruction. It can encourage the students to write actively in writing process. Besides, linguistic intelligence is one of the student's ⁶⁹ / in learning a language. The students who have high linguistic intelligence have better writing skill than the students who have low linguistic intelligence. Furthermore, there is no interaction between teaching technique and linguistic intelligence. The effect of teaching techniques

on the students' writing ability does not depend on the students' linguistic intelligence level.

C. Suggestion

Based on the research findings, there are some suggestions which are addressed to the teachers, students, and other researchers.

1. For teachers
 - a. In order to improve the student's writing ability at college, English teachers are suggested to apply clustering technique in writing activities.
 - b. Teachers are suggested to be more creative and innovative in using various kinds of interesting teaching techniques which accompany the materials, so that the students will be more active and encouraged to learn and they don't get difficulty in writing.
2. For students
 - a. Students are suggested to apply clustering technique in writing.
 - b. Students are suggested to write more by applying the technique so they will be more skillful in writing.
3. For the other researchers

For the researches who intend to conduct the research more detail about the effect of using clustering technique for teaching writing, the writer hopes that the research findings can be used as a starting point of the future

researchers who have the same problems and this research can be utilized as reference.



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