
THE EFFECTIVENESS OF MINDMAPPING IN IMPROVING STUDENTS' WRITING SKILL VIEWED FROM THEIR IQ

Adi Suyanto

SMPN 1 Prambon Kabupaten Nganjuk
(padiemail@gmail.com)

Received: 29th October 2015; Revised: 15th November 2015; Accepted: 22th December 2015

ABSTRACT

This research aims to know whether the mindmapping technique is more effective than the modeling technique in teaching writing, whether the writing skill of the students having high Intelligence Quotient (IQ) is better than that of those having low IQ in learning English, and whether there is an interaction between teaching techniques and students IQ in teaching writing. The research was carried out at SMPN 1 Prambon Nganjuk East Java using experimental method. The subject of the research was each 36 students of the seventh grade 9 and the seventh grade 8. The experimental class used mind-mapping technique and the control class used modeling technique. The data was analyzed by the data using ANOVA or analysis of variance and Tukey test. The findings revealed that: (1) the mind-mapping technique was effective in improving students' writing skill (2) the writing skill of the students having high IQ is better than that of those having low IQ; and (3) there is an interaction between teaching techniques and students' IQ. Therefore mind-mapping technique is an effective technique to improve the students' writing skill.

Key Words: writing skill; teaching technique; mind-mapping; Intelligence Quotient

ABSTRAK

Penelitian ini bertujuan untuk mengetahui apakah teknik pemetaan pikiran (*mind-mapping*) lebih efektif daripada teknik pemodelan dalam pengajaran menulis, apakah tingkat kemampuan menulis siswa yang memiliki IQ tinggi lebih baik daripada mereka yang memiliki IQ rendah dalam belajar bahasa Inggris, dan adakah interaksi antara teknik mengajar dan IQ siswa dalam pengajaran menulis. Penelitian ini dilakukan di SMPN 1 Prambon Nganjuk Jawa Timur dengan menggunakan metode eksperimen. Subjek penelitian ini adalah masing-masing 36 siswa dari kelas tujuh 9 dan kelas tujuh 8. Kelas eksperimen menggunakan teknik pemetaan pikiran (*mind-mapping*) sementara kelas kontrol menggunakan teknik pemodelan. Data dianalisis menggunakan ANOVA atau analisis varian dan uji Tukey. Temuan menunjukkan bahwa: (1) teknik pemetaan pikiran (*mind mapping*) efektif untuk meningkatkan kemampuan menulis untuk siswa; (2) pencapaian keterampilan menulis siswa yang memiliki IQ tinggi lebih baik daripada mereka yang memiliki IQ rendah; dan (3) ada interaksi antara teknik mengajar dan IQ siswa. Dengan demikian, teknik pemetaan pikiran (*mind mapping*) adalah teknik yang efektif untuk meningkatkan kemampuan menulis siswa.

Kata Kunci: kemampuan menulis; tehnik pembelajaran; *mind-mapping*; Kecerdasan Inteligen

How to Cite: Suyanto, A. (2015). The Effectiveness of Mindmapping in Improving Students' Writing Skill Viewed from Their IQ. *IJEE (Indonesian Journal of English Education)*, 2(2), 101-119. doi:10.15408/ijee.v2i2.3089

Permalink/DOI: <http://dx.doi.org/10.15408/ijee.v2i2.3089>

INTRODUCTION

Developing communicative competence is the main objective of the teaching English in Indonesia. Content Standard, one of the eight National Educational Standards, states that one of the objectives of teaching English as a foreign language in Indonesia is to develop communicative competence in oral and written form in the target language. The Content Standard also regulates students to attain functional literacy level, which is a level where the students are able to use language to fulfill their daily needs such as reading newspaper, manual, or instructions. To achieve the objectives, the teaching of English in Indonesia is directed to develop students' competence in four language skills, which are listening, speaking, reading, and writing skills.

Among the four language skills mentioned above, writing skill is one of the two skills, which are tested in the final evaluation. Therefore, it can be assumed that writing skill is one of the most important skills in the teaching of English in Indonesia. Furthermore, writing is also important because it can accelerate students in the process of learning the target language. Byrne (1997, p. 6) states that in the early stages of a course towards oral proficiency, writing serves a variety of pedagogical purposes. The consideration strongly

suggests that during early course where teaching still concentrates on aural-oral skills, teachers can make good use of writing as part of an integrated skills approach to language learning.

Even though writing skill is important, still it does not get enough attention and proper time allocation in the teaching and learning process. Byrne (as cited in Matthews, et al., 1985, p. 89) mentions that most teachers consider that class time should be almost entirely devoted for developing oral skill except for few exceptions, such as activities closely linked to some forms of oral work. Therefore, writing activity is given to the students as an out-of-class activity, which is done in the students' own pace and mostly without clear and specific instructions from the teacher. Yet, it is sometimes reasonable because the time is short; therefore this also serves to increase the amount of language contact time.

Lack of teachers' monitor on the process of the students' writing activity causes a lot of problems in the students writing skill. If the researcher looks at the students' written work, he normally finds that there are some inadequacies in their work. Some of the errors may point to unfamiliarity with the language itself. The unfamiliarity with the language leads to errors in lexical and grammatical features. Another

problem is closely related to the medium rather than the language such as problems of organizing information, punctuation, and spelling. A study conducted by Supriyanto (2008, p. 2) indicates that students' writing skill was still low. The students made a lot of grammatical, spelling, and punctuations mistakes. They got difficulties in "finding" their own ideas. They also got difficulties in expressing those ideas and organize them logically. The students were not capable of developing good paragraphs.

Theoretically, writing could be understood as an integral part of communication when the other person is not right there in front of us, listening to our words and looking at our gestures and facial expressions Raimes (1983, p. 3). Furthermore, Byrne (1997, p. 1) states that writing is the use of graphic symbols which are arranged according to a certain conventions to form words and sentences. In addition to the definitions above, he states that writing is not merely the act of arranging graphic symbols. He furthermore states that in writing people produce a sequence of sentences arranged in a particular order and linked together in a certain ways. From the statement, it can be said that writing work follows a gradual stages from a simple use of graphic symbols to a

complex arrangement of sentences based on certain rules and conventions. This is supported by Scrivener (1994, p. 157) who states that writing work in the classroom falls on a continuum from copying which focuses on accuracy to free writing which concentrates on fluency.

Heaton (1975, p. 135) stated a view that the writing skills are complex and sometimes difficult to teach, requiring mastery not only of grammatical and rhetorical devices but also of conceptual and judgmental elements. The varied skills are grouped into five general components or main areas, which are language use, mechanical skills, treatment of content, stylistic skills, and judgment skills. Language use deals with the ability to write correct and appropriate sentences while mechanical skills concern the ability to use correctly those conventions peculiar to the written language, e.g. punctuation, spelling. Treatment of content is the ability to think creatively and develop thoughts, excluding all irrelevant information and stylistic skills are the ability to manipulate sentences and paragraphs, and use language effectively. Finally judgment skills deal with the ability to write in an appropriate manner for a particular purpose with a particular audience in mind, together with an

ability to select, organize and order relevant information.

Another classification is suggested by Brown (2001, p, 343) which identifies and enumerates micro skills of writing as follows: (1) producing graphemes and orthographic patterns of English; (2) producing writing at an efficient rate of speed to suit the purpose; (3) producing an acceptable core of words and using appropriate word order patterns; (4) using acceptable grammatical systems (e.g., tense, agreement, pluralisation), patterns, and rules; (5) expressing a particular meaning in different grammatical forms; (6) using cohesive devices in written discourse; (7) using the rhetorical forms and conventions of written discourse; (8) appropriately accomplishing the communicative functions of written texts according to form and purpose; (9) conveying links and connections between events and communicate such relations as main idea, supporting idea, new information, given information, generalization, and exemplification; distinguish between literal and implied meaning when writing; (10) correctly conveying culturally specific references in the context of the written text; develop and use a battery of writing strategies, such as accurately assessing the audience's interpretation, using prewriting

devices, writing with fluency in the first drafts, using paraphrases and synonyms, soliciting peer and instructor feedback, and using feedback for revising and editing.

Thus, it can be concluded that writing is the act of expressing ideas or thoughts in communication using graphic symbols which are arranged based on certain rules and conventions. They concern the aspects of content, organization, word choice, language use, and mechanics. The aspect of content deals about the ability to think creatively and develop thoughts, excluding all irrelevant information. Organization is the logical order of sentences presented so that the arrangement of the sentences make sense; it involves unity and coherence. Vocabulary is the ability to choose and use wide range of proper words, and idioms. Language use is the ability to apply sentence structure and other grammatical features. Mechanical aspect is related with the ability to use correctly those conventions peculiar to the written language, counting punctuation, capitalization, and spelling.

Concerning the teaching and learning process, integrating the four language skills in the teaching of English is strongly demanded. Byrne (1997, p. 6) proposes an example that it

is impossible to learn to speak a foreign language without learning how to write in it. It is also stated that in the early stages of a course oriented towards oral proficiency, writing serves a variety of pedagogical purposes. The consideration strongly suggests that teacher should teach writing skills as part of an integrated skill approach of language learning. Although at early stages writing will be largely a reinforcement of language learned orally, as the learner progress to the next stages of language learning, teacher can provide for written work on a more extensive scale. In the classroom, guided writing is a very important tool for helping students to become better writers. Help can be given in thinking through ideas, ordering the ideas, considering the vocabulary and grammar, co-operatively preparing notes and draft copies, and in other ways of making preparation to write. Students can learn to become a better writer by being actively encouraged to follow through series of preparatory steps before the final text is produced, and becoming aware of that preparation process, so that it can be done more independently and fluently in the future.

However, as previously mentioned, it is not easy for students to learn writing. The strategies applied by

the teacher at the school do not seem to be effective since they do not give much contribution in developing the students' writing ability. Students, mostly, have problems in organizing the ideas to become a well-organized written work. Students, even the ones with high intelligence, cannot compose a well-organized written work although they have mastered the language components, such as vocabulary and grammar of the language. At the same time, students with low intelligence have to use most of their time struggling with the language components. Lack of clear and specific instructions and also lack of control and monitor from the teacher during the writing process hinder the students from getting the appropriate writing skill needed to fulfill their daily communication need, whereas the scope of teaching of English in the junior high school is to develop competence in understanding and producing oral and written text in functional literacy level.

To cope with this problem, the researcher proposes the use of mind mapping in the teaching of writing skill on the consideration that it can facilitate the teacher to monitor the process of the students' writing activities. Mind mapping, different from note taking, which is a conventional outlining, is an

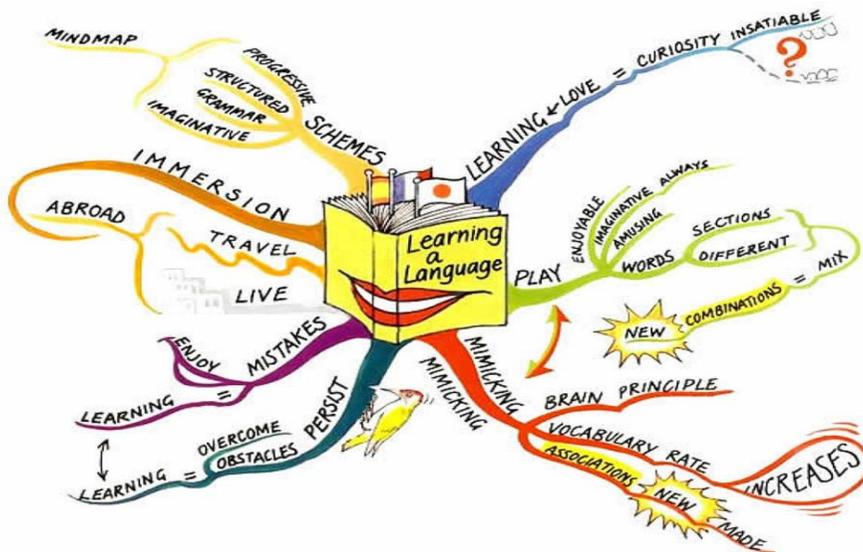


Figure 1. An Example of Mind Mapping Taken from <http://en.wikipedia.org/wiki/n>

outlining technique developed based on the way how the brain works. Hedge (1998, p. 30) states that making a mind map is a strategy for note-making before writing; in other words, scribbling down ideas about a topic and developing those ideas as the mind makes associations. Therefore, it can be said that mind mapping can give students a way to begin writing assignments. Hayes (1992, p. 203) states that through mind mapping students turns random thoughts into patterns that can be written down and developed. Students become increasingly motivated to complete a writing task as their ideas emerge in organized forms.

It can be seen from the figure 1. that in mind mapping, ideas are presented in a radial, graphical, non-linear manner, therefore mind maps encourage a brainstorming approach to planning and organizational tasks freely. Though the branches of a mind map represent hierarchical tree structures, their radial arrangement disrupts the prioritizing of concepts typically associated with hierarchies presented with more linear visual cues. This orientation towards brainstorming encourages users to enumerate and connect concepts without a tendency to begin within a particular conceptual framework.

From above elaboration it can be concluded that a mind map is a

diagram used to represent words, ideas, tasks, or other items linked to and arranged radially around a central key word or idea. It uses not only verbal description but also picture and symbol (Deporter, 2005, p. 152). Students' cognitive development is needed before the teacher starts to expect the students to use mind mapping. According to Piaget theory of cognitive development, junior high school students attain the formal-operational stage; this is a stage where they can think about abstract ideas.

In addition, mind maps are used to generate, visualize, structure, and classify ideas, and as an aid in study, organization, problem solving, decision making, and writing. In addition to teaching technique, another important aspect related to learning outcome is intelligence. Microsoft® Encarta® 2008 states the core meaning of intelligence as having the ability to learn and understand easily. Wechsler and Binet, the founders of two well acknowledged intelligence tests, have other definitions of intelligence. Binet (as cited in Whittaker, 1970, p. 438) stated that intelligence is an overall ability of human being; it is a general mental ability verbal and non verbal that is complex in character and that intelligence does not qualitatively differ among individuals but it reflects

quantitative differences. Wechsler (as cited in Whittaker, 1970, p. 443) defines intelligence as the aggregate or global capacity of the individual to act purposefully, to think rationally, and to deal effectively with his environment.

Furthermore, Whittaker (1970, p. 444) illustrates two different definitions of intelligence. He stated that layman usually thinks of intelligence as the innate, biological, God-given ability to think or to solve problems, while psychologist, on the other hand, recognizes that the most useful conception of intelligence reflects the individual's intellectual capabilities at any given time where the capabilities reflect both the individual's biological potential and his experiences of training since birth.

Jordan (2006, p. 215) states an identical idea that there are scientists who favor unitary models of intelligence. Those scientists argue that, although there are numerous specific abilities (like language and mathematics), these specific abilities are all related to a general, overarching intelligence. Other scientists favor the existence of more than one intelligence note that different "intelligences" are valued by different cultures. For example, in Western cultures verbal and logical abilities are valued, whereas tribal cultures in Indonesia, for

example, may value the exceptional spatial ability needed for navigation, for identifying one's cattle, or for identifying certain plants needed for medication.

From some definitions above, it can be concluded that intelligence is the general mental ability of individual to think rationally and to adapt himself to new circumstances in the environment. It describes the aspects of verbal intelligence, performance (abstract-visual) intelligence, quantitative ability, and short-term memory. Verbal intelligence is the capacity to understand and reason with language. Performance intelligence is the capacity to understand and apply visual-spatial relationships. Quantitative ability is competence to in understanding and using numerical concepts. Short-term memory is the ability to retain in memory verbal and visual-spatial information presented just before recall is attempted. Referring to the problems faced by students in writing and the advantageous of mind mapping, this study was intended to examine the effectiveness of mind mapping in improving students' writing skill. This is because the organization of the students' written work is unsatisfactory. In addition, the researcher uses mind mapping to increase the students' ability in

organizing their ideas since mind mapping is interconnected with the way how the brain organizes information.

Furthermore, considering the role of IQ in students' learning outcome, the use of mind mapping is also intended to accelerate the fluency of the writing ability of students with low IQ because mind mapping not only demands students to rely on their IQ but also to dig up and use optimally what they already have in their mind. In addition, this study is also intended to understand whether students having high IQ have better score. Three research questions are raised in this study as follows:

1. Is mind mapping technique effective in improving students' writing skill?
2. Do students with high IQ have better writing achievement than students having low IQ?
3. Is there any interaction between teaching techniques and students' IQ?

It is hypothesized in this study that mind mapping technique is effective in improving students' writing skill. It is also hypothesized that students with high IQ have better writing achievement than students having low IQ. Finally, it is hypothesized that there is an

interaction between teaching techniques and students' IQ in teaching writing.

METHOD

Research Setting

The research was conducted in SMPN 1 Prambon Nganjuk which is located on Watudandang Village, Prambon, Nganjuk. This school was chosen because it is the school where the researcher has been teaching English since 2007, therefore there was a bigger chance for the researcher to be permitted to conduct the research. Another reason was that mindmapping technique has never been applied in this school. That was known by the researcher after he conducted the preliminary observation and interviewed some of the teachers in SMP 1 Prambon. .

Research Design

The design of this research is Simple Factorial Design (Sugiyono, 2008, p. 77-79). It aims to study the independent variable, mind-mapping and observe the effect on the dependent variable, writing skill. In this research, there were two groups - experimental group and control group. Based on the result of IQ test that had been conducted at school by a professional IQ test institution, every group was classified into two categories - the

students with high IQ and the ones with low IQ. In the teaching learning process, the materials for both groups are the same. In the experimental group, the students were taught by using mindmapping technique, while in the control group, the students were taught using modeling technique. After the treatment, both groups were given a posttest to measure the improvement of the students' writing skill. The test item was tried out before it was used to test the subject of the research. The tried out was given to a group of students who do not belong to the experimental and control class. The result was scored using a writing scoring rubric. Based on the scoring rubric, the lowest possible score is 34 while the highest possible score is 100. The researcher used an inter rater to reduce the level of subjectivity of the scoring.

Population, Sample, Sampling

The population of this research is taken from the students of the seventh grade of SMPN 1 Prambon Kabupaten Nganjuk in the academic year 2009/2010.

The sample of this research was the students of class VII 8 and VII 9 of SMPN 1 Prambon Nganjuk. This research uses a cluster random sampling to choose the sample of the research. This technique of sampling

was chosen under the following considerations:

- a. It is very difficult to list all the students of a class of the school. However, it would be likely to randomly select a subset of classes.
- b. The population is concentrated in "natural" cluster (classes).
- c. Most of the variation in the population is within groups, not between them.

In brief, from the total population 322 students which are divided into 9 classes, the researcher randomly took 2 classes, one for the experimental class and the other one for the control class. The experimental class consists of 36 students and so does the control class. Therefore, the total number of the sample is 72 students. They were grouped into two classes. One was the experimental class and the other was the control class. The experimental group was class VII 9 while the control group was class VII 8. Every group was classified by the result of IQ test into students with high IQ and students with low IQ.

Data Collecting Techniques

The data needed in this research are the scores of students' IQ and the scores of the students writing. Since the scores of the students' IQ were taken from the result of the IQ test conducted by an independent institution in the

researcher's school, so the researcher only has to prepare a set of writing test. Based on the result of the IQ test, the students from both experimental and control group were classified into students with high IQ and the ones with low IQ.

The set of writing test only consisted of one test item. It is used to collect data related to the students' improvements after the treatment is given to both groups. Before the instrument is used in the real test, there was a try-out on the instrument. The aim of conducting the try-out test is to get information dealing with the characteristics of the test. Best (1981, p.197) indicates that a good test must have several features; two of them are validity and reliability. Since the test item is in the form of a single instruction, the try out was done to note the readability. The try out was done by asking a group of students who are not the subjects of the research; and the test item is readable since most of them state that it can be understood and they can execute the test based on the test item. The test item is as follow: Write down a descriptive text about your own bicycle.

Data Analysis

Before analyzing the data for testing the hypotheses, the researcher

analyzes the normality and the homogeneity of the data. The research data are then analyzed using ANOVA test and Tukey test. The analysis is meant to answer the three research questions raised in the study. Before the data are analyzed using ANOVA test, the data are divided into four groups, they are: (1) A1B1 which is the data of the students having high IQ taught using mind mapping technique, (2) A1B2, the data of the students having low IQ taught using mind mapping technique, (3) A2B1, the data of the students having high IQ taught using modeling technique, and (4) A2B2 is the data of the students having low IQ taught using modeling technique.

RESEARCH FINDINGS AND DISCUSSION

This research is one of the efforts to generate some improvement in teaching writing to the seventh grade students of the junior high school students. It has been discussed in the previous section that mindmapping technique is one of the alternatives to obtain the intention. Three hypotheses were tested in the study using a 2×2 multifactor of analysis of variance, which results are described in Table 1. As seen from Table 1, the coefficient of F_o between columns (teaching

techniques) (6.7955) is higher than F_t (.05) (4.08). Thus, there was a significant difference between teaching techniques, which meant that mind mapping was proved to improve students' writing skills. In other words, the writing score of students in the experimental group was significantly higher than those of the control group. The mean score of students taught using mind mapping technique was 79.15 while that of the control group taught using modeling technique was 76.3. These findings also mean that teaching writing using mindmapping technique to the seventh grade students of SMPN 1 Prambon is more effective than the one using modeling technique.

In addition, with respect to students' IQ, the findings also revealed the expected outcome. The coefficient of F_o between rows (IQ) (42.7704) was higher than F_t (.05) (4.08)., which meant that the difference between high and low IQ was significant. It can be concluded that students having high IQ demonstrated a significantly different result in their learning from the ones having low IQ. The mean score of students having high IQ (81.3) was higher than the one of those having low IQ (74.15). this finding shows that the achievement of teaching writing to the students having high IQ is better than the one to the students having low IQ.

Table 1. The summary of a 2 x 2 multifactor analysis of variance

Source of variance	SS	df	MS	F _o	F _{t(.05)}
Between columns (Teaching Techniques)	81.225	1	81.225	6.7955	4.17
Between rows (IQ)	511.225	1	511.225	42.7704	4.17
Columns by rows (Interaction)	99.225	1	99.225	8.3014	4.17
Between groups	691.675	3	230.55833		
Within groups	430.3	36	11.952778		
Total	1121.975	39			

Furthermore, in terms of the interaction, the coefficient of F_o between rows (the interaction between teaching technique and IQ) (8.3014) was higher than $F_t (.05)$ (4.08). Thus, there was an empirical evidence to conclude that there was an interaction effect between the two variables, the teaching techniques and students' IQ. In this case, the findings indicate that mind mapping technique is more suitable for students with high IQ while modeling technique is more suitable for students with low IQ.

Referring to the above findings, the researcher draws a conclusion that the implementation of mindmapping technique is effective to help in generating and organizing the ideas for writing texts. Writing is usually considered the most difficult skill of English to master. One of the major problems is how to generate ideas and how to organize the ideas well. Heaton (1988, p. 135) stated that writing skills are complex, requiring mastery not

only of grammatical and rhetorical devices but also conceptual and judgmental elements. He also stated that one of the many and varied skills necessary for good writing is treatment of content: the ability to think creatively and develop thoughts and excluding all irrelevant information. To overcome the problem, an outlining strategy in the form of mind mapping is proposed to be applied in teaching writing. The results of this study also support the argument of Hayes (1992, p. 203) that through mind mapping students turn random thoughts into patterns that can be written down and developed. Students become increasingly motivated to complete a writing task as their ideas emerge in organized form. Many students find writing difficult, and they find getting started the most difficult part of writing. Mind mapping reduces the difficulty by giving students an organizing strategy to get them started. In mind mapping, ideas are freely associated and written out without pressure, thus reducing tension

and resistance often associated with writing.

Next, concerning IQ, the findings revealed that the writing achievement of students with high IQ is better than the one of those with low IQ. This finding is not surprising since some studies have found that students with high IQ tend to have better achievement concerning with all educational activities. Jordan (2006, p. 217) for instance states that IQ is related to academic achievement; students with high IQs generally do well in school and those with low IQ scores tend to do poorly. Writing, specifically, has several skills and some of them are hierarchical which means that some skills must be mastered first before a student masters the other ones. Students with high IQ usually will find creative steps to overcome the problems. Jordan (2006, p. 215) implied that intelligence is closely associated with creativity. Therefore, they usually will come up with a certain strategy in dealing with a challenging subject matter. In addition, Aiken (1977, p. 169) stated that children with high IQ have several characteristics, some of them are inquisitive, creative, and strong willed as well as rebellious. That is why students with high IQ sometimes arise with an uncommon way out of a problem. They usually will be more

encouraged to try harder when they face a challenging matter.

On the contrary, students with low IQ face problem with most of the academic processes. Jordan (2006, p. 219) states that students with low IQ usually have learning disabilities, which refer to a number of disorders that may affect the acquisition, organization, retention, understanding and use of verbal or nonverbal information. In relation with writing, Jordan (2006, p. 219) stated that learning disabilities may interfere with the acquisition and use of oral language, reading, written language and mathematics. She gave details that the written language problem is related with the spelling and written expression. Hence, students with low IQ will face great problems when they confront composition writing. The problem is not only great but also complex since before they can fully master the previous materials namely spelling and sentence writing, they have to face composition writing. Considering Scrivener's (1994, p. 255) statement that writing work in the classroom falls on a continuum, the complexity arises because spelling and sentence writing are needed if they want to deal with composition writing. Without mastering the old one, it is almost not possible to deal properly

with the next materials. From other point of view, students with high IQ usually have certain learning strategy; therefore, they have prepared the stages on their own pace to deal with the materials. As a result, students with high IQ have better writing achievement than the ones having low IQ.

Finally, in terms interaction between teaching techniques and students IQ, there is no doubt that teaching techniques as well as students IQ have a very important role in the success of teaching and learning process. In most cases, observing the students in all aspects is necessary before a teacher decides to apply a certain teaching technique in a classroom. IQ is one of the aspects that should be taken into consideration. Inquisitive is one of the characteristics of children with high IQ; therefore they always explore their surrounding and generates new ideas about things (Aiken, 1997, p. 169). Mind mapping technique is one of the best techniques to manage students with this characteristic. Hayes (1992, p. 203) stated that through mind mapping, students turn random thoughts into patterns that can be written down and developed. In other words, the prosperous ideas from the students with high IQ can be managed and

organized properly using mind mapping.

In the implementation, teaching students how to use mind mapping takes about 10 minutes of demonstration time. The procedure is as follows: the teacher begins by writing a nucleus word or phrase (topic/theme) at the centre of the chalkboard and circles it; then asks the students to concentrate on the topic; after two minutes, asks the students one by one to write any words or phrases related to the topic; teacher makes the point that other words and phrases are to be associated with the nucleus word/phrase, and with other words and phrases; teacher may demonstrates free association by saying aloud words and phrases that come to mind and jotting them down rapidly; these words and phrases are all circled and connecting lines are drawn to show how they are associated.

The procedure above is used to introduce the basic design of mind mapping and its application to the students. The steps are used to help the students analyze the ideas and represent them visually. The students will gradually be accustomed to use mind mapping to communicate their ideas. On the next meetings, the students are asked to use the diagram

as a basis to construct a written product/text.

As a matter of fact, mind mapping is not only useful to help students writing a complex composition of a certain type text. It can help with almost any types of texts. It even helps students to draw a grammatical schemata. It also does not merely have to use words and phrases but also pictures, charts, or anything as long as they representing what students have in mind.

In the process of writing, there are several roles of mind mapping. It can arouse motivation to write. After finding a topic, students can start from anywhere and do not have to be afraid of making mistakes. Mind mapping can also get ideas gathered by jotting down anything come up in students' mind. Then, mind mapping can also serve as the planning and outlining. By drawing the associative lines the can plan students' future composition, it is also possible for them to directly give numbers or other signs on the lines or words. In addition, mind mapping is useful in making notes and creating a first draft. In this case, students can choose, sketch the figure of their composition, and then develop their draft. Finally, mind mapping is also useful in revising and editing. Students can easily put side by side their draft

and their mind map, then adding or omitting part of the draft, and even rearranging the draft and obtaining the final product.

The other technique, modeling technique is less appropriate for students with high IQ. Kauchak (1989, p. 37) defined modeling as the tendency of an individual to behave in a way that imitates a behavior or attitude observed in others. Modeling technique is less appropriate because students with high IQ tend to be creative and have new ideas rather than imitating or following others. Their other nature, rebellious, is also not so suitable with the imitative characteristic of the modeling technique.

Modeling technique is more suitable for students with low IQ. Considering the state of the learners, Kauchak (1989, p.40) stated that the more uncertain the learner is the more significant will be the model's effect. Another point of view is that the imitative feature of modeling is inline with the need of low IQ students who need more guidance and plain examples/models (Aiken, 1997, p. 166). In writing, modeling technique is conducted by providing the students not only explicit example of the text type but also the generic structure of the text. By giving explicit examples of the same text type and similar generic

structure several times, the students will acquire a fix structure of the text subconsciously. Therefore, the students will be able to be more focus on mechanical aspects of language such as spelling and punctuation, and also on grammar.

CONCLUSION AND SUGGESTION

Based on the research findings, the conclusion of the study is that mind mapping technique is an effective teaching technique for teaching writing to the seventh grade students of SMPN 1 Prambon Nganjuk. Since mind mapping technique is simple, fun, and arousing students' creativity in generating and organizing their ideas, students are getting more active and more encouraged to study writing and enhance their writing skills. As a result, the students' writing achievement is improved optimally.

Many students find writing difficult, and they find getting started the most difficult part of writing. Mind mapping reduces the difficulty by giving students an organizing strategy to get them started. In mind mapping, ideas are freely associated and written out without pressure, thereby reducing tension and resistance often associated with writing. Although it is one type of outlining methods, the product of the

prewriting activity using mind mapping is notably different from the one using other type of outlining. Unlike conventional outlining, the product of prewriting activity using mind mapping does not follow a rigid fixed linear. In outlining, ideas must be arranged sequentially which is contradictory with the natural way of how brain works, because brain works in a non linear way. The elements of a given mind map are arranged intuitively according to the importance of the concepts, and are classified into groupings, branches, or areas, with the goal of representing semantic or other connections between portions of information. Mind mapping also aid recall of existing memories.

In this case, it is important for teachers to bear in their mind that correct choice of teaching technique can make the teaching and learning process not only run well but also interesting and enjoyable. Enjoyable teaching and learning activities will help students receive the material more effectively and efficiently; it will also makes the teacher more focus on the necessary aspects needed for the class. Mind mapping technique is a technique which will lead students to be more independent; thus it is good to be applied in small classes as well as the big ones. It is simple, fun and arousing

creativity. That is why, it is recommended for teacher to apply it in their class.

Furthermore, future researchers are suggested to conduct a similar research with different population characteristic. It is advised that a replication of this research design using mind mapping as teaching technique as the treatment for teaching writing can be done with some alteration such as different students' condition like students' habit, motivation, or interest.

REFERENCES

- Afifudin. (1988). *Psikologi Anak Usia Sekolah Dasar*. Solo: Harapan Masa.
- Aiken, Lewis. (1997). *Psychological Testing and Assessment*. Pepperdine University: A Viacom Company.
- Allen, Edward David, et al. (1977). *Classroom Techniques: Foreign Languages and English as a Second Language*. Harcourt Brace Jovanovich, publishers.
- Allsop, Jake. (1996). *The Penguin Elementary Picture Composition Book*. London: Penguin Group.
- Baker, Joanna, et al. (2000). *The English Language Teacher's Handbook*. London: Continuum.
- Barkley, Elizabeth F. et al. (2005). *Collaborative Learning Techniques: A Handbook for College Faculty*. USA: Jossey-Bass.
- Bartz, Albert E. (1976). *Basic Statistical Concepts in Education and the Behavioral Sciences*. Burgess Publishing Company.
- Best, John W. (1981). *Research in Education*. Prentice Hall, Inc.
- Brown, H, Douglas. (2001). *Teaching by Principles, an Interactive Approach to Language Pedagogy*. New York: Addison Wesley Longman.
- Buzan, Tony. (1989). *Use Both Sides of Your Brain*. New York: Penguin Books.
- Byrne, Donn. (1997). *Teaching Writing Skills*. New York: Longman, Inc.
- B.Y. Cahyono, (2001). *Second Language Writing and Rhetoric research Studies in the Indonesian Context*. State University of Malang Press.
- Dalyono. (2001). *Psikologi Pendidikan*. Jakarta: Rineka Cipta.
- DePorter and Hernacki. (1992). *Quantum Learning*. New York: Dell Publishing.
- Doff, Adrian. (1988). *Teach English*. Cambridge University Press.

- Ewald, Helen. Rothschild.(1983). *Writing as Process: Invention and Convention*. New York: Bell and Howell Company.
- Freeman, Diane Larsen. (2000). *Techniques and Principles in Language Teaching*. Oxford University Press.
- Gardner, Howard. (1999). *Intelligence Reframe: Multiple Intelligences for the 21st Century*. New York: Basic Books.
- Harmer, Jeremy. (1991). *The Practice of English Language Teaching*. London: Longman Group Ltd.
- Hayes, David A. (1992). *A Sourcebook of interactive Methods for teaching with text*. United States of America.
- Heaton, J.B. (1988). *Writing English Language Tests*. New York: Longman, Inc.
- Hedge, Tricia. (1988). *Writing: Resource Books for Teachers*. Oxford University Press.
- Huckins, Thomas N. (1991). *Technical Writing and Professional Communication for Nonnative Speakers of English*. Singapore: Mc Graw-Hill.
- Hughes, Arthur. (1990). *Testing for Language Teachers*. Cambridge University Press.
- Jarolimek, John and Foster, D.Clifford. *Teaching and Learning in the Elementary School*. New York: Macmilan Publishing Co., Inc.
- Jordan, Elizabeth and Porath, Marion. (2006). *Educational Psychology: A Problem-Based Approach*. New York: Pearson Education, Inc.
- Kanar, C. (1998). *The Confident Writer*. New York: Houghton Mifflin Company.
- Kauchak, Donald P. (1989). *Learning and Teaching*. Boston: Allyn and Bacon.
- Littlewood, William. (1981). *Communicative Language Teaching*. Cambridge University
- Matthews, Alan et al. (1985). *At the Chalkface: Practical Techniques in Language Teaching*. London: Edward Arnold Ltd.
- Nunan, David. (2001). *Research Methods in Language Learning*. Cambridge University Press.
- Oller, Jhon W, Jr. (1979). *Language Tests at School: A Pragmatic Approach*. London: Longman Group Ltd.
- Taufiq Pasiak. (2002). *Revolusi IQ/EQ/SQ: Antara Neurosinds dan Al-Quran*. Bandung: Mizan.

- Raimes, Ann. (1983). *Techniques in Teaching Writing*. Oxford University Press.
- Richards, Jack C. et al. (2001). *Approaches and Methods in Language Teaching*. Cambridge University Press.
- Yatim Riyanto. (2005). *Paradigma Pembelajaran*. Unesa University Press.
- Richards, J.C. et al. (1977). *Guided Writing Through Pictures*. Oxford University Press.
- Scrivener, Jim. (1994). *Learning teaching: A guidebook for English Language Teachers*. Macmillan Heinemann.
- Sugiyono. (2008). *Metode Penelitian Kuantitatif, Kualitatif dan R&D*. Bandung. Penerbit Alfabeta.
- Sunarto and Hartono. (2002). *Perkembangan Peserta Didik*. Rineka Cipta.
- Syamsu Yusuf. (2004). *Psikologi Perkembangan Anak dan Remaja*. Bandung. Remaja Rosdakarya PT.
- Ur, Penny. (1996). *A Course in Language Teaching*. Cambridge University Press.
- Waluyo Sugiharto. (2009). *Using Word Cluster to Improve Students' Writing Ability in Writing Texts (A Classroom Action Research in the Eight Grade of SMP Al Huda Kediri in the Academic Year 2008/2009)*. Surakarta. Thesis. Unpublished.
- Weir, Cyril J. (1988). *Communicative Language Testing*. Prentice Hall Europe.
- Wycoff, Franklin. (1991). *Mindmapping*. New York: The Berkley Publishing Group.
- Yule, George. (1987). *The Study of Language: An Introduction*. Cambridge University Press.