

USING MIND MAPPING TO IMPROVE ARGUMENTATIVE WRITING SCORE OF ELEVENTH GRADERS

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Abstract

This study used a classroom action research design. It aimed at identifying the improvement of argumentative essay scores of eleventh graders of Elyon Christian School Surabaya in the 2013/2014 academic year through mind mapping. Besides that, it was also conducted to describe the process of teaching writing using mind mapping to the eleventh graders. The data was obtained by giving pre-test, cycle process and post-test. The result showed that there were improvements in the students' argumentative essay scores. It can be seen at the average scores of the pre-test (62.5) and post-test (85.5). The research process took six weeks for completion, or twelve classroom meetings. It was also found that the students followed the teaching-learning process well and they showed their interest in the lesson. Based on the analysis, it was concluded that the eleventh graders of Elyon Christian School Surabaya improved their argumentative essay writing score through the mind mapping technique.

Keywords: *Mind Mapping, Argumentative Essay score, Classroom Action Research*

INTRODUCTION

One of the complicated tasks in English lesson experienced by ESL students is writing, since it involves a complex number of cognitive and metacognitive activities such as brainstorming, planning, outlining,

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organizing, drafting, and revising (Hayes, 1981). Besides that, the students' first language affects the learning process of the target language; the learners also have limited vocabularies in English, and the English grammatical implementation is considered to be difficult (Adas 2013:2) and Westwood (2008:3). The multitude of writing genres also perplexes the students'.

Due to the fact that writing is considered to be the most difficult skill, students might face a lot of problems in achieving good scores. Through this research, the author attempts to focus on argumentative essay writing, since most of the eleventh graders of Elyon Christian School Surabaya were unable to produce their argumentative essays properly, which in turn affected their overall English score. The students score average was 60, which was lower than the passing score set by the school of 65. This problem might be influenced by the inability of the students to develop and organize their ideas systematically. However, argumentative essay writing is considered to be a complex and difficult lesson to learn by English as a foreign language (EFL) learners, particularly the eleventh graders of Elyon Christian School Surabaya. Most of the students were not motivated to write it constantly. Eventually, it will be a stressful lesson for them as they need to revise many times before they submit to the teacher.

The above mentioned problem has motivated the researcher to implement technique mind mapping as a prewriting activity in constructing argumentative essays. This technique was selected due to the fact that it has been believed by the researcher that it is an effective technique to enhance both idea development and organization that will assist the improvement of the students' argumentative essay scores.

Buzan (2005: 6) claims that a mind map is a powerful graphic technique which provides a universal key to unlock the potential of the brain. It harnesses the full range of cortical skills – word, image, number, logic, rhythm, color, and spatial awareness – in a single, uniquely powerful manner. Similarly, Kurropu (2002) states that mind mapping is an

expression of radiant thinking, an associative thought process that proceeds from or connects to a central point, and is therefore a natural function of the human mind. It is also a powerful graphic technique that can be applied to improve teaching and learning process, especially writing tasks. Moreover, the mind mapping technique provides an effective approach for promoting better understanding in constructing concepts and ideas. It seems reasonable to offer them opportunities to think about the topic in question. Likewise, mind mapping can maximize brain's ability in associating number with visual qualities (space, image, color) and as the result, the memory will be able to store more facts (Murley 2007).

Boyson (2004) remarks that using Mind Mapping for lesson planning can help teachers identify a logical plan or teaching route and increase recall of the subject matter. This can boost teaching confidence and facilitate the smooth running of thinking. In the same vein, Mento (1990) explains that mind mapping is a powerful cognitive tool which can be used in a variety of ways because of its ability to evoke associative and non-linear thinking. In order to know how much the influence of mind mapping implementation towards the improvement of argumentative essay score related to the subject of the study, this research study was then worth conducting.

Mind Mapping

Mind-mapping is designed to empower both the right and left hemispheres of the brain to increase memory retention and productivity (Buzan, 1993). Mind mapping was initially developed for note-taking and visually representing information in an interesting format without the limits or formality of standard written text (Maier, 2007). Furthermore, Buzan (2003) also says that mind mapping is a primary tool for stimulating ideas which are generated around a central theme and how they are interlinked.

Mind Mapping is a striking combination of imagery, color and visual spatial arrangement, which is proven to significantly improve

information recall, compared to conventional methods of note taking and learning. A study conducted by Farrand, Hussain and Hennessey (2002) showed that mind mapping assisted children recall words more effectively than using lists and improved the long-term memory of factual information. Besides, Mind Mapping can balance the brain, help to organize thoughts, improve the creativity, speed of learning and memory. The pathway to make mind mapping starts in the center of a blank page and turns sideways. It will influence the brain to get free in spreading out all directions and to express more freely and naturally; draw an image in the central of idea as a picture with many descriptions that can simulate the imagination to produce ideas. Moreover, an image is more interesting to maintain a concentration; the use of colors throughout excites the Brain, adds extra vibrancy to produce a creative thinking; connects the main branches to the central image and connect the second- and the third-level branches to the first and second levels, etc. It is because the brain usually works by associating; making the branches curved rather than straight-lined as straight lines is boring to the brain. Therefore, using one key word per line as a key word gives the mind mapping more power and flexibility.

Implementing mind mapping as a prewriting process produces advantages for the students. It can stimulate both the left and right parts of the brain synergistically so that the students are able to enhance their critical thinking, creativity, imagination, etc. Specifically, Buzzan (2007) reveals the advantages of mind mapping as follows: strengthening strategic planning, creative thinking and ability to focus, as well as developing thoughts, identification ability, and memorization.

Writing and Mind mapping Strategy

In relation to the writing method, Alma (2013) explains that mind mapping is a type of pre-writing method of which function is to discover and explore initial ideas about a subject. It may be a useful technique to help students plan and structure their writing projects effectively. Likewise,

Holland (2003) explains that by implementing mind mapping towards writing assignment in the writing lesson will assist students to improve their writing process, such as: structuring, synthesizing, and creating coherence ideas, the quality of their written work can then be well-constructed. Therefore, mind mapping is likely to be one of the powerful writing techniques to assist the students to develop their ideas in the writing process.

Another study was conducted by Saed & AL-Omari (2014) on the effectiveness of a proposed program based on a mind mapping strategy in developing the writing achievement of eleventh grade EFL students in Jordan. It involved 91 female students of the first semester of the academic year 2013/2014 at Sands National Academy, Amman Second Directorate of Education has shown that the students who used mind mapping strategy to organize and summarize information in their draft of writing produced more transformations of ideas in their summaries than the students who did not use this strategy. Mind mapping gives students the opportunity to solidify their ideas before writing. The students' ability to transfer meaning to write summaries improved significantly; they were able to write more complete and well-organized summaries. Warsidi, Arafah & Makka (2014) also identified in their study that the students' writing ability can be improved through the collaboration of mind mapping and organizational pattern. The improved items in writing were contents, organizations, vocabularies and language use. Hence, the use of collaboration between mind mapping and organizational pattern builds the students' positive attitudes because it can motivate and help them to write an essay.

According to Budd (2004) as cited in Jones et al. (2012), mind maps allow students to create a visual image to enhance their learning, thus it can be used as a metacognitive tool that allows them to establish meaningful connections between various ideas. It works well as prewriting technique due to its visual design enables students to see the relationship among the ideas developed and it will motivate them to organize certain

ideas together systematically. Furthermore, mind mapping helps students to think creatively in the writing process as well.

RESEARCH METHODS

The researcher of this study was the writer himself who completed all the actions in planning, explaining, observing and reflecting the implementation of the mind mapping writing technique, focusing on argumentative essay writing. The study was designed as a Classroom Action Research (CAR) by implementing three cycles, with the first and the second cycle consisted of four sessions, and the third cycle consisted of five sessions. Each session consisted of four interconnected activities, namely: *planning*, *acting*, *developing*, and *reflection*.

The data sources of this research study are obtained from some sources, namely tests (pre-test and post-test), exercises, students' reflections, and peer teacher observations.

	P r e	Cycle 1				Cycle 2				Cycle 3			P o s t
	1	2	3	4	5	6	7	8	9	10	11	12	13
Meetings Sources													
Pre-test		X	X	X	X	X	X	X	X	X	X	X	X
Post-test	X	X	X	X	X	X	X	X	X	X	X	X	
Students' reflection	X	X	X		X		X		X		X	X	X

	P r e	Cycle 1			Cycle 2			Cycle 3			P o s t
Peer teacher observation											
Exercises	X	X		X		X		X		X	X

The data analysis of this research study was divided into two parts, qualitative and quantitative. The quantitative data was taken from some classroom activities, namely the pretest scores (the students' original scores without any treatment), argumentative essay exercise scores (the ongoing scoring process to measure the trend of the scores), the post-test scores (the students' final scores after the treatment). It was used to indicate the students' argumentative essays' score improvements of the eleventh graders after being taught using mind mapping. Next, the second part covered the qualitative data taken from the peer teacher observations and students' reflections of the implementation process of the mind mapping writing technique. The results of the observation and reflection activities in the first cycle were used as the inputs for the second cycle. The results of observations and reflections of the second cycle were used as the input to conduct the third cycle.

Research Procedure

The researcher formulated the procedure of the research as (1) selecting a focus, in which the researcher selected the topic for the CAR project; (2) formulating the research questions, the second stage in which the researcher set questions as stated in the statement of the problem; (3) making the plan, in which the researcher planned the research activities relevant to the CAR paradigm such as teaching materials and media,

teaching technique and projects for the students. The plan was conveyed in three cycles. Each of the cycle consisted of three steps, namely carrying out the research plan, observing, and reflecting. First, in the carrying out the research plan, the researcher took the research planning into action. Second, the observation was completed by the researcher by observing the process of implementing the mind mapping writing technique to help improve the students' argumentative essay writing scores. Next, in conducting reflection, the researcher reflected, evaluated and described the impacts of the completed actions, conducted a discussion with the classroom teacher, revised and even modified the plan. Lastly, in the conclusion phase, the researcher concluded by inferring from the research findings.

RESEARCH FINDINGS

The First Cycle

Planning

The researcher prepared the instruments for the teaching and researching, such as the lesson plans, argumentative essay scoring rubric, peer teacher observation sheet, students' reflective journal sheet. In the *first meeting*, the researcher conducted a pre-test to identify the students' argumentative essay scores before they had explanations of mind mapping. In the *second meeting*, the researcher explained about both argumentative essay generic structures and mind mapping learning techniques. The researcher also provided an opportunity to the students to create their own mind mapping based on the topic provided. After the students created the mind mapping chart related to the topic provided, the researcher asked the students to organize and develop all of their ideas revealed through mind mapping into an appropriate paragraph. This activity was to be completed in the next meeting; in the *third meeting* as the first exercise. In the fourth meeting, the researcher distributed the result of the first exercise and gave

feedback towards the previous exercise. By the end, the researcher explained the plan for the next meeting.

Action

A pre-test was firstly conducted to measure the students' real scores on argumentative essay writing before implementing the mind mapping technique. The researcher also explained the theory of mind mapping and argumentative generic structures to the students and asked them to apply the theory of mind mapping and argumentative essay into the exercises. The results of the first cycle were listed below.

No	Students' Name	Pre-test score (August 3 rd , 2015)	1 st Exercise score (August 6 th , 2015)
1	MC	62	67
2	GG	65	68
3	EG	60	68
4	CW	62	68
5	HT	55	58
6	WL	65	68
Total		375	397
Average		62.5	66.2

Observation and Reflection

According to the peer teacher, in *the first* meeting, the researcher had already followed the lesson plan well. Likewise, the students were able to follow and focus on the instructions given. However, the class interaction has been said to be well-engaged between the researcher and students. Nevertheless, due to the fact that it was the first meeting to conduct the pre-test, most of the students were perplexed and nervous to write their thoughts in an argumentative essay. On *the second* meeting, the students' responses were better than in the previous meeting, in the sense that they were willing

to learn and cooperate with the researcher. The lesson plan and mind mapping demonstration were also successfully implemented as the students were able to obtain the procedures. On the *third meeting*, the teacher observation and students' evaluation showed the same results. It was found that the researcher was able to motivate the students to group their thoughts through mind mapping within an argumentative essay even though they were still perplexed in organizing their ideas. *The fourth meeting* was about implementing the new mind mapping technique with a new topic. Here, the students once again found difficulties in developing their ideas. However, they enjoyed the teaching and learning process as they had got a better depiction from the previous meeting. Somehow, they were able to analyze their own thoughts.

The Second Cycle

Planning

The second cycle was conducted in four meetings as well. Through these exercises, the researcher wanted to analyze the students' score improvement. There was not any pre-test in this cycle. Before the second cycle started, the researcher had ensured the preparation. This preparation comprised lesson plan, peer teacher observation, students' reflective journal, paper sheet, and others similar to those in the first cycle.

Action

In this cycle, the researcher did the same sequence of actions as in the first cycle. The researcher maintained the positive results and eliminated all the negative inputs that occurred in the first cycle in order to get a better result from the process of the research itself. In this cycle, the researcher did not do any pre-test, but explained the theories and instructed the students to apply the theories into argumentative essay writing properly. Thus, in all meetings of this second cycle, the researcher reinforced the students' prior knowledge towards the topic through brainstorming

activities such as discussions complied with data support from the sources provided that assisted the students to explore their ideas. During the second cycle activities, the researcher used a peer teaching observation sheet every meeting, and the students' reflective journal for data collection.

The table below shows the result of the second cycle.

No	Students' Name	Pre-test score	1 st Exercise score	2 nd Exercise score	3 rd Exercise score
1	MC	62	67	70	75
2	GG	65	68	75	75
3	EG	60	68	70	75
4	CW	62	68	75	75
5	HT	55	58	68	70
6	WL	65	68	70	74
Total		375	397	428	444
Average		62.5	66.2	71.3	74

Observation and Reflection

Based on the observation' sheet, some inputs can be described as follows: in delivering the instructional materials and directing the students into the exercises, the researcher had become more relaxed, the class' engagement was then improved. It was shown by a good relationship between the researcher and students in the classroom. The students were relaxed in proposing questions, and it was answered by the researcher well,

the improvement of their argumentative essay scores produced the positive input to the researcher and it motivated him to foster it better.

The Third Cycle

Planning

The third cycle was the last cycle of this research and it consisted of five meetings, with the addition of a post-test. The researcher provided all the instruments and materials needed for the teaching and researching. Furthermore, to avoid boredom nuance in the classroom, the students were treated in different ways, but the classroom situations were still conducive. In the meetings, the students were brought to different rooms, such as the library, language lab, music lab, and school chapel.

Action

In the third cycle, the researcher conducted the research process in five meetings. Basically, the process of implementing the mind mapping technique into the argumentative essay writing was a repetition. In each meeting, the researcher provided the peer teacher observation sheet, reflective journal sheet, and the students' post-test as the evaluation tools to help the researcher examine the research process.

The complete results of the third cycle are listed below.

No	Students' Name	Pre-test score	1st Exercise score	2nd Exercise score	3rd Exercise score	4th Exercise score	5th Exercise score	Post-test score
1	MC	62	67	70	75	78	82	85
2	GG	65	68	75	75	80	85	90

No	Students' Name	Pre-test score	1 st Exercise score	2 nd Exercise score	3 rd Exercise score	4 th Exercise score	5 th Exercise score	Post-test score
3	EG	60	68	70	75	77	80	85
4	CW	62	68	75	75	78	85	88
5	HT	55	58	68	70	75	80	85
6	WL	65	68	70	74	75	80	80
Total		375	397	428	444	465	489	513
Average		62.5	66.2	71.3	74	77.17	81.5	85.5

Observation and Reflection

In the third cycle, the observation process was conducted the same way as in the first and second cycle. The researcher had prepared the teaching observation sheet to be completed by the peer teacher. The teaching was executed by the researcher, so that the researcher was able to obtain the input for implementing the mind mapping technique towards the argumentative essay writing. The post test results and reflective journals also assisted the researcher to conclude how the process of mind mapping implementation helped improve the students' ideas development and organization that would also automatically improve the students' argumentative essay writing scores.

Discussion

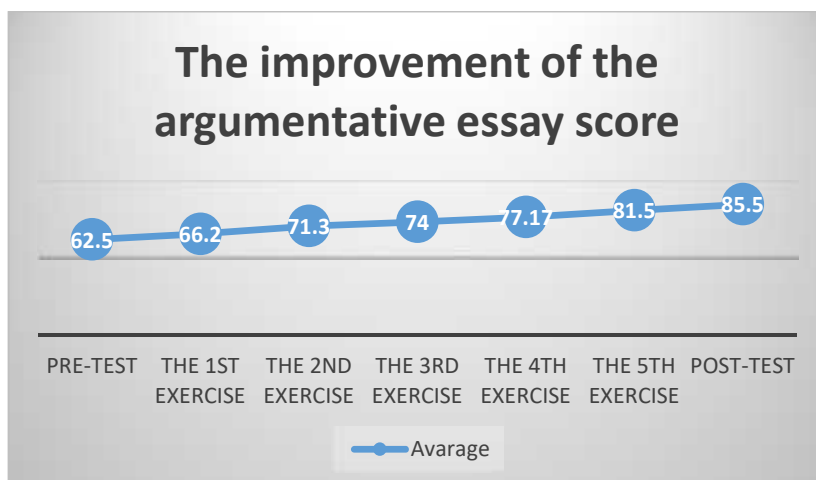
Most of the students have a good attitude and understanding. They can follow the teaching learning process well. It can be concluded that, in general, they are interested in this method. The researcher analyzed the

students' score improvement based on the result of analysis completed in each cycle. The improvement was found as follow:

Percentage of improvement of the argumentative score

	The exercises	Percentage
Pre-test score	The 1 st	5.92
	The 2 nd	14.13
	The 3 rd	18.4
	The 4 th	24
	The 5 th	30.4
	Post-test	36.8

The trend of improvement of the argumentative essay score could be interpreted into the diagram below.



Conclusion

Overall, it can be concluded that the implementation of mind-mapping technique in this research study to improve the eleventh graders' argumentative essay writing scores in Elyon Christian School was successful. The data gathered indicate that mind mapping prewriting technique is able to improve the argumentative essay scores of the eleventh graders in Elyon Christian School. Before the implementation of the mind mapping prewriting technique, the students' score was 62.5 which is below the passing grade of 65.

The process of teaching and learning argumentative essay using a mind mapping method is smoothly completed. Most of the students are enthusiastic to make mind mapping. It can be seen on the results of observation in the class that most of the students feel enjoy and happy in the teaching and learning process. It also can be proven that the students are active to answer questions and create their own essay using mind mapping technique.

By knowing the benefits of mind mapping technique, it is no doubt that this technique is applicable for all ages of students. The visual of mind mapping also helps to raise the students' prior knowledge which can activate their schemata which they develop. Therefore, the teaching and learning of writing can be effectively completed through the mind mapping prewriting technique. Thus, the implementation of mind mapping prewriting technique can also be a good variation for students to learn writing effectively.

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