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The Application of Cluster Mapping Technique in Writing Descriptive Paragraphs

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Abstract

The objective of this study was to examine the effect of using cluster mapping technique to the writing ability of the second-year students of state junior high school (SMPN) 4 Makassar. A quasi-experimental design was adopted in this study. The population of this research was the second year students of SMPN 4 Makassar in the academic year 2018/2019. The researcher used cluster random sampling technique to determine the two classes involved as sample. Class VIII.5 consisting of 36 students was assigned as experimental group and class VIII.6 composed of also 36 students was involved as control group. There were two variables in this research, namely the use of cluster mapping technique as independent variable and students' writing ability as dependent variable. The data were collected from writing tests administered in pretest and posttest of each group. The posttest results demonstrated that the experimental class was significantly better than control class. The posttest mean score of experimental class (70.86) was higher than the control group (65.86), and the value of t-test was higher than the value of t-table ($5.144 > 1.994$). Based on the findings and discussion of the study, it can be concluded that the cluster mapping technique can significantly improve the ability in writing descriptive paragraph of the second-year students of SMPN 4 Makassar.

Keywords: Cluster Mapping Technique, Descriptive, Writing Ability.

Introduction

Information can be obtained from anywhere and with any language including English as a foreign language in our country. Considering the value of English as a language of world information, Indonesian government ratifies it as a compulsory subject in national curriculum.

In English, there are four major skills that have to be paid attention by English learners. These skills are listening, speaking, reading, and writing. All of them have role in English

which can help us to communicate and get information, including writing skills. Writing plays important role in providing new information to readers. According to Klein (1985) writing is an activity of pouring new ideas in the form of symbols so that these can have meanings that are able to be captured by the reader.

However, writing activity seems to be a complex activity since a writer need to pay attention to a number of things in the process of writing to ensure that the ideas, meaning, and information can be easily captured by the readers. In writing process, students often encounter difficulties in prewriting phase, such as how and where to start their paper. Even though they may have many ideas in their head and various information to pour on paper, deciding where to start their writing seems to be a great challenge for students.

In a previous study, Zulkarnain (2011) reported that second year students of SMAN 1 Alla had a problem in accomplishing writing task. Most of them found it difficult to start writing although they had many ideas in their mind. They did not know how to organize them in written form. As a result, they only wrote short paragraphs with poor elaboration in supporting details.

Student's success in writing is also influenced by the teacher's role in the classroom. Teacher's techniques and methods in facilitating supportive learning environment can help overcome the common writing problems that students encounter. Therefore, in this study the researcher presents a prewriting technique that is expected to be useful for teachers and students in teaching and learning writing. This technique may assist students writing especially in pouring out their ideas in a structured manner.

Prewriting is the first step of the writing process and the point at which we discover and explore our initial ideas about the subject. Prewriting helps us to organize our ideas on paper. In this case, the prewriting technique used in this paper is cluster mapping.

Cluster mapping technique became the focus of this research because of important reasons. Firstly, many students found it difficult to discover and organize ideas in writing. The process of writing needs much time while it was in contrast with the time allotted for teaching writing in schools which was limited. It might be not enough for students to practice much in the classroom. Moreover, students were also assigned to know other skills in English. According to Murray (1960), the prewriting process may take 85% of researcher's time, while the writing components may only take 1 % of the researcher's time. The final step in Murray's process was rewriting or revising, which he said may take the remaining 14% of time.

Further, Murray (1960) stated that the prewriting process may take 85% of researcher's time, while the writing components may only take 1 % of the researcher's time. The final step in Murray's process was rewriting or revising, which he said may take the remaining 14% of time.

Based on the explanation above, the researcher wanted to know whether the use of cluster mapping technique in teaching descriptive paragraph can increase students' writing ability especially for the second-year students of SMPN 4 Makassar.

Literature Review

To date, several studies have highlighted some techniques that are associated with writing ability. In this respect, Magdalena (2001) investigated the role of brainstorming technique in assisting writing process of the third semester students of faculty of language and arts in Makassar State University. She found that this technique had a positive effect on students' ability in generating writing ideas. Besides, Vivi (2011) in her research investigated the use of mind mapping to improve students' writing ability at FKIP UNISMA. She found that the application of mind mapping techniques was indicated successful in helping students gather

ideas about the topics they wanted to write. Students' responses to the application of mind mapping techniques in assisting their writing were positive.

In addition, Wirman (2013) examined the effectiveness of clustering technique to teach writing viewed from students' linguistic intelligence. He concluded that the cluster technique was effective to be used in teaching writing based on his study result which indicates an increasing achievement in students' linguistic intelligence.

Overall, these studies highlight some techniques that can help increase students' writing ability. In the present study, the researcher employed a prewriting technique namely cluster mapping.

In this connection, Wirman (2013) emphasized that 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 the messaging in writing, it provides a number of advantages. Clustering provides:

- (1) Reduced single points of failure functionality.
- (2) Ability to perform maintenance and upgrades with limited downtime.

In addition, since it is one of the brainstorming techniques, it is called the natural way in developing the writing. It is only the surface of technique in teaching writing, so it seems to be not a good technique to use in writing an essay with long paragraphs. Sometimes the learners are confused of how to use it because they do not know where to start writing. Besides, the learners employ this technique under pressure to make it effective (Wirman, 2013).

Method

This study employed an applied quasi-experimental design with non-equivalent control groups design because there was a possibility for the researcher to randomize the groups as the sample in this research (Gay, 2006:257). Based on the statement above, the participants were broken down into two classes namely experimental and control classes. The experimental class received a treatment using cluster mapping technique while the control one was treated using the conventional teaching way. The design is illustrated as follows:

<u>E</u>	<u>01</u>	<u>XI</u>	<u>02</u>
C	01	X2	02

The population of this research was the second-year students of SMPN 4 Makassar in academic year 2018/2019. There were 9 classes with total population of 315 students. Employing cluster random sampling, two classes were taken as the sample of this investigation. Class VIII.5 which consisted of 36 students were assigned as experimental group while class VIII.6 which was also composed of 36 students was involved as control group.

The data collection process consists of three phases i.e. pretest, treatment, and posttest. Firstly, the data collected from pretest were analyzed to reveal students' ability in writing a descriptive paragraph prior to treatment. Secondly, the researcher gave a treatment to students from both classes by teaching them writing using differing prewriting techniques for six meetings in the classrooms. Experimental class practiced writing using cluster mapping technique while control class used free writing technique. Finally, the students from both classes were given posttest to examine their ability in writing descriptive paragraph after receiving different treatments.

Findings

The achievement of students' ability in writing can be examined from the pretest and posttest results. The pre-test result indicated that students' ability both in experimental and control

classes were still poor in writing descriptive paragraph. The pretest score of two classes did not differ significantly. It means that both experimental and control classes had equal writing ability before being given treatment. Almost all of them did not know how to write well and how to find out many ideas. For example, most of students' writing in pre-test were only constructed of some short sentences in poor organization since these students had very limited knowledge in terms of organizing ideas into a paragraph.

Based on the posttest result, students from both experimental and control classes outperformed their previous gains in the pretest results. It indicates that the treatment for both classes positively impact their writing ability improvement. However, this study shows that the experimental group significantly performed better than the control one.

In the treatment phase, the researcher applied a prewriting technique namely cluster mapping technique to the experimental class in order to help foster the students' writing ability. As a result, the students in experimental group achieves greater growth in writing after employing this technique. During the treatment process, the researcher witnessed that the experimental class students could find out more detailed ideas easier as they drew circles of ideas around the topic that help them clearly show relations among them. In relation to this, Hogue (1996) argues that clustering activities like listing, writing in circles or bubbles constitute to ways to stimulate and develop ideas in writing a topic. Moreover, this technique is might be very useful for writers who prefer a visual approach to ideas.

During the treatment, the researcher gave treatments to the students six times with different topics. The experimental class were treated using cluster mapping technique while the control group were instructed to utilize free writing technique. In all treatment, the researcher explained the material and what students should accomplish later. Students were assigned to write a descriptive text based on the predetermined topics given each meeting. The experimental class were asked to write their ideas as much as possible, make groups of word, construct sentences, arrange a paragraph and do editing.

In the first half of treatment period, students were given topics i.e. Bantimurung (in the first meeting), Losari Beach (in the second meeting) and Our School (in the third meeting). They were instructed to collaboratively work in group and write descriptive texts so they could work together and share their knowledge to each other. In the remaining treatment period, students were assigned to work individually so they could be independent in doing writing tasks. Three differing topics i.e. Cat, Favorite Teacher, and My Family were given respectively in this three last meetings. In every treatment, the experimental class were asked to generate ideas as much as possible, make group of words, construct sentences, arrange a paragraph, and finally do editing.

The result of the experimental class students' tasks in treatment activity showed that they achieved greater gain in group writing (.001) compared to independent writing (.002) which level of significance was 0.05.

After implementing cluster mapping technique to the experimental class and employing free writing technique to the control class, the researcher conducted a post test. The posttest outcome revealed that the students' writing ability improved. This result supports the previous research conducted by Wirman (2013) which examines the effectiveness of clustering technique in teaching writing viewed from students' linguistic intelligence. His finding that shows an increasing achievement in students' linguistic intelligence in SMA 1 Madapangga indicates that the cluster technique was effective in teaching writing.

In the present research, the experimental class obtained the mean score of 57.72 with standard deviation 4.41 in their pretest and attained the mean score of 70.86 with standard deviation 4.24 in their posttest. In the control class, students' mean score in pretest was 60.89 with standard deviation 5.28 and the students' mean score in posttest was 65.86 with standard deviation 3.96. Comparing these results, it can be seen that the students achieved greater mean

score in the posttest than in the pretest. Therefore, it indicates that cluster mapping technique can improve the students' writing ability.

Beside of the significant difference between the pre-test and post-test results, this study also measured students' development in some components of writing such as content, organization, vocabulary, mechanics, and grammar. The results of the t-test showed that students writing content in the pretest was (-2.44) and increased to (6.05) in the posttest. Besides, students' writing organization also escalates to (2.76) in posttest from only (-4.41) in the pretest. Similarly, the students' growth in vocabulary was also significant according to the posttest result (4.38) that outnumber the pretest results (-2.56). In addition, students' mechanics also improved from (-0.27) in the pretest to (2.8) in the posttest. However, the students did not demonstrate significant grammatical enhancement as the t-test shows a minor increase from (-1.18) in the pretest to only (0.28) in the posttest.

The result of the t-test showed that student's ability in all components of writing were increasing significantly except grammar. In applying the cluster mapping technique, grammar was not deeply taught since this writing component requires much longer time while the time allotment for each treatment was limited. In general, the students writing result from the whole components in pre-test and post-test increased. It was apparent that the result of the students' t-test (5.144) was bigger than t-table (1.994).

From the result of data analysis, it can be seen that students achieve writing improvement after treatment. In this case, experimental class were able to generate ideas more easily in writing a paragraph because they drew circles to interconnect ideas which was helpful to find out relations among ideas. In contrast, control class experienced difficulties to discover ideas because the technique they that used simply guided them to write what was on their mind. Therefore, it can be concluded that there was a significant difference on writing ability improvement between students who were taught by using cluster mapping technique and the ones who were taught using free writing technique.

The table below shows that the use of cluster mapping technique can improve students' writing ability. The experimental class gained greater writing ability growth compared to control group which is shown from the posttest result of experimental class that was higher than that of the control class. It is also strengthened by experimental class students' significant improvement in components of writing namely content, organization, vocabulary, and mechanic. However, grammar was the only writing components showing no significant improvement due to the insufficient time to teach it.

The composite of all data findings

Components of writing	Composite	Experimental	Control	T-test	Significance
Content	PreTest	57.72	60.89	-2.75	Not significant 0.05
	PostTest	70.86	65.86	5.14	Significant 0.05
	Gain score	13.14	4.97	-	-
	PreTest	17.75	18.53	-2.44	Not significant 0.05
	PostTest	21.69	19.47	6.05	Significant 0.05
	Gain score	3.94	0.94	-	-
Organization	PreTest	12.33	13.61	-4.41	Not significant 0.05
	PostTest	15.50	14.92	2.76	Significant 0.05
	Gain score	3.17	1.31	-	-
Vocabulary	PreTest	12.53	13.22	-2.56	Not significant 0.05
	PostTest	15.25	14.33	4.38	Significant 0.05
	Gain score	2.72	1.11	-	-
Grammar	PreTest	12.39	12.78	-1.18	Not significant 0.05
	PostTest	15.17	14.14	0.28	Not significant 0.05
	Gain score	2.78	1.36	-	-
Mechanics	PreTest	2.72	2.75	-0.27	Not significant 0.05
	PostTest	3.25	3.00	2.80	Significant 0.05
	Gain score	0.53	0.25	-	-

Discussion

The main goal of the present study was to assess the impact of the application of cluster mapping on writing ability of the second-year students of SMPN 4 Makassar. This study addresses a gap in the existing situation in which students were still lacking writing ability which was indicated from the pretest result signaling students inability in writing descriptive paragraph. The components of writing proficiency that were studied include content, organization, vocabulary, grammar, and mechanics.

The result of the study showed that the application of cluster mapping positively affected the writing ability the second-year students of SMPN 4 Makassar. Students in experimental class showed significant growth in descriptive writing ability compared to the control class. Moreover, significant growth was shown in experimental class for multiple measures of writing components (i.e., content, organization, vocabulary, mechanics).

The students' writing improvement was witnessed during treatment process. The researcher saw that the students could find out more detailed ideas easier since cluster mapping technique requires students to draw circles around ideas to show relation between ideas in a specific and clear way. As previously stated by Hogue (1996), clustering activity like listing is another way to get ideas in writing a topic and writing ideas in circle or bubbles around the topic will stimulate students to develop their ideas. It might be very useful to writers who prefer a visual approach to ideas.

The pretest score of two classes did not differ significantly. It means that both experimental and control class had an equal writing proficiency before receiving treatments. Almost all of them did not know how to write well, and how find out many ideas. For example, in most of students' writing in pre-test, they just wrote some short sentences because they could not organize their ideas into a paragraph. Thus, based on the problem above, the researcher gave treatments to the students six times with different topic. In all treatment, the researcher explained the materials and what students should accomplish later. Students were assigned to write a descriptive text based on the predetermined topics given each meeting. In every treatment for experimental class, the students were asked to write their ideas as much as possible, make a group of words, construct sentences, arrange paragraphs and edit the first draft.

In the first half of treatment period, students were given different topics each meeting i.e. Bantimurung, Losari Beach and Our School, respectively. They were instructed to work in group and to collaboratively write descriptive texts. In the remaining treatment period, students were assigned to work individually so they could be independent in writing tasks. Three differing topics i.e. Cat, Favorite Teacher, and My Family were given, respectively. The result of the experimental class students' tasks in treatment activity showed that the students obtained a higher achievement in group writing (.001) compared to independent writing (.002) which level of significance was 0.05.

After the treatment, the researcher conducted a post test. The posttest outcome indicates improvement in students' writing. This result supported the previous research conducted by Wirman (2013) who examined the effectiveness of clustering technique in teaching writing viewed from students' linguistic intelligence and reveals that an increasing achievement in students' linguistic intelligence in SMA 1 Madapangga was affected by the application of cluster technique.

In the present research, the experimental class gained the mean score of 57.72 with standard deviation 4.41 in their pretest and obtained the mean score of 70.86 with standard deviation 4.24 in their posttest. In the control class, students' mean score in pretest was 60.89 with standard deviation 5.28 and the students' mean score in posttest was 65.86 with standard deviation 3.96. Comparing these results, it can be seen that students gained greater mean score in the posttest than in the pretest. Therefore, it indicates that cluster mapping technique can improve the students' writing ability.

Beside of the difference between the pre-test and post-test results that was significant enough, this study also measured students' development in some components of writing such as content, organization, vocabulary, mechanics, and grammar. The results of the t-test show that students writing content in the pretest was (-2.44) and increased to (6.05) in the posttest. Besides, students' writing organization also escalates to (2.76) in posttest from only (-4.41) in the pretest. Similarly, the students' growth in vocabulary was also significant according to the posttest result (4.38) that outnumber the pretest results (-2.56). Students mechanics also improved from (-0.27) in the pretest to (2.8) in the posttest. However, students did not demonstrate significant grammatical enhancement as the t-test shows a minor increase from (-1.18) in the pretest to only (0.28) in the posttest.

The result of the t-test showed that students' ability in all components of writing were increasing significantly except grammar. In applying the cluster mapping technique, grammar was not deeply taught since this writing component requires much time while the time allotment provided for each treatment was limited. In general, the students writing result from the whole components in pre-test and post-test increased. It was apparent that the result of the students' t-test (5.144) was bigger than t-table (1.994).

From the result of statistical data analysis, it can be concluded that the improvement in students' writing ability in the post test was affected the treatment given to them. In this case,

experimental class were able to generate ideas easily in writing a paragraph because they draw circles to interconnect ideas which is helpful to find out relations among ideas. In contrast, control class experienced difficulties to discover ideas because the technique they use guides them to simply write what was on their mind. Therefore, it can be concluded that there was a significant difference on writing ability improvement between students who were taught by using cluster mapping technique and the ones who were taught using free writing technique.

Conclusion and Suggestions

Based on the results of data analysis and the discussion of the result in the previous section, the researcher concludes that the use of cluster mapping technique can improve the writing ability of the second-year students of SMPN 4 Makassar. It is shown from the t-test value (5.144) that was greater than the t-table (1.994). The researcher also concludes that there was a significant difference between the post-test results of the experimental and control classes. In other words, cluster mapping technique can improve students' writing ability because it is comprised of effective activities to guide the students in writing process.

Considering the findings of this research, the researcher offers some suggestions. Firstly, it is suggested to English teachers to be more creative and to enrich their teaching materials. The cluster mapping technique can be applied to guide students in generating and organizing their ideas effectively. So that the students can be attracted and motivated in writing. Secondly, based on researcher's findings, the cluster mapping technique can improve students' writing ability. The writing technique helped the students write their ideas as much as possible in circles, make groups of word, construct sentences, arrange a paragraph, and finally do editing. In this way, the students can write fluently and structurally.

Moreover, in the research, cluster mapping technique was applied to write a descriptive paragraph. Therefore, the next researcher is expected to investigate the same technique with different type of paragraph. Fourthly, considering the limited time allotment in the classroom, the teacher should know what the most effective technique in teaching writing is, especially in guiding students generating and organizing their ideas. Lastly, this research focused on all components in writing including content, organization, vocabulary, grammar, and mechanics. All of these components improved significantly in experimental class students' results except grammar. Therefore, the next researcher is expected to increase all components in writing totally.

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