

Digital Mind Mapping as a Technique in Teaching Writing: The Use and Response

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Received: 30 June 2022

Accepted: 18 July 2022

Published: 19 July 2022

Abstract

Writing is the study of how a sentence is arranged or the connection between two parts of a piece of writing. In my previous study, students who got difficulty in writing because they cannot write their idea on paper, they stuck in organizing thoughts, using sequence and logic, and expressing their ideas. This research belonged to descriptive research. The instruments used in the study were closed and open-ended questionnaires, analysis of learners' papers, and observations. Based on the result of the use of digital mind mapping, it showed that students who applied digital mind mapping got more creative, and find a simplify difficult concept in using their mind to think about what the important information should be in the writing a technique used in starting the writing and planning of writing. Based on the students' responses, almost all participants agree that digital mind mapping was appropriate as one of the techniques in writing class, especially for computer science majors. Lastly, the proper way conducted in writing can help learners easier understand additional data for a particular reason, for example, graphs and pictures.

Keywords: Mind mapping; writing paragraph; descriptive text.

To cite this article: Elhawwa, T. (2022). Digital Mind Mapping as a Technique in Teaching Writing. *SALEE: Study of Applied Linguistics and English Education*, 3(2), 214-229. <https://doi.org/10.35961/salee.v3i2.515>

DOI: 10.35961/salee.v3i2.515

1. Introduction

In English language learning, writing is one of the complex skills that the students should learn because they learn how a sentence is arranged or the connection between two parts of a piece of writing. From my point of view, writing is the activity to produce skills effectively. So, it could be said that writing is the most challenging skill because it involves many skills to decide what to say and how the writer puts the ideas in written form, especially in writing descriptive text. For some learners, writing a descriptive paragraph is not easy and

complicated. For many years, digital mind mapping has been a technique that can be used as a tool to help students write. Maximize the brain's ability to order visual qualities (Murley, 2007), organize ideas, and represent words, and tasks, in the main keyword by branches (Buzan, 2006). Here, by using their theories above, hopefully, mind mapping can stimulate and show students' ideas onto paper.

In a descriptive paragraph, there is a topic sentence consisting of a statement of the main idea or one sentence. The body of the descriptive paragraph consists of elements of the topic, arranged in spatial order, and supported details with one sentence as an overview of the topic. In the concluding section, it should recover the topic and the details of the main idea. The generic structure has two kinds of structure, namely: identification (the topic that the writer will describe; it can be a thing, person, place, and even phenomenon) and description (the detailed information about the topic; it can be characteristics, colors, shape, parts, qualities, etc.). The vital role of generic structure can help readers quickly understand the structure's parts.

Mind mapping is actually about using our mind to think about what the important information should be in the writing. Mind mapping is a technique used in starting writing; it can be said to be a planning of writing and for individual note-taking can be turned into a more enjoyable activity during the class by the students. There are many advantages of applying the mind mapping technique in the learning process, such as brainstorming, summarizing information, note-taking, consolidating data from different research sources, thinking through complex problems, and presenting information in a format that shows the overall structure of your subject, studying, retaining and recall information, promotes meaningful learning instead of memorization.

Mind mapping is a powerful tool for assisting any form of writing. It can be used by anyone who wants to remember things easily, in a more organized way, to simplify a difficult concept. In some studies, there was found that most participants of the research attributed their improvement in writing to the use of mind mapping. The written works produced by using mind mapping have more relevant details, are better organized and connected, and raise students' performance at all levels of ability as they become more efficient in generating and managing ideas for writing. In line with these above, there is a positive response toward using the mind mapping technique as a pre-writing activity.

Based on my preliminary study, students had difficulty writing because they could not write their ideas on paper. They are stuck in organizing thoughts, using sequence and logic, and expressing their ideas. I choose the descriptive paragraph because this paragraph is easier to conduct and collaborate with mind mapping. Another reason is that mind mapping is one of the trusted techniques in the pre-writing activity. Based on the explanation above, the research goals are to (a) investigate the use of digital mind mapping in teaching writing

descriptive paragraphs and (b) find out the learners' responses toward the use of digital mind mapping as a technique in writing class.

2. Method

The design in the study was descriptive research; according to Ary (2010), it asks questions about the nature, incidence, or distribution of variables; it involves describing but not manipulating variables. Since the study focuses on investigating and finding out the students' responses toward the use of digital mind mapping technique in writing class. The qualitative data were needed to further explain the learners' responses to using digital mind mapping. The quantitative data were required to present their response to using the digital mind mapping technique as pre-writing activity by using percentages. The instruments used in the study were closed and open-ended questionnaires, analysis of learners' papers, and observations.

This research was conducted during the Computer Science 2020/2021 academic year at Central Kalimantan, Indonesia. The subjects of the study were first-semester students. Meanwhile, the study's object was a descriptive paragraph written by students. In one classroom, the participants were 30 EFL learners (male and female).

The writing lecturer divided the research procedures into pre-teaching, whilst-teaching, and post-teaching. This activity did by students and the lecturer. Here is the planning of the lecturer and students on practicing digital mind mapping in L2 writing.

Table 1. the planning of lecturer and students on practicing digital mind mapping in L2 writing.

No	Aspects	Lecturer's activity	Students' activity
1	Pre-writing	a. Facilitating the students to prepare attending paragraph class; b. Providing several topics to be discussed; c. Assigning students to choose the appropriate topic based on their interest; d. Assigning students to brainstorm the topic; e. Assigning students to make an outline before starting to write a descriptive paragraph.	a. Preparing to attend L2 paragraph class; b. Observing several topics given by the lecturer to be selected; c. Selecting the appropriate topic based on their interest; d. Brainstorming the topic; e. Making an outline before starting to write a descriptive paragraph;

No	Aspects	Lecturer's activity	Students' activity
2	Whilst writing	a. Assigning students to write and develop the selected idea by using digital mind mapping; b. Assigning students to submit the draft c. Assigning students to revise the draft by using digital mind mapping;	a. Developing the selected idea by using digital mind mapping; b. Writing the draft; c. Submitting the draft to the lecturer d. Paying attention to the lecturer's explanation e. Revising the draft by using digital mind mapping.
3	Post writing	a. Giving suggestions or comments on students' draft by using digital mind mapping; b. Asking the students to report their progress in writing descriptive paragraph; c. Evaluating the students' products in descriptive paragraph writing; d. Giving opportunity to open question- answer session; e. Making reflection to conclude the class.	a. Editing the draft based on the lecturer's comments and suggestions; b. Reporting their progress in writing a descriptive paragraph; c. Rewriting the draft based on the lecturer's comments and suggestions; d. Making final revision of the draft; e. Submitting the final draft of descriptive paragraph to the lecturer; f. Raising questions related to the material; g. Reflecting the learning process.

The data were obtained in three class meetings. All participants were assigned to write descriptive paragraph. To answer the research questions about the learners' responses of digital mind mapping, the researcher distributed the questionnaire to the participants on Monday, November 23, 2020. The questionnaire was designed into two parts. The first part was to get demographical data, namely name, age, gender, and email contact. The second part was to get data about the learners' responses by using digital mind mapping in their writing. It consisted of 11 statements in the 4-point Likert Scale format. The data of this study were in the form percentage, words, sentences, or phrases to describe the learners' responses in using digital mind mapping. The data were in both qualitative and quantitative ones. The

data of quantitative dealt with the percentage of the learners' responses in using digital mind mapping. Meanwhile, the qualitative data dealt with a further explanation of the learners' responses in using digital mind mapping.

3. Results

3.1. The investigating of using digital mind mapping

To respond the first research question about investigating the use of digital mind mapping in teaching writing descriptive paragraph, the researcher used and observed the document writing. The data for the study emerged from documentation and observation about lecturer's practice to apply digital mind mapping. Here, the lecturer implemented the plan to the first semester students of class A. The first meeting was focused on training writing descriptive paragraph. This covered introduction to writing descriptive paragraph and the steps to write a descriptive paragraph. The meeting was done on Monday, November 23, 2020 at Zoom meeting. The time allocated for this meeting was 100 minutes, starting from 10.00-11.40. In this meeting, the students were expected to know the theory, steps, and practice in writing descriptive paragraph.

The second meeting was focused on training on digital mind mapping. This covered the procedure to correct their paragraph. Here, the lecturer gave the model of digital mind mapping. First, she identified the students' paragraph and then demonstrated the procedure of using digital mind mapping. In this meeting, the students were expected to know the concept and the step to use digital mind mapping in paragraph.

The third meeting was focused on practicing digital mind mapping. This covered the practice of digital mind mapping and the way and steps students to apply and write in a descriptive paragraph.

To practice digital mind mapping, first the lecturer assigned the participants to write the composition and their digital mind mapping. Then, the participants submitted it to the lecturer. Next, the lecturer gave back the composition to the learners and assigned each learner to revise the lack of their paragraph. Then, each learner read the paragraph line by line from the beginning and revised it. After correcting the draft, each learner should submit the paragraph to the lecturer. The lecturer checked the learners' assignments. It was found that in practicing it; the lecturer gave example to use digital mind mapping in the composition.

Here, all of the participants got steps to make a digital mind mapping, for example; start in the center of the landscape blank paper, make a central image that represents the topic, use multiple colors, the connected lines by using curve lines, use a keyword in each line, and images. Based on the result on investigating it, students who applied digital mind mapping got more creative, and find a simple concept. Considering the results, the

researcher done the interview and open-close ended questionnaire and the results showed that all of the participants had a positive response in practicing digital mind mapping.

3.2. the students' responses toward digital mind mapping

To respond the second research question about finding out the students' responses toward the use of digital mind mapping as a technique in writing class, I used and observed the questionnaire students'. The data for the questionnaire focused on their responses about digital mind mapping. Here, the lecturer divided criteria and statement in getting students' response.

Table 2. the students' response on digital mind mapping

No	Statements	Response				Total
		SA	A	SD	D	
1	<i>Mind mapping can help me to identify my ideas before I write.</i>	70 % 21 students	20 % 6 students	0 % 0 student	10 % 3 students	100 %
2	<i>I can find out the important thing that written on my writing.</i>	90 % 27 students	10 % 3 students	0 % 0 student	0 % 0 student	100 %
3	<i>Mind mapping is significance to begin the descriptive writing so that it is described orderly.</i>	50 % 15 students	50 % 15 students	0 % 0 student	0 % 0 student	100 %
4	<i>Mind mapping can limit my idea so that I do not write out of the topic.</i>	80 % 24 students	10 % 3 students	0 % 0 student	10 % 3 students	100 %
5	<i>I can easily write some sentences using the words in the branch.</i>	60 % 18 students	30 % 9 students	10 % 3 students	0 % 0 students	100 %
6	<i>Mind mapping technique is successfully success to help students in improving their writing skill.</i>	50 % 15 students	20 % 6 students	10 % 3 students	20 % 6 students	100 %
7	<i>Mind mapping can be used by anyone who wants to remember things easily.</i>	60 % 18 students	30 % 9 students	10 % 3 students	0 % 0 student	100 %
8	<i>Mind mapping can be used by anyone who wants to organize way.</i>	50 % 15 students	20 % 6 students	10 % 3 students	20 % 6 students	100 %
9	<i>Mind mapping can be used by anyone who</i>	60 % 9 students	30 % 9 students	10 % 3 students	0 % 0 student	100 %

No	Statements	Response SA	A	SD	D	Total
	wants to simplify a difficult concept.	18 students				
10	Mind mapping have more relevant details and better organized and connected.	90 % 27 students	10 % 3 students	0 % 0 student	0 % 0 student	100 %
11	Mind mapping raised the performance of students all level of ability as they became more efficient in generating and organizing ideas for writing.	80 % 24 students	10 % 3 students	0 % 0 student	10 % 3 students	100 %

From the table 2 above, it demonstrated the participants' opinions on using mind mapping in their writing. Dealing with the statement: "mind mapping can help me to identify my ideas before I write." Respondents gave some opinions, as illustrated in Figure 1:

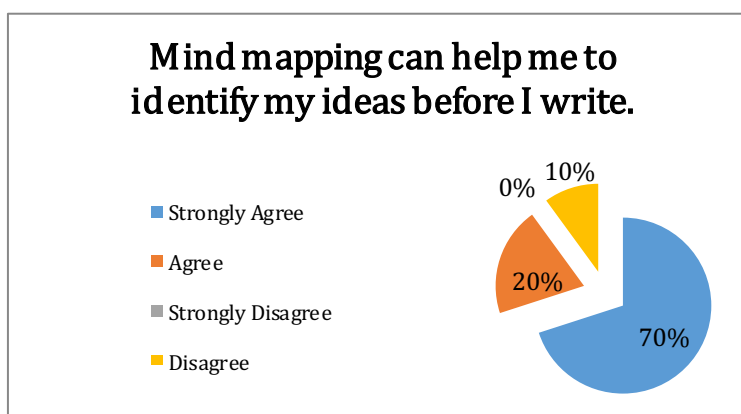


Figure 1. Mind mapping can help students to identify their ideas

Based on Figure 1, it showed that the learners' responded to the statement: "mind mapping can help me to identify my ideas before I write." In this statement, the learners responded *strongly agree* 70% (21 out of 30), and *agree* 20% (6). None of the respondents preferred to *strongly disagree* and *disagree* (10%). This indicated that almost all respondents agreed to the idea that mind mapping can help students to identify their ideas before they write.

The next statement was to describe the important thing on students' writing. From the questionnaire results, students were asked about how their view in finding out the key important thing before they did write. Dealing with the statement: "I can find out the important thing that written on my writing." Respondents gave some opinions, as illustrated in Figure 2:

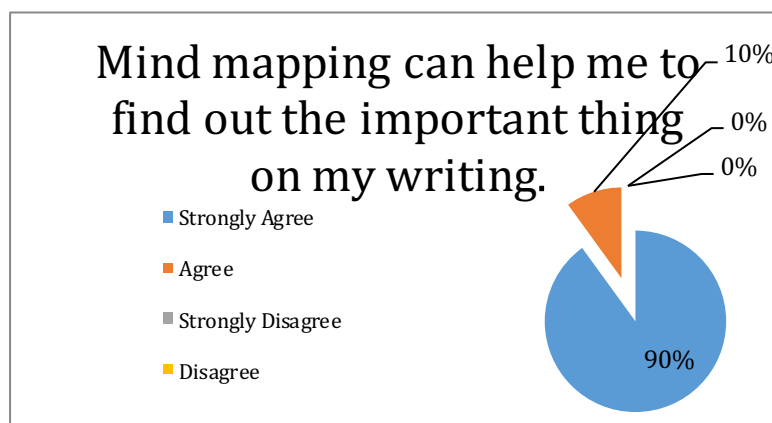


Figure 2. Mind mapping can help students to find out the important thing on their writing

From the figure above, it showed that the learners' responded to the statement: "I can find out the important thing that written on my writing." In this statement, the learners responded strongly agree 90% (27 out of 30), and agree 10% (3). None of the respondents preferred to strongly disagree and disagree (0%). This indicated that almost all respondents agreed to the idea that mind mapping can find out the important thing that written on my writing.

The next statement was to describe the significance of mind mapping to start the descriptive writing. From the questionnaire results, students were asked about how their view in writing a descriptive paragraph by using mind mapping before. Dealing with the statement: "Mind mapping is significance to begin the descriptive writing so that it is described orderly." Respondents gave some opinions, as illustrated in Figure 3:

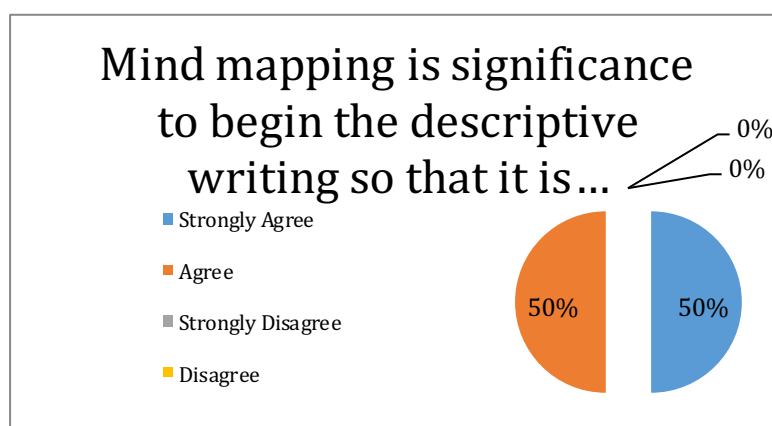


Figure 3. Mind mapping is significance to begin the descriptive writing so that it is described orderly

Figure 3 showed that the learners' responded to the statement: "Mind mapping is significance to begin the descriptive writing so that it is described orderly." In this statement, the learners responded strongly agree 50% (15 out of 30), and agree 50% (15). None of the respondents preferred to strongly disagree and disagree (0%). This indicated that almost all

respondents agreed to the idea that Mind mapping is significance to begin the descriptive writing so that it is described orderly.

The next statement was to describe the limitation idea in writing out of the topic. From the questionnaire results, students were asked about how their view in limitation idea. Dealing with the statement: “Mind mapping can limit my idea so that I do not write out of the topic.” Respondents gave some opinions, as illustrated in Figure 4:

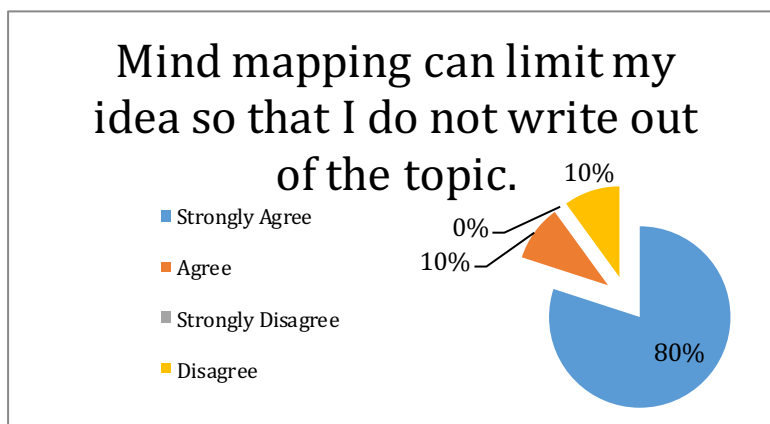


Figure 4. Mind mapping can limit my idea so that I do not write out of the topic

Figure 4 showed that the learners' responded to the statement: "Mind mapping can limit my idea so that I do not write out of the topic." In this statement, the learners responded strongly agree 80% (24 out of 30), and agree 10% (3). None of the respondents preferred to strongly disagree and disagree (10%). This indicated that almost all respondents agreed to the idea that Mind mapping can limit my idea so that I do not write out of the topic.

The next statement was to describe the function of branches. From the questionnaire results, students were asked about how their view about the branches in connecting and related among words. Dealing with the statement: "I can easily write some sentences using the words in the branch." Respondents gave some opinions, as illustrated in Figure 5:

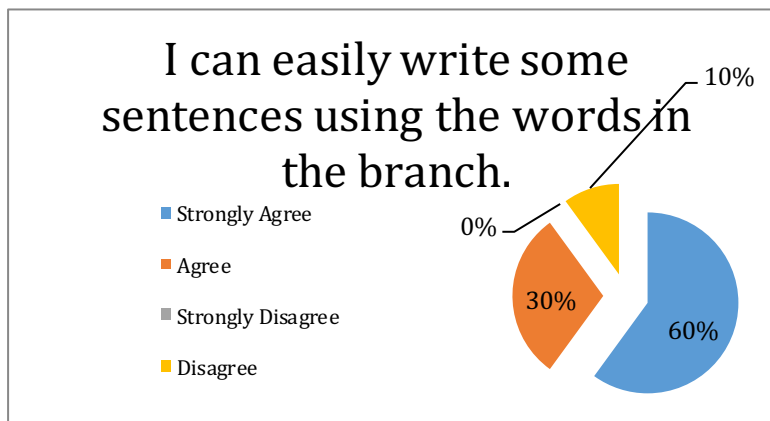


Figure 5. I can easily write some sentences using the words in the branch

Figure 5 showed that the learners' responded to the statement: "I can easily write some sentences using the words in the branch." In this statement, the learners responded strongly agree 60% (18 out of 30), and agree 30% (9). None of the respondents preferred to strongly disagree and disagree (10%). This indicated that almost all respondents agreed to the idea that I can easily write some sentences using the words in the branch.

The next statement was to describe the improvement writing skills. From the questionnaire results, students were asked about how their view in improving their writing skills by using mind mapping. Dealing with the statement: "Mind mapping technique is successfully success to help students in improving their writing skill." Respondents gave some opinions, as illustrated in Figure 6:

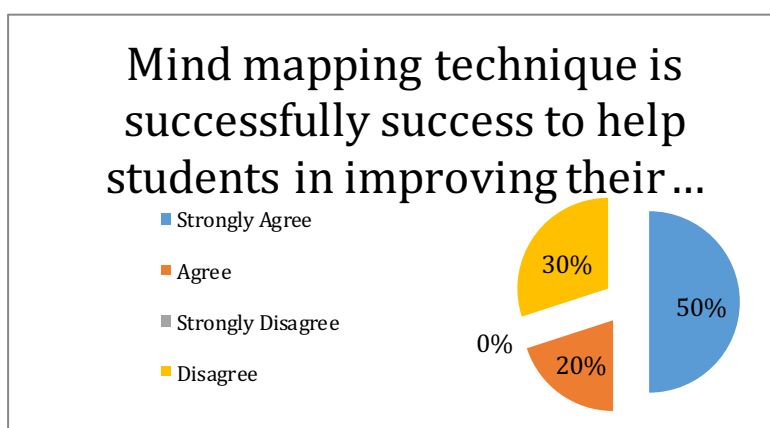


Figure 6. Mind mapping technique is successfully success to help students in improving their writing skill

Figure 6 showed that the learners' responded to the statement: "Mind mapping technique is successfully success to help students in improving their writing skill." In this statement, the learners responded strongly agree 50% (15 out of 30), and agree 20% (6). None of the respondents preferred to strongly disagree and disagree (30%). This indicated that almost all respondents agreed to the idea that Mind mapping technique is successfully success to help students in improving their writing skill.

The next statement was to describe the use to remember things easily. From the questionnaire results, students were asked about how their view in using mind mapping to remember things easily. Dealing with the statement: "Mind mapping can be used by anyone who wants to remember things easily." Respondents gave some opinions, as illustrated in Figure 7:

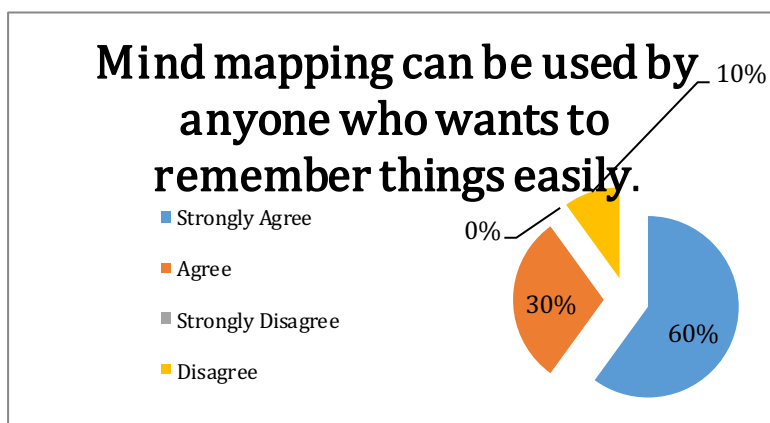


Figure 7. Mind mapping can be used by anyone who wants to remember things easily

Figure 7 showed that the learners' responded to the statement: "Mind mapping can be used by anyone who wants to remember things easily." In this statement, the learners responded strongly agree 60% (18 out of 30), and agree 30% (9). None of the respondents preferred to strongly disagree and disagree (10%). This indicated that almost all respondents agreed to the idea that Mind mapping can be used by anyone who wants to remember things easily.

The next statement was to describe organize way. From the questionnaire results, students were asked about how their view in organizing way. Dealing with the statement: "Mind mapping can be used by anyone who wants to organize way." Respondents gave some opinions, as illustrated in Figure 8:

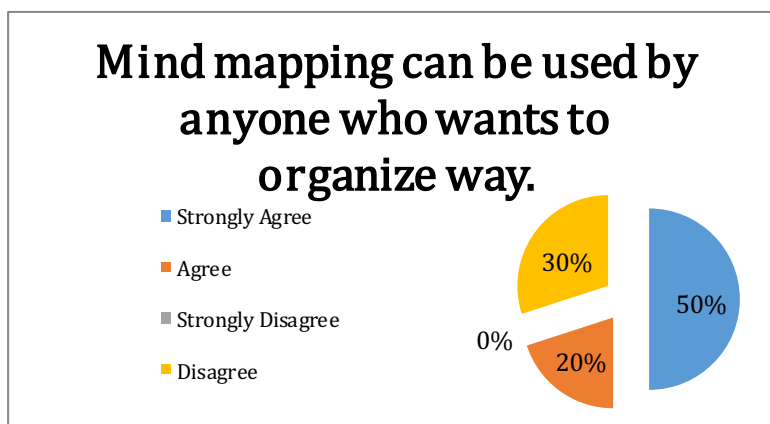


Figure 8. Mind mapping can be used by anyone who wants to organize way.

Figure 8 showed that the learners' responded to the statement: "Mind mapping can be used by anyone who wants to organize way." In this statement, the learners responded strongly agree 50% (15 out of 30), and agree 20% (6). None of the respondents preferred to strongly disagree and disagree (30%). This indicated that almost all respondents agreed to the idea that Mind mapping can be used by anyone who wants to organize way.

The next statement was to describe the simplify a difficult concept. From the questionnaire results, students were asked about how their view in simplify a difficult concept. Dealing with the statement: “Mind mapping can be used by anyone who wants to simplify a difficult concept.” Respondents gave some opinions, as illustrated in Figure 9:

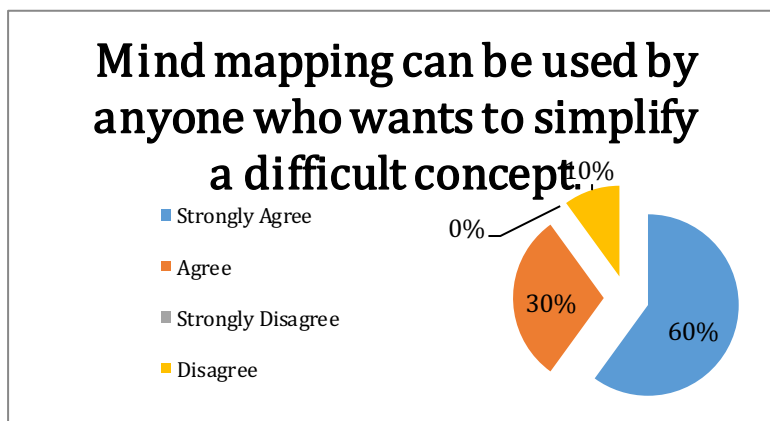


Figure 9. Mind mapping can be used by anyone who wants to simplify a difficult concept.

Figure 9 showed that the learners' responded to the statement: "Mind mapping can be used by anyone who wants to simplify a difficult concept." In this statement, the learners responded strongly agree 60% (18 out of 30), and agree 30% (9). None of the respondents preferred to strongly disagree and disagree (10%). This indicated that almost all respondents agreed to the idea that Mind mapping can be used by anyone who wants to simplify a difficult concept.

The next statement was to describe the best way to organize and connect ideas in details. From the questionnaire results, students were asked about how their view of the best way to organize and connect ideas in details. Dealing with the statement: "Mind mapping have more relevant details and better organized and connected." Respondents gave some opinions, as illustrated in Figure 10:



Figure 10. Mind mapping have more relevant details and better organized and connected.

Figure 10 showed that the learners' responded to the statement: "Mind mapping have more relevant details and better organized and connected." In this statement, the learners responded strongly agree 90% (27 out of 30), and agree 10% (3). None of the respondents preferred to strongly disagree and disagree (0%). This indicated that almost all respondents agreed to the idea that Mind mapping have more relevant details and better organized and connected.

Dealing with the statement: "Mind mapping raised the performance of students all level of ability as they became more efficient in generating and organizing ideas for writing." Respondents gave some opinions, as illustrated in Figure 11:

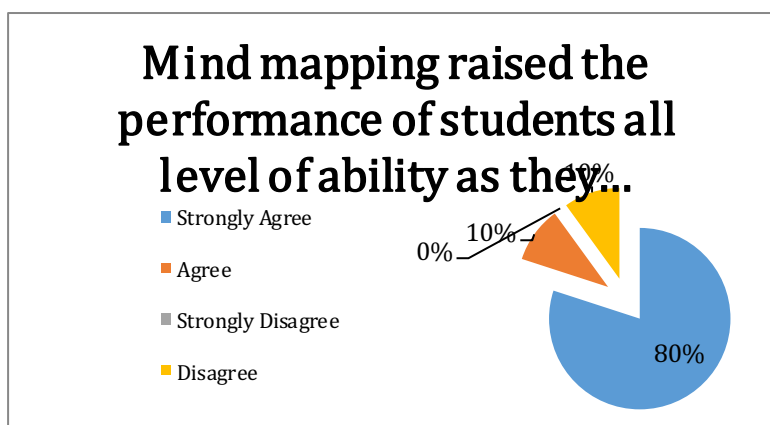


Figure 11. Mind mapping raised the performance of students all level of ability as they became more efficient in generating and organizing ideas for writing.

Figure 11 showed that the learners' responded to the statement: "Mind mapping raised the performance of students all level of ability as they became more efficient in generating and organizing ideas for writing." In this statement, the learners responded strongly agree 80% (24 out of 30), and agree 10% (3). None of the respondents preferred to strongly disagree and disagree (10%). This indicated that almost all respondents agreed to the idea that Mind mapping raised the performance of students all level of ability as they became more efficient in generating and organizing ideas for writing.

4. Finding and Discussion

After students applied digital mind mapping especially in descriptive text, students got experience in way to write how something or someone looks, decide the purpose of writing so that the readers can effectively get information from the text written, support the ideas, and uses transitional signals in making smooth their writing. From their experience, digital mind mapping is used for helping students' to organize the ideas before they write. Whilst process writing descriptive text, students have to choose the topic that they passionately about to illustrate in their component. It can be showed that 70 % students agree that mind mapping can help to identify their ideas before they write. As interviewed with students, some of them stated that by illustrating my ideas into digital mind map, it can carry out my way of mapping

the idea drawn as their drafting and revising process. Moreover, 90 % students can find out the important thing that written before they did writing text by making branches about their thinking based on the topic given.

Before the learners applied digital mind mapping, they should find out the significant thing that will be write in their text and drawn a map about their thinking based on the topic given. It is important to begin the descriptive writing so that it is described orderly. The students had a positive perceive toward the implementation of digital mind map. Those are positive benefits of digital mind mapping. Nevertheless, some participants who responded negatively in using mind mapping have been considered somewhat time consuming if the unfamiliar keyword appeared in the topic (McGriff, 2000) and difficult to draw (Buzan, 1993), and also McGriff (2000) agreed that students who used this strategy in an exam situation and students have not a previous background about the concept of the mind mapping strategy in such conditions. Students usually focused more only to make a good mind map with good picture and harmonized colors without estimated time to make a good writing product. Edward (2011) stated that students need more time in using mind mapping because they still have to open the dictionary to make a list of keyword and sometimes confused to determine the categorization in every branch. Furthermore, applying this technique is quite new for the students.

In line with the topic above, digital mind mapping can limit the students' idea so that they do not write out of the topic. Besides that, students do not need some ideas that do not use in their writing. By using digital mind mapping as a technique before writing, students are expected can apply it of their writing. Mind mapping technique has no any significance rule in mentioning the branch of the topic. It just needs some ideas to fill in the box of the branches as the words that will be used in writing. From the branch, students can easily write some sentences using the words in the branch. Mind mapping technique is successfully success to help students in improving their writing skill.

In addition, mind mapping is a form of data visualization and allows the person creating the mind map to visually outline information as it relates to a specific concept (Mapman, 2013), it could be a visual technique for structuring and organizing thoughts and ideas (Rustler, 2012), and great tool to organize the thought processes of their students when writing, due to the fact that the teacher only presents the basic content and it is the student who writes it in an organized way (Hillar, 2012). The student's ability to write about topics that are close to a student's culture, experiences, and other topics of interest increases when one also feels more connected with learning the target language (Sasson, 2013). In addition to keywords, visualization involves a sequence of graphic elements like colors, symbols, pictures and spatial arrangement of branches. According to Moeed (2015) students who are motivated to learn could spent time on the task and will continue to do so even if they come up against obstacle.

5. Conclusion

As students in computer science major, they had a basic computer in doing and understanding the digital knowledge. It was a modal to develop and related into a digital mind mapping. Based on results and findings above, it can be concluded that more than 50% students agree by using mind mapping can (a) help to identify the ideas before write; (b) find out the important thing that written on writing; (c) significance to begin the descriptive writing so that it is described orderly; (d) limit my idea so that I do not write out of the topic; (e) easily write some sentences using the words in the branches; (f) help students in improving their writing skill; (g) be used by anyone who wants to remember things easily; (h) be used by anyone who wants to organize way; (i) be used by anyone who wants to simplify a difficult concept; (j) have more relevant details and better organized and connected; and (i) raise the performance of students all level of ability as they became more efficient in generating and organizing ideas for writing. Finally, the appropriate way conducted in writing can help learners easier understand additional data for certain reason, for example graph and pictures.

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