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Students' Perception of The Use of Mind Mapping as a Visual Learning Tool

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Abstract

Senior high school is the grade where young learners face the most complex lesson. The complex lesson leads students to have learning tools that could help them in the learning process. Mind mapping is one of creative visual learning tool that make the lesson becomes clearer. This study is aim to find the students' perception of the use of mind mapping as visual learning tool at SMA Negeri 1 Singaraja. The study used qualitative research method design. The data of this study were collected by open-ended questionnaire and interview. The subjects of this study were 16 students of twelve grade students of SMA N 1 Singaraja which selected randomly. The result of the study showed that the students have positive perception towards the use of mind mapping as a visual learning tool. The majority of the students agreed that mind mapping can really help them in making summary and taking notes, giving them opportunity to be more creative, and helping them in developing their ideas.

***Keywords**: senior high school, students' perception, visual learning tool, mind mapping*

Introduction

Senior high school is the grade where young learners face the most complex lesson. To understand this complex lesson the students, need something proper to support them. Based on this situation, learning tools are something that helps students in the learning process. The complex lesson becomes clearer if the teacher involves learning tools in teaching and explaining the material. In this era, there are lots of learning tools that can be very beneficial for the learning process. One of them is visual learning tool. Visual learning tool can be defined as visual format of information that helps the teacher to visualize the lessons or materials as well as help students to understand them better (Raiyn, 2016) According to Rodger *et al.*, as cited in (Raiyn, 2016), visual learning tool is presented in many formats, such as mind maps, pictures, diagrams, video, graphs, cartoons, colouring books, slide shows, posters, movies, games, and flashcards. Based on that statement. The statement shows that delivering the materials in visual form will help students to understand better.

One of the visual learning tools developed by Tony Buzan in the late 1960s is "Mind Mapping." Mind mapping is a creative visual learning tool that helps students to take notes, summarize, and organize their ideas. Students can use their creativity in making mind mapping. Mind mapping is a helpful and fun learning tool for students in learning and understanding the materials. According to Goodnough and Woods (2002), mind mapping has many benefits for

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students in the learning process. By using mind mapping, the students are better in remembering, taking notes, developing ideas, and organizing their thoughts (Arista, 2021). The the use of mind mapping application software, there are three benefits of mind mapping that can be obtained by the students based on their perspectives. The first is easy to learn, the second is easy to remember, and the last is easy to organize their idea. Based on these benefits, it can be said that mind mapping is appropriate for today's learning approach (Erdem, 2017).

Mind mapping has long been used in the learning process as a visual learning tool. The application of mind mapping has been used in several learning subjects. According to (Naqbi, 2011) mind mapping helps students to organize their writing topic. Therefore, students become easier to determine what they will write in each paragraph. They can think about relevant supporting details that will be added to each paragraph so that their writing becomes stronger. According to Goodnough and Woods (2002), mind mapping is also a fun and exciting way to learn science. The use of mind mapping helps students to understand the complex concept of science because it can simplify the concept into summary.

Several studies show that the use of mind mapping has influenced students' learning process and has several benefits in the learning process. The benefits are learning process that becomes easier, remembering that becomes easier, and ideas organization that also becomes way easier. The mind mapping also does not necessarily need to come in physical form. According to Mohaidat (2018), the use of e-mind maps in reading comprehension can increase student levels on reading comprehension skills. He also stresses that mind mapping does better to students in reading when compared to the traditional way. Ten of fifteen students are reported to be more excited when leaning science by using mind mapping since they find it fun and exciting. Mind Mapping helps them to understand concepts and ideas in science and gives them opportunity to be more creative when constructing the mind maps by the choice of colour, symbols, keywords, and design. It turns out that at least 60% of the students strongly agree with the statement.

Considering the benefits that are perceived by the students through the use of mind mapping in learning, the general objective of this study is to find out the perception of the students in SMA Negeri 1 Singaraja of the use of mind mapping as a visual learning tool in learning process. The pre-observation in some senior high schools in Buleleng Regency, the place where SMA Negeri 1 Singaraja is located, shows that mind mapping has been used by teachers in the learning process. However, the use is not that high. Given that mind mapping is rarely use as visual learning tool in the learning process and the fact that it is so beneficial, the result of this study is expected to develop more use of mind mapping so that the students can be more enthusiastic and inspired in the learning activities. It is also expected that mind mapping can be found helpful for the students in learning process, especially for the students in SMA Negeri 1 Singaraja.

Method

This study used qualitative research method design with basic interpretive study. A study that is based in qualitative research examines the way people make sense of their real experiences that are real in their minds and their own words (Jackson et al., 2007). In this study, the researcher focuses on finding and describing SMA Negeri 1Singaraja students' perception of the use of mind mapping as a visual learning tool. The subject of this research has covered the students of twelve grade students in SMA Negeri 1 Singaraja. All participants are in the

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same grade, which means that the same characteristic of this population is the similarity of grade. The total number of the subjects of this study were 16 students. They came from four different classes which are XII IPA 1, XII IPS 1, XII IPS 2, and XII Bahasa 1.

In this study, the researcher used two data collection techniques. There are open-ended questionnaire and interview. Here is the explanation of the two data collection method techniques.

a. Open-Ended Questionnaire

The open-ended questionnaire conducted in the end of the study. The researcher designed three open-ended statements and gave it to the students. For each statement the researcher provided five types of answers which used the Likert Scale of *strongly agree, agree, neutral, not agree,* and *strongly not agree*. The participants of this study were asked to respond to the statements by choosing one of the already provided Likert Scale answers. The statements are about the students' perception of the use of mind mapping as a visual learning tool. The first statement says as *"I think mind mapping helps me in making summary and taking notes."* The second statement goes as *"I think mind mapping gives me opportunity to be creative."* The last statement says *"I think mind mapping helps me in developing my ideas."* The Open-Ended Questionnaire were distributed to the students in order to collect valid and authentic data from their perceptions of the use of mind mapping visual learning tools.

b. Interview

At the end of the study, each participant was interviewed within 10-15 minutes. There were two questions that were already designed by the researcher. The questions were about the students' perception of the use of mind mapping as a visual learning tool. The participants were expected to respond to the question in the interview section. The researcher then took a note and recorded the answer of the participant during the interview with the aims of getting valid, reliable, and detail information from the participants. The interview was conducted to collect valid and authentic data from the students' perceptions of the mind mapping visual learning tool.

After the data were collected, the data were then analysed in order to make sure their reliability. There are five procedures used in analysing the data. In the first step, the researcher collected the data from the open-ended questionnaire and presented it in diagram form to make it easier to analyse. The second step the researcher used the results of the open-ended questionnaire data analysis to design the further instrument which was the interview. In the third step, the data from the interview were analysed and explained descriptively. In the last step, the data were interpreted and reported in order to answer the problem statement and draw conclusion of the study.

Findings & Discussions

The data that were collected through the open-ended questionnaire and the interview were used as the basis for the result of the study. The findings discuss about the students' perception of the use of mind mapping as a visual learning tool. The researcher presented the data of open-ended questionnaire in form of diagram while the data from the interview is presented descriptively.

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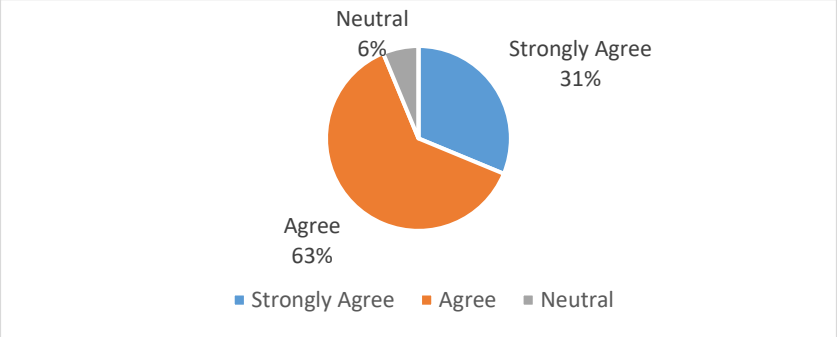
This study focuses on finding and describing the students' perception of the use of mind mapping as a visual learning tool at SMA Negeri 1 Singaraja. After the data were collected and analyzed, the result of the students' perception of the use of mind mapping as a visual learning tool at SMA Negeri 1 Singaraja was presented in form of diagram and the result of the interview presented descriptively.

As the aforementioned statement in the technique of data collection, there were three open-ended statements that were given to the 16 subjects. These statements are related to the benefits of mind mapping that were perceived by the students. In the first statement, the subjects were provided with options of whether the use of mind mapping helps them in making summary and taking notes. The students have five options of answers from the Likert Scale, including *strongly agree*, *agree*, *neutral*, *disagree*, and *strongly disagree*. The result shows that most of the subjects thought that mind mapping does help them since most of them agreed with the statement. The result of the first open-ended statement can be seen in Figure 1.

Figure 1. Students' perception on the use of mind mapping in helping students to make summary and take notes



It can be seen that 31% out of 16 students strongly agreed that mind mapping visual learning tool helps them in making summary and taking notes. This means that there were 5 students who strongly agreed to the statement that mind mapping could help them in making summary and taking notes. Moreover, 63% or 10 of them also agreed with this statement. 6% or only 1 of them decided to take neutral as the response to the statement. There were no students who perceived this statement negatively with neither *disagree* nor *strongly disagree*.

In the second statement, the subjects' perception was asked as whether the use of mind mapping gives them opportunity to be creative. From the five available options, the result shows that most of the subjects thought that mind mapping does give them opportunity to be creative since most of them agreed to the statement. The result of the second open-ended statement can be seen in Figure 2.

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Figure 2. Students' perception on the use of mind mapping in giving them opportunity to be creative

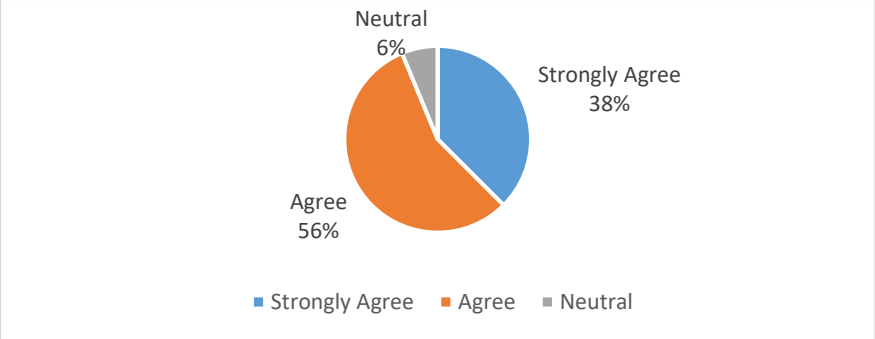

Figure 2 shows that 38% out of 16 students strongly agreed that mind mapping visual learning tool gives them opportunity to be creative. It means that there were 6 students who strongly agreed with the statement. Furthermore, 56% or 9 of them also agreed with this statement. Only 6% or 1 of them decided to take neutral as the response to the statement. None of the student perceived this statement negatively with neither *disagree* nor *strongly disagree*. In the second statement, more students perceived mind mapping more positive as there were more students who strongly agreed with the statement.

In the last statement, the subjects were asked to response to the statement that mind mapping helps them in developing their ideas. From the five available options, the result shows that the majority of the subjects thought that mind mapping does help them in developing their ideas since the majority of them agreed to the statement. The result of the third open-ended statement can be seen in Figure 3.

Figure 3. Students' perception on the use of mind mapping in developing their ideas

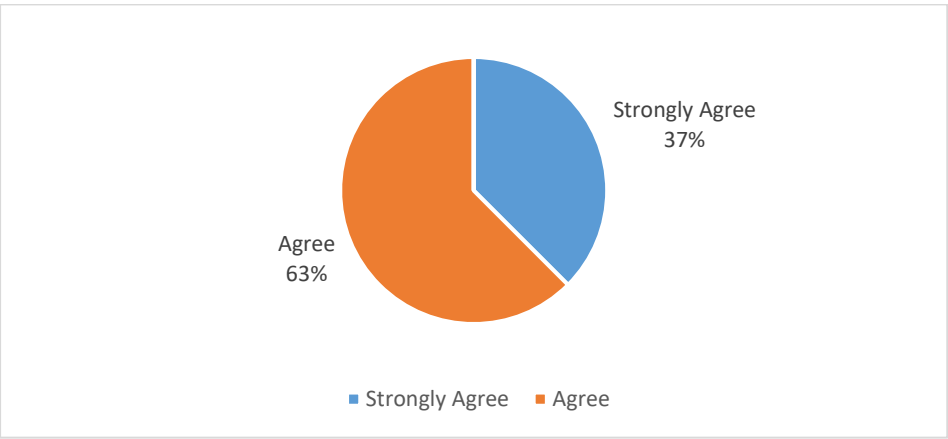

Figure 3 shows the most positive perception of the students as the responses were only *strongly agree* and agree. 37% or 6 out of 16 students strongly agreed that mind mapping visual learning tool helps them in developing their ideas. Moreover, 63% or 10 of them also agreed with this statement. None of them decided to take neutral as the response to the statement or

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negatively responded to the statement by taking neither *disagree* nor *strongly disagree*. Therefore, in the third statement, all of the students had positive perception about the use of mind mapping in helping them to develop their ideas as none of them chose *neutral, disagree,* or *strongly disagree*

As the open-ended questionnaire shows a positive perception from the students related to the use of mind mapping in learning, the interview also shows the same result. Most of the students argued that they found mind mapping as a creative, innovative, and attractive visual learning tool that helps them memorize and understand materials better than conventional method of taking notes. Since they found it creative, innovative, and attractive, they also felt more interested in learning when they used mind mapping as the learning tool. Some stated that mind mapping helps them to improve their creativity and critical analysis as they made summary and structural notes. This is in line with the statements in the open-ended questionnaire.

The students also perceived mind mapping as a creative visual learning tool that helps them in the learning process. It helps them to organize things into a structural order and provide them with fun images to look at which help them to remember better. It makes them easier to understand the concept of the materials compared to merely listen to the teachers' explanation. It is perceived as an efficient way to facilitate students in learning, build their long-term memory, encourage them to be creative, increase their structural writing or thinking, organize their thoughts, and develop their ideas. However, two of the students who responded with *agree* repeatedly in the open-ended questionnaire stated that this visual learning tool can really depend on the students' preferences and learning styles. If the students found taking notes to be boring, then mind mapping can be a help as they only need to understand the fundamental concept and transfer it to an image. On the other hand, if the students were more of an audio learning style, they would need additional learning tool to help them understand and remember the materials better.

Discussion

The findings of this study show that mind mapping as a visual learning tool is perceived positively by the students. The majority of the students argued that mind mapping could really help them in making summary and taking notes, becoming creative, and developing their ideas. It is also perceived as a creative, innovative, and creative learning tool that could attract them to study more as they have better understanding and long-term memory of the materials compared to the traditional way of learning by simply taking notes or listening to the teachers' explanations.

This result is in line with the theories from some experts. As stated by Tony Buzan, as the developer of this learning tool, mind mapping is intentionally designed to be a creative visual learning tool that could help the students to understand the concept of the materials that they learn as things are simplified and shortened through the process of taking notes, summarizing, and organizing their ideas. Further, the benefits that were perceived by the students are the results of the efficiency of mind mapping itself as it is stated that mind mapping really has many benefits for the students in the learning process (Al-Zyoud et al., 2017). A study by Hallen and Sangeetha (2015) shows that mind mapping learning tool is more effective compared to the conventional method as students have more visual images that they can remember better rather than just simply lines of sentences in conventional notes.

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Mind mapping is perceived positively as a learning tool that could help the students in making summary and taking notes because it helps them to organize their thoughts and simplify or shorten the materials. It is in line with the statement from Naqbi (2011) who states that by using mind mapping, students can organize their ideas orderly which will result in a good writing organization that can be in form of summary or notes. The students would find it easier to organize the topics of the discussion and then transfer them into sentences and paragraphs. Further, the supporting details can also be well developed as they already understand the whole concept of the materials.

The students perceived mind mapping as a learning tool that helps them to be creative because mind mapping is seen as a creative learning tool that attracts them and builds their interest to learn more. It is in line with the statement made by (Goodnough & Woods, 2002) who both agree that mind mapping is a fun and exciting way to learn materials in the learning process. In the process of understanding the concept of the materials, the students will need to simplify it and then transform it into an image of concept. Mind mapping usually begins with a central image with branches that explains the concept of the materials. In the process of making mind mapping, the students will make use of color, images, codes, symbols, and keywords in a hierarchical manner that makes them become more creative.

According to Hallen & Sangeetha (2015), mind mapping is a great way for teachers to introduce new concept along with the overall topics to the students. It is a fun and creative learning tool that could increase the students' involvement in the process of learning. Therefore, students do not only understand the materials at the end of the day, but also actively engage in the learning process. The students find mind mapping as a visual learning tool that could help them in developing their ideas because mind mapping could facilitate them to think creatively while making notes, planning, and organizing the mind mapping. They have a better platform for synthesis that provide them with more opportunity to develop creative their ideas. The study done by Arista (2021) who found that students' descriptive writing skill was improved after the implementation of mind mapping.

Erdem (2017) argues that mind mapping has been utilized as a great learning tool that can be very beneficial for the students when it comes to recalling, improving creativity, focusing on topics, solving problems, and organizing thoughts and then transform them into structural writings. The learning process that comes with mind mapping is considered has a more important aspect to the students as they can have a lifelong learning. This becomes an important aspect when the teachers not only want the students to merely remember the materials for the day or only for the test or examination purpose, as the teachers want to make sure that it can really be beneficial for the students in a long-term study. The studies that have been conducted earlier by Permana (2020) also show that mind mapping has great contributions to the students. The students find it easier to remember the concept of the materials, which will further result to a better understanding. They also find it easier to organize their ideas either when speaking or writing. Overall, having mind mapping as the tool to learn does help the students to follow the learning process. Further, when it comes to mind mapping, they do not necessarily need to make it in physical form by drawing it on paper. It is because the use of e-mind mapping is also proven to be effective as shown in a study conducted by Pang as cited in (Mohaidat, 2018) that increase student levels on reading comprehension skills.

According to Mohaidat (2018), mind mapping does better to students in reading when compared to the traditional way. Ten of fifteen students are reported to be more excited when

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leaning science by using mind mapping since they find it fun and exciting. Mind Mapping helps them to understand concepts and ideas in science and gives them opportunity to be more creative when constructing the mind maps by the choice of colour, symbols, keywords, and design. It turns out that at least 60% of the students strongly agree with the statement. Mind mapping has long been using in the learning process as a visual learning tool. The application of mind mapping has been used in several learning subjects. According to Naqbi (2011), mind mapping helps students to organize their writing topic. With organized topics, students become easier to determine what they will write in each paragraph. They can think about relevant supporting details that will be added to each paragraph so that their writing becomes stronger. According to Goodnough and Woods (2002), mind mapping is also a fun and exciting way to learn science. The use of mind mapping helps students to understand the complex concept of science because it can simplify the concept into summary.

Conclusions and Suggestions

In conclusion, as a visual learning tool that has been used for a long time, mind mapping is still positively perceived by students. The students at SMA Negeri 1 Singaraja found mind mapping as a great way to help them understand the concept of the materials through making summary and taking notes, help them to be more creative, and facilitate them to develop their ideas. In short, the majority of the students' perception towards the use of mind mapping in the learning process is positive as it is really considered helpful for the learning process. However, even though the majority of the students turn out to have a visual learning style, it cannot be ignored that there are also some who find it easier to learn through audiovisual. Therefore, combining the use of mind mapping with other helpful learning tools or methods is highly suggested.

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