

Empowering Metacognition with Mind Map to Optimize the Quality of Product as Learning Outcomes

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Abstract

Learning outcomes can be one of the references to rate the success of the learning process. Product, as a result of learning, becomes an important aspect that reflects the success of learning. This study aimed to test the importance of metacognition to optimize the quality of the product as learning outcomes. Metacognition is facilitated using mind maps during the learning process. The data was obtained through the triangulation method by analysis of questionnaires, interviews, and evaluating products as a learning outcome. These three data are then collaborated to show the conclusions regarding metacognition to optimize the quality of learning outcomes using mind maps. This research proved that the mind map could facilitate metacognition, which eventually affects learning outcomes. There is also a relationship between metacognition and product as achievements of learning outcomes.

Keywords: Metacognition, Mind Map, Learning Outcome, Learning Outcome.

1. INTRODUCTION

One kind of special skill that needs to be mastered by college students who are taking an educational program is making a lesson plan. As a teacher candidate, they have to master a skill set to prepare a lesson plan. Lesson plan is important document to ensure achieving learning objectives. It also a necessary instrument to evaluate the whole learning process at the end of educational program.

Lesson plan must be in line with the 2016 regulation of the Minister of Education and Culture No. 22 about Primary and Secondary Education. The decree states that a lesson plan is a plan of learning activities for one or more meetings. It also has to be derived from the syllabus to guide the learning activities to achieve learning objectives.

Teachers are responsible for composing lesson plan that ensures a fun, challenging, inspiring, interactive, and efficient learning process. Teachers should maintain student's motivation in actively engaging the learning process,

also to give enough space for innovation, creativity, and learning independence. All of the teacher's activities should facilitate student's talents, interests, physical and psychological growth.

Students who are major in education studies are expected to have skill at designing lesson plans according to the rules. Hence, relevant courses should support college students in achieving the skill. One of the relevant course is Microteaching. To optimize the learning outcome in the course, we need to empower the metacognition in the class.

Flavell introduced metacognition in 1979. Metacognition is thinking about thinking or thinking about the thinking process. Further explanation is revealed by Martinez (2006), metacognition is monitoring and controlling the mind. By understanding the thinking process itself, a person is expected to do the monitoring plan, process, and learning outcomes.

Stavrianopoulos (2007) stated that metacognition is the ability to plan, monitor, and evaluate the learning process. Through metacognitive or metacognition, someone will be able to

learn independently, foster fairness, and brave to make mistakes and will improve learning outcomes significantly (Corebima, 2006). The Corebima statement becomes the basis of this research to empower metacognition of college students to optimize their lesson plan as a product of learning outcome.

To empower their metacognition, we using mind maps in the process. A mind map is a multi-sensory visuospatial tool to integrate information and to help users to manage and store information (D'Antoni, Zipp, and Olson, 2009). According to Gunawan (2003), this technique is very useful for taking notes and brainstorming. Buzan (2007) stating that a mind map is the easiest way to put the information into the brain and take information out of the brain.

A mind map is also a creative way of taking notes effectively and will map the mind. Mind Maps can be used to organize the facts and things in a natural way of how the brain works. It is based on research about brain processes. It said that brain stores information and process the information by random and in pictures, not in the form of word or phrase (Gunawan, 2003).

Based on these statements, the mind map is assumed to be able to help students to perform metacognition. According to D'Antoni, Zipp, and Olson (2009), composing mind maps will encourage active learning at the metacognitive level so that using mind maps can increase a person's metacognition skill.

Therefore, this research was conducted to observe the ability of mind maps to empower the metacognition of college students and its impact on their lesson plan as a product of their learning outcome.

2. METHOD

In the Microteaching course, we teach the educational studies program students how to make a mind map. Each student then asked to make a mind map before they drafted their lesson plan. The mind map is expected to contain every component of the lesson plan and their ideas for each component that will be composed.

In the monitoring process, each college student was asked to use their mind map as a guide while making their lesson plan. After their product is complete, students check the visuospatial compliance of their lesson plan and mind map and present it to the class to get responses.

This research used data triangulation from questionnaires, interviews, and evaluation of lesson plans as learning outcome product. Then, all these data are collaborated to get the conclusions.

3. RESULTS AND DISCUSSION

The results of the questionnaire analysis showed that 63% of students stated that the mind map was helping them to make a better lesson plan. For the rest, there are 27% argued that using mind maps moderately helps them to plan and about 9% stated that mind maps slightly help them to plan.

Meanwhile, 73% of students stated that using mind map help them during the process and 27% said that using mind map only moderately help them. Also, using a mind map helps them evaluate lesson plans that they have been made effects. It received a positive response from 54% of college students.

The majority of students said that the mind map also useful for evaluating the lesson plan. Nonetheless, there are 9% of the students admitted otherwise. This last group of students considered a self-made mind map was too subjective to use as a tool to evaluate the lesson plan.

In general, the results of this research following the statement of Livingston (2003) that in the learning process, there should be regulation and supervision of the learning process to be able to improve the ability of metacognition. Regulation and supervision of the learning process consist of planning and monitoring of cognitive activity, also check the outcome of the process. These three activities in this study have been facilitated with the mind map. Composing mind map helped the students to plan, monitor, and evaluate their learning process.

The results also in line with the statement of D'Antoni, Zipp, and Olson (2009) that in addition to organizing information, mind maps also trigger active learning at the metacognitive level. Metacognition of students in the Microteaching course also had a relation to their achievement in learning outcomes, in this case is a lesson plan.

More than 63% of college students get a very satisfactory result, with a score of 80 for the product. Another 27% get a satisfactory grade, with scores between 60-80 and less than 10% of them who get a score below 60.

The satisfactory result of the product was believed to be the impact of the metacognition empowerment of the students. The activities to plan, monitor, also evaluate the learning process using a mind map, can help them to develop a lesson plan as a product of learning outcome.

Metacognition can maximize learning outcomes. This statement is in line with Livingston (2003), which stated that metacognition has an important role in the

success of learning. If metacognition increases, learning outcomes also increase. Susanti (2004) also stated that with metacognition, a person will be able to learn independently, construct an attitude of honest, brave to make mistakes, and will increase learning outcomes significantly.

4. CLOSING

Conclusion

This research proves that a mind map can facilitate college students in the Microteaching course to empower their metacognition. It also affects the learning outcome. In this case, it is a lesson plan as a product of learning outcomes.

Also, to prove the benefits of a mind map as a tool to empower metacognition, this research concludes that there is a relation between metacognition with learning outcome achievement, especially the quality of the lesson plan.

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