

Mind mapping: an effective model to improve thematic learning outcomes

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Abstract

This study aimed at improving students' learning outcomes of class V in Theme 6 using a mind mapping model. This research was conducted in 2 cycles, i.e. cycle I and cycle 2, with each cycle consisting of 3 sessions. The research subjects were 16 students of class V SDN Kutowinangun 10 Salatiga. The research design was arranged based on planning, action, observation, and reflection. Result shows that there is an increase in learning completeness, from 31.25% in pre-cycle to 56.25% and 81.25% in cycle I and cycle II, respectively. Therefore, mind mapping model may increase students' learning outcomes.

Keywords: *thematic learning; mind mapping; learning outcomes*

Introduction

Learning outcomes are related to learning or the process of learning activities. The success of a learning process can be seen through the learning outcomes obtained. Learning outcomes are changes that occur in students, both involving cognitive, affective, and psychomotor aspects as a result of learning activities (Susanto, 2013). According to Nawawi (in Brahim, 2007), learning outcomes can be interpreted as the level of success of students in learning subject matter in schools stated in the scores obtained from the test results to know a number of certain subject matter. Learning outcomes assessment aims to see the progress of student learning outcomes in terms of mastering the teaching material that has been learned with the objectives set (Rohani 2010). Thus according to the three opinions above, the effect obtained by students is used as an indicator/measure of the value used in the learning strategy. In essence, the learning outcomes aim to see the progress obtained by students with predetermined goals.

To improve learning outcomes, learning models focus on the activity of students and can involve students in the learning are needed. One learning model that can be applied is the mind mapping learning model. The mind mapping learning model is one of the ideal learning models to be applied in learning because this learning model students are asked to make a mind map where before making a mind map students must first know the important points of each sub-subject. Buzan (in Koeswanti, 2007) asserts that the use of mind mapping in

learning can help children to: a) free their imagination and explore ideas, b) remember facts and figures easier, c) make notes that are clearer and easier to understand, d) concentrate and save time, and e) be more adept at planning and achieving good grades in tests.

Several studies have been conducted related to mind mapping. Seyihoglu & Kartal (2010) concluded that mind mapping was a suitable method to make abstract concepts concrete and would develop students' creative thinking. Adodo (2013) pointed out that mind mapping was an effective learning method to teach basic science and technology because the method would improve students' critical and creative thinking. Balim (2013) emphasized that the method could be implemented to boost students' participation and motivation. Applying this method increased students' academic achievement, scores of retention of learning, and perception of inquiry-learning skill scores (Balim, 2013a). Recent research in science and maths also showed better results in students' learning when applying mind map method (Polat, Yavuz, & Tunc, 2017). Not only in science, the method was also effective to improve students' academic achievement and attitude in English subject (Aljaser, 2017). However, this method has not been a preferable teaching approach in the primary school thematic subject. Therefore, we apply mind mapping learning models to improve learning outcomes of elementary school students.

Materials and Methods

This Classroom action research was conducted at SDN Kutowinangun 10 Salatiga. The subjects in this study were class V students with a total of 16 children consisting of 8 male students and 8 female students. This research was conducted in February 2019 in the second semester of the 2018/2019 academic year. This research was applied into 2 cycles and each had 4 stages, i.e. planning, action, observation, and reflection.

Student learning outcomes data were determined using tests, observation sheets, and documentation. Twenty items of multiple choice which had been tested for validity and reliability were given to the students. The evaluation test was carried out at the end of each cycle, specifically in session 3. We also observed teacher's and student's activity in the learning process.

Results and Discussion

There were 3 cycles in this research: pre-cycle, cycle 1 and cycle 2. Pre-cycle was the initial condition of students before the class research action was applied. Cycle 1 and cycle 2 were the implementations of class actions using the mind mapping learning model. The

learning process included teacher and student activities during learning using the mind mapping model. Teacher and student activities in cycle I consisted of session 1, session 2, and session 3 for evaluation. Based on observations, the score of teacher activity in the pre-cycle was 30 aspects with a percentage of 70.4%. After applying the mind mapping learning model in cycle I, the average score of teacher activity increased to 73.3% in session I and to 74.1% in session II. In cycle II, the average score of teacher activity was increased to 86.6% in session I and 94.1% in session 2 (Table 1).

After applying the mind mapping model in cycle I, the average score of student activity was increased to 70.8% and 73.3% in session I and session II, respectively. In cycle II, the average score of student activity was increased to 91.6% and 93.3% in session I and session II, respectively (Table 2).

Based on observations, only 31.25% of students reached the Minimum Completion Criteria before applying the mind mapping learning model (Table 3). There were several problems in the learning process, such as there are many students were busy themselves and chatting with their peers, and some students were too shy to raise questions.

After the application of mind mapping learning models in Cycle I, there is an increase in student mastery learning. Of the 16 students, 56.25% of students reached the Minimum Completion Criteria (Table 4). Some problems in cycle 1 were (1) some students sought their activities and chatted things not related to the study material, (2) some students were lack of concentration in learning participation, (3) students were less active in learning, (4) some students were slow to accept the study material.

Table 1. Comparison of observation score of teacher activity in pre-cycle, cycle I, and cycle II

	Pre-cycle	Cycle I	Cycle II
Session 1		73.3%	86.6%
Session 2	70.4%	74.1%	94.1%
Average score	70.4% (Good)	73.7% (Very good)	90.3% (Very good)

Table 2. Comparison of observation score of student activity in pre-cycle, cycle I, and cycle II

	Pre-cycle	Cycle I	Cycle II
Session 1		70.8%	91.6%
Session 2	65%	73.3%	93.3%
Average score	65% (Good)	71.8% (Good)	92.4% (Very good)

Because there were still many students had not reached the Minimum Completion Criteria, we proceed to cycle 2. From observations during cycle 2, the activities of teachers and students were better than those in cycle 1. All students understood the learning process and knew what they had to do. In this cycle, students tended to talk to each other during the discussion. In cycle II, 81.25% of students reached (Table 5).

Table 3. Students' learning outcomes in pre-cycle

No	Learning Completeness	Number of students	
		Σ	%
1	Not complete	11	68.75
2	Complete	5	31.25
	Σ	16	100
	Average	52.5	
	Min	30	
	Max	70	

Table 4. Students' learning outcomes in cycle I

No	Learning Completeness	Number of students	
		Σ	%
1	Not complete	7	43.75
2	Complete	9	56.25
	Σ	16	100
	Average	68.7	
	Min	40	
	Max	95	

Table 5. Students' learning outcomes in cycle 2

No	Learning Completeness	Number of students	
		Σ	%
1	Not complete	3	18.75
2	Complete	13	81.25
	Σ	16	100
	Average	77.8	
	Min	50	
	Max	95	

Conclusion

Mind mapping model may improve students' learning outcomes. Some problems in the conventional learning process, especially students' lack of focuses can be overcome by applying this model. Students are very enthusiastic and active thus the mind mapping model can be applied by teachers in the learning process.

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