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The Influence of Mind Mapping Learning Models on Learning Outcomes of Concept Understanding

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Abstract - *The mind mapping learning model is a learning model that uses a combination of writing, images, symbols and colors at once so that the right and left brain functions easily remember and understand the concept of the material, which is the key to effective learning. Mind mapping is often used to test the greatness of understanding concepts in the science group. This study tested the greatness of mind mapping on the learning outcomes of understanding concepts in the social group, namely in Pancasila Education which explains events and each event has an abstract meaning so that it needs to be concretized. This study includes experimental research that aims to test the effect of the mind mapping model on learning outcomes understanding concepts. The results of the analysis of the calculation of the average value of the final ability of students (posttest) in the experimental group were 79.43. The results of the analysis of the calculation of the average value of the final ability of students (posttest) in the control group were 71.87. Based on the results of the questionnaire, data was obtained that students liked learning Pancasila Education with the Pancasila Ideology material using the Mind Mapping model, because it has been proven to help students understand the concept of the Pancasila Ideology material. Students are also motivated to learn Pancasila Education through the phases in the Mind Mapping model and the character model through interesting content.*

Keywords— *Mind Mapping; Concept understanding*

I. INTRUDUCTION

A. Intruduction

Mind Mapping is a creative, effective, and literally map-able way to map our thoughts (Buzan, 2010 Mind Mapping is also a graphic technique that allows us to explore all of our brain's capabilities for thinking and learning purposes. Mind Mapping is also a

great route map for memory, making it easier for us to organize facts and thoughts in such a way that the brain's natural way of remembering information will be easier (Zahro et al., 2018)

The relationship between the use of Mind Mapping in learning and conceptual understanding has been studied by several previous researchers. (Budiono et al., 2018) found that the use of Mind Mapping can increase student motivation in learning which leads to increased conceptual understanding of students towards lessons, especially social sciences. The same thing also applies to natural science lessons, as found by (Jain, 2015). Research by (Ho et al., 2023) also shows that the application of Mind Mapping through scientific learning can improve students' conceptual understanding. The Mind Mapping model is often used by previous researchers to test its efficacy in improving conceptual understanding in the science group. In this study, researchers are interested in testing the efficacy of the Mind Mapping model on the learning outcomes of conceptual understanding. In building students' abstract conceptual understanding in the social sciences group, namely the Pancasila Education course on the Pancasila Ideology material. The characteristics of the Pancasila Ideology material explain events and each event has an implied or abstract meaning so that it needs to be concretized, the figures involved, the timeline or dynamics of the event, the need for Mind Mapping to create main ideas for the material to facilitate students in the learning process of understanding and remembering the material. The study will test the efficacy of Mind Mapping in the learning process with the characteristics of current students. So that researchers are sure that this study can produce new propositions and findings.

B. Research methodology

Research uses experimental research, according to (Sugiyono, 2017) that the experimental method is a research method used to find the effect of certain treatments. Experimental research aims to investigate the possibility of causal relationships by applying one or more treatment conditions to one or more experimental groups and comparing the results with one or more groups with different treatments. There are several types of experimental research, one of which is factorial experiments.

II. RESULT AND DISCUSSION

A. Results

The data obtained in this study are the learning outcomes of Pancasila Education between groups of students who in their learning process use the Mind Mapping model and groups of students who do not use the Mind Mapping model. Learning outcomes (gain scores) are obtained from the difference in initial ability scores (pretest) and final ability scores (posttest). Based on the results of the research that has been conducted, learning outcome data from the experimental class (A) and control class (C) were obtained which can be presented as follows:

Statistik Deskriptif	Class A	Class C
N	16	16
Mean	79.43	71.87
Std. Deviation	3.91	8.92
Variance	15.32	79.58
Range	15.00	35.00
Minimum	75.00	50.00
Maximum	90.00	85.00
Sum	1271.00	1150.00

To see the learning outcomes of students, we can review the average value obtained, which can be seen in the Mean table row for class C with an average value of 71.87 and class A with an average value of 79.43, then for the Standard Deviation obtained in each class for class C has a standard deviation of 3.91 and for class A 8.92, the variance or difference in value between class C and class A is 15.32 and 79.58, then for the range in class C obtained 15.00, class A obtained 35.00 and the minimum value in class C is 75.00 and class A is 50.00 and for the maximum value obtained in class C and class A 90.00 and 85.00. So it can be concluded from the total number between class C and class A where it can be seen in the table row that the average mean learning outcomes of students are higher in class A with an average value obtained of 79.43.

B. Discussion

Mind Mapping Learning Model influences the ability to understand concepts. The Mind Mapping learning model can influence students' ability to understand concepts, because in this learning the concepts learned are not directly given by the lecturer to the students, but the students obtain concepts from the material being studied by creating structured patterns (Ho et al., 2023). This aims to make it easier for students to remember and understand the material more comprehensively. Based on the results of the questionnaire, data was obtained that students liked learning Pancasila Education with Pancasila Ideology material using the Mind Mapping model, because it has been proven to help students understand the concept of Pancasila Ideology material. Students are also motivated to learn Pancasila Education through the phases in the Mind Mapping model and the character of the model through interesting content.

III. CONCLUSION

A. Conclusion

The results of the analysis of the calculation of the average value of the final ability of students (posttest) in the experimental group were 79.43. The results of the analysis of the calculation of the average value of the final ability of students (posttest) in the control group were 71.87. Based on the results of the questionnaire, data was obtained that students liked learning Pancasila Education with Pancasila Ideology material using the Mind Mapping model, because it has been proven to help students understand the concept of Pancasila Ideology material. Students are also motivated to learn Pancasila Education through the phases in the Mind Mapping model and the character of the model through interesting content.

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