Implementation Of Mind Mapping Learning On Students' Creative Thinking Ability Of Elementary School Students

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Abstract

The purpose of this study was to analyze the effect of the mind mapping learning model on the ability to think creatively in material styles in elementary schools. This type of research is quantitative with a quasi-experimental approach with the form of nonequivalent control group design. The research population was the fourth grade students of SD in Dempet District. The research sample for grade IV SD N Kedongori, grade IV SD N Kebonsari 2 and grade IV SD N Balerejo 1. The sampling choice in this study was the purposive sampling technique. The data collection techniques used were observation, questionnaires and written tests. Data analysis includes data descriptions, analysis prerequisite tests, and hypothesis testing using the t test. The results of the study with the t test for the test instrument t count> t table (15,956> 2,086). The results of the t test on the questionnaire instrument t value> t table ((9,201> 0.05). The conclusion is that there is an effect of mind mapping learning on the ability to think creatively in elementary school students.

Introduction

Natural science (IPA) is one of the subjects in the elementary school curriculum. Natural Science is one of the subjects that really help students in studying the natural surroundings that faced every day. All this time, the natural science lesson has been mostly taught in the classroom by only referring to atext book or guidebook. In the learning process, the students are less involved in actual activities. It needs to be realized that the success of the natural science learning process is determined by many factors, including: teachers, students, environment, learning process, facilities and infrastructure and etc.

In fact, the natural science learning process is found that 1) The teacher still uses the lecture method in delivering material to the subject, 2) the students are not able to understand the material completely, the students have lack of attention in the science learning process, and 3) the teacher in delivering the material is boring enough, he or she only focuses on one side. In this case, we need a strategy to foster the students' creative thinking by using the learning strategies that are more interesting and fun, so that it makes them more active in learning the natural science. Then the students' creative thinking ability and learning outcomes increase.

The low students' creative thinkingability is indicated by the answers given by the students that only refer to the answers in the book, so that students only memorize the answers in the book and do not understand the meaning of the answers mentioned. Then, the learning media used are not specific, those only contain pictures from the printed books that are distributed to each student. As an alternative solution to improve the students' creative thinking ability, the teacher must change the way of teaching, that initially uses the lecture

and question and answer method into the learning process that can encourage student activity. By changing the way of learning, it expects to make the convergent students in which they only find out an answer in the book becomes the divergent students, namely finding more answers or alternative answers and trying to connect the scope of learning with process of the students' creative thinking.

The Mind Mapping learning strategy is expected to be able to influence the students' creative thinking ability in force material in the fourth grade at elementary school students so that the researcher needs to do the research to find out. According to Fathurrohman (2017), Mind Mapping can be used for various purposes, both personal and collaborative. Specifically in the context of learning, Mind Mapping can be used to assist the students in understanding, organizing, and visualizing materials and learning activities creatively and attractively. The students can map what is discussed with their friends

Previous research is related to a research conducted by , Marhaeni, and Sutama (2013); Khamdun (2014); Masanah (2016); Malik (2019); Rakhma, Widyaningsih, dan Mawartiningsih (2016). Mariyani, Marhaeni, and Sutama (2013) has the same content with this research. The Influence of the Mind Mapping Learning Model to Improve Creative Thinking Ability. There were significant differences in creative thinking ability between the students who took the Mind Mapping method as the learning process and the students who took a conventional learning. the research was conducted in the fifth grade at elementary school towards the achievement of creative writing.

Based on the background, the formulation of the problem of this research is how the influence of the mind mapping learning model affects the ability to think creatively in material styles in elementary school students? While this study aims to analyze the effect of the mind mapping learning model on the ability to think creatively in style material in elementary schools.

Research Method

This type of research is quantitative research. This research design is in the form of quasi experimental with the form of non equivalent control group design (pretest and posttest design control group without random) (Sugiyono 2017). In this design, group subjects are not carried out randomly, for example, an experimental class in a particular class with existing students or as they are. Population in this study were all fourth grade students of SD in Dempet District. The research samples were 2 elementary schools, namely the fourth grade SD N Kedongori and the fourth grade SD N Balerejo. In this study, the research sample was taken using purposive sampling technique. Purposive sampling is also known as consideration sampling, the sampling technique used by researchers if the researcher has certain considerations in taking the sample or determining the sample for a specific purpose (Riduwan 2010). The choice of sampling in this study is the Purpose sampling technique.

The data collection technique used in this research is a test technique in the form of a creative thinking test and a non-test technique in the form of a questionnaire. According to Sugiyono (2017), in order to obtain data from the object of research, it is necessary to have appropriate techniques for data collection. The data collection techniques used were observation, questionnaires and written tests.

The research instrument is a tool used to measure research variables (Sugiyono 2017). The instrument used in this study was a test to obtain data about students' creative thinking

abilities. The written test is in the form of a description of 10 items. The time used for 1x35 minutes of questionnaires and tests. In addition to the research instrument test in the form of a questionnaire about the ability to think creatively, there were 40 statements.

Data analysis techniques include data description, prerequisite analysis, and hypothesis testing using the t test. Data description is a description of the data used in this study in the form of quantitative data. Quantitative data is data in the form of numbers from the test scores of the control class and the experimental class.

The prerequisite analysis test is a test that is done before testing the hypothesis, namely in the form of a normality test and a homogeneity test. Hypothesis testing with the help of SPSS is the Independent Sample T Test. The Independent Sample T Test was used to test the mean difference between the two groups.

Results and Discussion

Result

The results of pretest and posttest could be seen in the table below , that showed the results of before and after treatment at the control class, inquiry experimental class, and mand mapping experimental class. The following is a descriptive analysis about *pretest* and *posttest* test

Table 1. Data Test Description

Variabel	Pre Test		Post Test	
	Mind Mapping Experimental	Control	Mind Mapping Experimental	Control
Mean	52.95	48.4	87.95	58.75
Std. Dev	5.643	6.411	6.533	4.93
Variance	31.839	41.1	42.68	24.3
Range	19	28	25	19
Minimum	44	38	75	50
Maximum	63	66	100	69

Based on table 1, it showed that there was a difference in the average score between the mind mapping class and the conventional class. This showed that the application of the mind mapping learning model could improve the student learning outcomes.

Table 2. Questionnaire Data Description

Variable	ControlClass	Mind Mapping Experimental Class
Mean	104.25	135.85
Median	105.00	135.00
Mode	98	151.
SD	9.335	12.196
Minimum	79	110.
Maximum	118	151.
Mean	104.25	135.85

Based on table 2, it showed that the perception of respondents in the mind mapping class obtained higher score than the application of conventional class. It showed that the application of the mind mapping learning model could improve the students perception towards the student learning outcomes.

Hypothesis testing

The researcher proposed the statistical hypothesis, as below:

Ho: There is no influence between the mind mapping learning model towards creative thinkingability in force material at elementary school.

Ha : There is an influence between the mind mapping learning model towards creative thinkingability in force material at elementary school.

Table 3. T- test Instrument

Independent Samples Test

		Levene's Test for Equality of Variances		t-test for Equality of Means				
		F	Sig.	T	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference
Post Test	Equal variances assumed	.623	.435	-15.956	38	.000	-29.200	1.830
	Equal variances not assumed			-15.956	35.340	.000	-29.200	1.830

Based on table 7, the results of the t test for the test instrument were known that the Sig. (2-tailed) obained of 00, so that the sig (00) value <0.05. The score of t count -15,956 (15,956) 9 indicated that the value of t count> t table (15,956> 0.05). so that Ho was rejected and Ha accepted.

Table 4. Questionnaire Instrument

Independent Samples Test

		Levene's Test for Equality of Variances		t-test for Equality of Means				
		F	Sig.		df	Sig. (2-tailed)	Mean Difference	Std. Error Difference
Persepsi Siswa	Equal variances assumed	.854	.361	-9.201	38	.000	-31.600	3.434
	Equal variances not assumed			-9.201	35.573	.000	-31.600	3.434

The t test of the questionnaire instrument in table 8 showed that the t count obained score 9,201. So the value of t count > t table (9,201> 2,086) and the Sig. (2-tailed) obtained score of 00, the sig value <0.05, Based on the calculation above, Ho was rejected and Ha was accepted.

Discussion

The results of this study are in accordance with the opinion of Buzan (in Fathurrohman 2017) that the use of Mind Mapping is not only able to accelerate the memory process, but can also increase creativity and analytical skills, by optimizing hemispheric function. Mind Mapping can transform information into knowledge, insights, and actions. The information presented focuses on important parts so that it can encourage people to explore and elaborate further.

According to Fathurrohman (2017), the benefits of learning the mind mapping model can be used to help students understand, organize, and visualize learning materials and activities creatively and attractively. students can map what was discussed with their friends. Herdian's opinion (2010) states that mind mapping can be called a route map used by memory, enabling us to organize facts and thoughts in such a way that the natural way our brains work will be involved from the start so that remembering information will be easier and more reliable than use the usual note-taking technique. Mind Mapping is very effective when used to bring up hidden ideas that we have and make associations between them. Mind Mapping is also useful for organizing the information that is owned. The shape of the diagram, which is like a tree diagram and its branches, makes it easy to reference one information to another (Herdian 2010).

The results of this study are in accordance with the research conducted by Priantini, Atmadja (2013); Darusman (2014); Rahayu, Akbar, dan Afrilianto, (2019). Priantini, Atmadja (2013) with the results of the study, namely the influence of mind mapping learning models to improve abilities creative thinking. There is a significant difference in creative thinking skills between students who take learning using the mind mapping method and students who take conventional learning.

The research is also relevant to the research conducted by Ayuningwulan (2011); Noviasari, Legowo, and Lilik (2015); Efi, Darsikin, dan Saehana (2017); Nureva. dan Citra (2017); Qondias, Anu, dan Niftalia (2016). Noviasari, Legowo, and Lilik (2015)the results of the subsequent analysis, namely, there was an increase in the average score of the subject's skills in making a mind map by 29.6 points or 73.086%, making an increase in the subject's creativity score (Creativity Quotient) of 23.2 points or about 49.62%. The conclusion of this research is that the learning method uses an effective mind map to increase creativity in students. This is in line with the results of this study

Conclusion

Based on the results of research and discussion could be concluded that there was a significant effect of the mind mapping learning model towards the students' creative thinking ability in force material at elementary school. In this case, the mind mapping model emphasizes a) the student activities to seek and find b) the student learning activities are directed to seek and find their own answers to something being questioned, so that it could foster self-confidence. c) Developing the students' thinking ability, so that it is effectively used to improve the students' thinking ability.

The researcher suggests that teachers should be able to use the mind mapping model in developing the students' thinking ability toward force material, because the mind mapping learning is effective in helping the students understand, organize, and visualize the learning

materials and activities creatively and attractively. Then, it could also develop other learning models.

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