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## The effect of demonstration and mind mapping learning methods on achievement of cultural arts course

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### ABSTRACT

This study has looked at the variations in cultural learning outcomes for groups of students that utilize the methods and methods of thinking mapping, as well as the interaction between the two approaches in their role in learning arts. This study used experimental methods and a 2x2 factorial design to conduct quantitative research. All Junior High School second-grade pupils use the population. The analysis technique used is a two-way variant (two-way ANOVA). Student learning outcomes utilizing a demonstration technique are better than student learning outcomes using the mind monitoring method, according to the results of data processing. Students who use the demonstration approach perform better than those who use the mind mapping method. The average score for learning activeness with high demonstration methods and employing the approach of mapping student activeness thinking is poor.

### INTRODUCTION

Culture encompasses all elements of life, the content stipulated in the Government Regulation of the Republic of Indonesia concerning National Education Standards does not exist solely in one subject. Cultural components are not covered separately in the subject of Art and Culture but are linked with art. As a result, Cultural Arts is essentially a culture-based arts education. The results that we can see in real terms are called performance or the results of cognitive processes that get judgments that are carried out routinely to see the development and results obtained, and achievement is a person's competence about the knowledge domain; the results that we can see in real terms are called achievement; the results that we can see in real terms are called achievement; the results that we can see in real terms are called achievement; the results of cognitive processes that get judgments that are carried out routinely to (Aryani, 2019; Mrazek & Sumarsam, 1995; Sunarto, 1976). Achievement is the consequence of learning activities expressed in numbers, letters, and sentences that can show each student's results over a period of time -

(Sunarto, 1976). Learning achievements from all sides are a cumulative function from past to present from family, community and school experience (Elliott, 2010; Jawa, 1986; Ornstein & Robinson, 1974). Learning accomplishment is the outcome of learning, which focuses on a person's prospective skills or ability, such as knowledge, thinking skills, and motor skills (Gaunt & Westerlund, 2013).

The method that can be applied to Art and Culture subjects is to use the Demonstration method and the Mind Mapping method. The demonstration technique entails the teacher showing students how to accomplish something in order to transmit processes, concepts, and facts. It has the advantage of inspiring students to learn while also saving time and materials and demonstrating how to minimize damage and mishaps (Artadana et al., 2015; Mento et al., 1999; Sreejesh & Mohapatra, 2014). The demonstration technique entails the teacher or other learning resources demonstrating to pupils both in solid form and imitation from a specific process, scenario, or object being studied.

The teacher or other learning resources must know the topic being demonstrated or be specialists in it (Aryani, 2019; Denpasar, 2021; Syahputri, 2018). Based on the preceding, the author wishes to investigate the impact of the Demonstration technique and the Mind Mapping method on the learning successes of the Cultural Arts topic in terms of learning activeness in eighth-grade students at Surabaya City Junior High School. The research objectives to be achieved are (1) Students who use the Demonstration technique and those who utilize the Mind Mapping approach were compared to determine any differences in their learning outcomes in Art and Culture (2) To see if there are any variations in Art and Culture learning outcomes between groups of very active students and students who are very inactive (3) To look at the link between learning techniques and active learning regarding Art and Culture learning success. This study's hypotheses are as follows: (1) Students who use the Demonstration approach in Art and Culture disciplines learn considerably more than students who use the Mind Mapping method (2) Students with high learning activeness do better in Art and Culture topics than students with low learning activeness. (3) Learning approaches and learning activeness interact (affect each other) on student achievement in Art Culture disciplines.

#### LITERATURE REVIEW

Mind mapping is a technical graphic that allows us to explore all of our brain's talents for the goal of thinking and learning in order to improve our creativity and learning abilities (Dewantara, 2019). The Mind Mapping method is a new recording method whose operating principles are aligned with the two brains' functioning principles (Miranti & Wilujeng, 2018; Pontoh *et al.*, 2020). This method empowers not only how to use pictures or colors, but also how to combine visual combinations, colors, codes, words, and connectors and employ visual images and other graphic infrastructure to build brain imprints (Jones *et al.*, 2012; Mento *et al.*, 1999; Nihilkumar D. Parikh, 2016) Students are reinforced in the Mind Mapping approach in dealing with problems in a systematic way, which includes recognizing the problem, devising a plan, carrying out the plan, and verifying again to ensure that the problems are addressed (Liu *et al.*, 2014). Student activity is one of the main principles in learning. According to (Dorn, 2014), Students' involvement in the teaching and learning process can be demonstrated by (1) completing their learning assignments; (2) problem-solving; (3) asking other students or teachers for help if they don't understand the challenges they're facing; and (4) looking for various pieces of information needed to solve the problem; (5) practicing solving problems or problems; and (6) evaluating his abilities and the results obtained.

#### METHOD

The study took place at a junior high school in Surabaya, Indonesia. From January through June 2020, research time will be allocated. Experimental research utilizing a 2x2 factorial design was used in this work. The experimental technique is a research approach used to investigate the effect of specific treatments on others under controlled conditions, and it is employed in this study (Liu *et al.*, 2014; Sugiyono, 2011). In accordance with the form of research and data sources used, the instrument in this research used are: (1) Test student learning outcomes to determine the extent to which students' ability to receive teaching materials or materials to determine the results of learning about Art and Culture, (2) questionnaire to find out the research variable data that is the independent variable of learning activeness.

Questionnaire trials are used to find out whether the questions to be given to respondents are valid or invalid and are used to test whether the data targets variables. A try out was conducted on students who were not members of the sample. Trials were conducted on 30 students at Junior High School which included Item Validity Test, Item Reliability Test, Distinguishing Power, Difficulty Level. Descriptive and inferential statistics are used to analyze the collected data. Descriptive statistics are used to get a quick summary of each variable by calculating the mean and standard deviations. Inferential statistics are used to test hypotheses and generalize research findings. Data analysis techniques include analyst prerequisite tests consisting of: Average Similarity Test, Homogeneity Test, Normality Test at the significance level  $\alpha = 0.05$ . The information gathered is broken down into variables. A two-way analysis of variance was used to analyze the data in this study (two-way ANOVA). The hypothesis is tested using the F test with a significance threshold of 0.05. If the analyst demonstrates the interaction's influence, use the Turkey test/additional test.

#### RESULTS AND DISCUSSIONS

Based on the research data, it is known from 28 students in the student group using the demonstration method that 15 students have low learning activeness and 13 other students have high learning activeness. Of the 28 students in the group of students with the Mind Mapping method, 14 students had low learning activeness, and 14 other students had high learning activeness. Data on the learning achievement of cultural arts and culture were obtained from tests of learning of artistic skills and knowledge, which amounted to 35 questions given to students as sample members of a group of students using the demonstration method and Mind Mapping method, 28 respondents.

Based on the research data, it is known that the results of the art and culture learning achievement test in the demonstration method group obtained an average value of 26.00 included in the high category having an average value higher than the Mind Mapping group with an average value of 21.56 which also included in the high category. It is also known that the results of art and culture learning achievement tests on groups of students with high levels of learning activeness obtained an average value of 27.25 included in the high category has an average value higher than the group of students whose level of learning activeness is low with an average value of 21.46 is also included in the high category.

Based on the results of the average art and culture learning achievement test in the Demonstration group with Low Learning Active, Demonstration group with High Learning Active, Mind Mapping group with Low Learning Active, and Mind Mapping group with High Learning Active, it is known that the Demonstration group with High Learning Active has a value the highest achievement of learning art and culture with an average value of 29.37 with a very high category. In contrast, the Mind Mapping group with Low Learning Activity had the lowest level of art and culture learning achievement, with an average of 17.87 in the medium category. The two-way Anova analysis with the 2 x 2 ANOVA formulation was employed in the research hypothesis test. The results of the culture and art achievement test in the research sample had a normal distribution and had a homogeneous variance. Based on the results of the Two-Way Anova Test can be explained as follows:

1. There is a significant difference in art and culture learning achievement between groups using the demonstration method and groups using the Mind Mapping method, with a value of  $F = 81.345$  and  $p = 0.000$ , indicating that  $p < 0.05$  where the average value of art and culture learning achievement in the demonstration method group is 26.95 greater than the average value of 27.00 included in the high category has a higher average value than the Mind Mapping group with an average value of 21.58 which is also included in the high category. It is also known that the results of art and culture learning achievement tests on groups of students with high levels of learning activeness obtained an average value of 27.26 included in the high category has an average value higher than the group of students whose level of learning activeness is low with an average value of 21.48 is also included in the high category.
2. Based on the results of the average art and culture learning achievement test in the Demonstration group with Low Learning Active, Demonstration group with High Learning Active, Mind Mapping group with Low Learning Active, and Mind Mapping group with High

Learning Active, it is found that the Demonstration group with High Learning Active has the highest value of learning achievement in cultural arts with an average value of 29.38 with a very high category. However, in art and culture, the Mind Mapping group with Low Learning Activity has the lowest value of learning accomplishment. The Mind Mapping group with High Learning Activity had the highest value of learning achievement in art and culture, with an average score of 17.87 in the medium category. After it was determined that the data of the outcomes of the cultural skills learning accomplishment test in the research sample had a normal distribution, a two-way ANOVA analysis using ANOVA 2 x 2 formulation was used distribution and had a homogeneous variance. Based on the results of the Two-Way Anova Test can be explained as follows:

1. With a value of  $F = 81.345$  and  $p = 0.000$ , suggesting that  $p < 0.05$ , there is a significant difference in art and culture learning achievement between the demonstration technique group and the Mind Mapping group, where the average value of art and culture learning achievement in the demonstration method group is 26.96 is greater than the average value of learning achievement of art and culture in groups with the Mind Mapping method of 21.57 so that the hypothesis is accepted.

The demonstration method involves the teacher to show students how to do something (Aryani, 2019), so students pay attention to the teacher or demonstrator while practicing the material in front of the class. A lecture-demonstration approach is a type of teaching that combines explanation with practice to convey processes, concepts, and facts (Aryani, 2019; Denpasar, 2021; Sreejesh & Mohapatra, 2014; Syahputri, 2018). This opinion combines the lecture method with demonstration, so while the teacher is lecturing, students can listen while watching the teacher practice something according to the material provided. Another viewpoint claims that the demonstration method can motivate pupils to learn while also saving time and materials and demonstrating how to minimize damage and accidents (Aryani, 2019).

The demonstration method presents lessons to students that involve the teacher or other learning materials exhibiting and demonstrating to students a particular process, scenario, or object that is being studied both in basic form and in imitation form (Sreejesh & Mohapatra, 2014). Mind mapping is a technique that enhances one's creativity and learning (Mento et al., 1999). The procedure of mind mapping (Mind Mapping) differs from idea mapping in that it begins with a topic in the middle of the picture (Dewantara, 2019). A nonlinear visual sketch

of complex information, known as mind mapping, can aid creativity, organizational organization, productivity, and recall. Ideas connected to the primary a central theme on the map, main sub-topic in the branch attached to the main topic, and sub-topics around each subtopic are displayed graphically in mind mapping (Nikhilkumar D. Parikh, 2016).

Mind Mapping is a process of analysis that involves creativity combining a combination of visuals, colors, codes, words and connectors (Dewantara, 2019; Liu et al., 2014; Miranti & Wilujeng, 2018; Uysal & Sidekli, 2020), for improving students 'critical thinking, improving students' knowledge retention and cognitive skills (Miranti & Wilujeng, 2018). Mind Mapping can also be called a mind map. It also a method of taking notes entirely on one page. It uses visual and sensory reminders in a pattern of related ideas. Mind maps or Mind Mapping uses visual imagery and other graphic infrastructure to form impressions on the brain (Mento et al., 1999; Uysal & Sidekli, 2020).

It is a technical graphic that allows us to explore all the abilities of our brain for the purposes of thinking and learning. Mind Mapping Method is a new method for recording, the working principle is adjusted to the working principle of the two brains (left brain and right brain). This method teaches to take notes not only using pictures or colors. From the results of the study, it can be concluded that the use of demonstration methods makes children more interested in paying attention to lessons which ultimately have an impact that is increasing student learning achievement. The demonstration method can be used to develop an understanding, express problems, and practice direct learning of the subject of Art and Culture, not only explaining theories, but also practicing the theories directly taught.

2. Between with high learning activeness and groups students with low activeness, there is a substantial difference in art and culture learning achievement, with  $F = 94.082$  and  $p = 0.000$ , indicating that  $p < 0.05$ . In the high learning activeness group of pupils, the average value of art and culture learning achievement is 27.26 greater than the average value of art and culture learning achievement in the low learning activeness group of students 24.27 so that the hypothesis is accepted. An activity is a physical and mental activity that involves acting and thinking in a sequence that cannot be separated. Successful learning necessitates a wide range of activities, both physical and psychological. Physical activity refers to a student who uses his limbs to make things, play, or labor rather than merely sitting and listening,

watching, or passively. Students who have psychological activities (psychiatric) is if the mental power works as much or as much as possible to function in the framework of learning.

According to the findings of the study, students having a high level of learning activeness outperformed those with a low level of learning activeness. It is feasible that students who attend classes with a high level of learning activity will receive more subject matter than students who attend classes with a low learning activity level.

3. There is an interaction between learning methods and activeness in terms of art and culture learning, with a value of  $F = 5.585$  and  $p = 0.022$ , indicating a 0.05 significance level, where the average value of art and culture learning achievement in the demonstration method group with high learning activeness is 29, 38 and the average value of art and culture learning achievement in the demonstration method group with low learning activeness of 24.87. While the average value of cultural arts learning achievement in the Mind Mapping method group with high learning activeness was 25.29, and the average value of cultural arts learning achievement in the Mind Mapping method group with low was 17.86, the average value of Mind Mapping method group with low learning activeness was 25.29.

To achieve student learning achievement as expected, illustrates that there are two types of learning conditions that can affect learning achievement, namely internal conditions and external conditions. The initial abilities that students have before learning are included in the internal conditions that are needed in the learning process. This internal condition will change along with the learning process itself. External conditions include stimuli from outside that are outside the student (learners) such as the environment, the teacher, and the situation at the time of the learning process itself. This means that each new learning process starts from a different perspective from previous learning and will contain different external conditions, depending on the learner and the learning environment. Varied learning methods can lead to student learning activities so that learning achievement is better. Students with high learning activeness have a better chance of achieving higher learning achievement in the demonstration method than students with low learning activeness. Similarly, while using the Mind Mapping method to learn, students with high learning activeness have a better chance of achieving higher learning achievement than students with low learning activeness. Students who have a high level of

learning activeness while employing demonstration methods or Mind Mapping learning outcomes do better than students with a low level of learning activeness. So, it can be said that, both the demonstration method and the mind mapping method are suitable for use in learning Cultural Arts, but learning with the demonstration method gives a better impact than the mind mapping method at all levels of student learning activities. The demonstration method can be used to develop an understanding, raise problems, and practice direct learning of the subject of Art and Culture, not only explaining theories, but also directly practicing the theory being taught.

## CONCLUSIONS

Based on the analysis and debate, it can be stated that, first and foremost, there is a considerable difference in art and culture learning achievement between groups who use the demonstration technique and groups that use Mind Mapping. Demonstration approaches produce higher learning outcomes in Art and Culture disciplines than Mind Mapping. Secondly, there is a significant difference in learning arts and culture with high learning activeness and groups of students is low. Student learning outcomes in Art and Culture subjects with high learning activeness are better than students with common learning activeness. Thirdly there is an interaction between learning methods with activeness towards learning in art and culture. Learning achievement in Art and Culture subjects in the demonstration method group with high activeness has the highest average value. In contrast, the Mind Mapping method group with low learning activeness has the lowest average value.

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## Author's Contributions

All authors discussed the results and contributed to from the start to final manuscript.

## Conflict of Interest

The authors declare that they have no competing interests.

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