

## IMPROVING STUDENTS 'CREATIVE THINKING ABILITY THROUGH APPLICATION OF DEMONSTRATION LEARNING METHODS IN THE POINTS OF CHANGES IN OBJECTIVES

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### ABSTRAK

Tujuan penelitian ini adalah untuk menelaah dan mengetahui pencapaian peningkatan kemampuan berpikir kreatif siswa melalui penerapan metode pembelajaran demonstrasi pada pokok bahasan perubahan sifat benda di SDN Ciampel. Secara khusus, target yang ingin dicapai sebagai berikut : 1) Untuk mengetahui tingkat berpikir kreatif siswa kelas V SDN Ciampel sebelum metode demonstrasi dilakukan. 2) Untuk mengetahui tingkat berpikir kreatif siswa kelas V SDN Ciampel setelah metode demonstrasi dilakukan. 3) Untuk mengetahui Apakah penerapan metode demonstrasi dapat meningkatkan berpikir kreatif siswa kelas V SDN Ciampel. Metode yang digunakan adalah kualitatif dengan menggunakan penelitian tindakan kelas (PTK). Subjek penelitian adalah siswa kelas V dengan jumlah siswa 30 orang.

**Kata Kunci: Berpikir Kreatif, Metode Demonstrasi.**

### ABSTRACT

The purpose of this study was to examine and recognize the achievement of improving students' creative thinking abilities through the application of demonstration learning methods on the subject of changes in the nature of objects in Ciampel Elementary School. Specifically, the targets to be achieved are as follows: 1) To determine the level of creative thinking of grade V students of SDN Ciampel before the demonstration method is conducted. 2) To determine the level of creative thinking of the fifth grade students of Ciampel Elementary School after the demonstration method was conducted. 3) To find out whether the application of the demonstration method can improve the creative thinking of class V students of SDN Ciampel. The method used is qualitative using classroom action research (CAR). The subject of the research was the fifth grade students with 30 students.

**Keyword: Creative Thinking, Demonstration Method.**

### INTRODUCTION

Education has an important role in creating human resources (HR) in order to have good quality, enhance character, improve human dignity and values which is a shared responsibility between parents, society and the government. This is in line with the

understanding of education according to the National Education System Law Number 20 of 2003 that education is a conscious and planned effort to create a learning atmosphere and learning process so that students actively develop their potential, personality, intelligence, noble character, and skills that needed for him, the community, the nation and the country.

One of these skills is creative thinking. With creative thinking skills, students are expected to be better prepared to face competition in the future, especially in science learning. The implementation of science learning should be more active for students by the way students experience themselves, find solutions to problems, to resolve the problem. One of them uses a demonstration learning model. Syah (2000) explains that the demonstration method is a method of teaching through the display of goods, events, rules and sequences of an activity carried out directly through the use of instructional media adapted to the material presented. From the explanation above, the researcher is interested in carrying out alternative actions entitled "improving students' creative thinking skills through the application of demonstrations on the subject matter of changes in the nature of things".

## LITERATURE

### **Creative Thinking**

According to Khodijah (2006), thinking is to train ideas in the right and careful way that starts with the problem. Solso (in Khodijah, 2006) thinking is a process where new mental representations are formed through information transformation with complex interactions mental attributes such as judgment, abstraction, logic, imagination, and problem-solving.

According to Sternberg (in Afifa, 2007) someone who is creative is a person who can think synthetically meaning that he can see relationships where other people are not able to see him who has the ability to analyze his own ideas and evaluate the value or quality of his personal work, able to translate theories and things that are abstract into practical ideas, so that individuals are able to convince others about the ideas they will do. Whereas according to Sabandar (2008) explains that creative thinking is a thinking ability that starts from a sensitivity to the situation at hand, that the situation is seen or identified as a problem that wants to be resolved.

Based on the description above, it can be concluded that creative thinking is the ability to create new and original ideas. Even those who feel unable to create ideas can actually think creatively if they are trained in aspects of creative thinking such as cognitive abilities, open attitudes, free, autonomous and confident attitudes.

### **Demonstration Method**

The demonstration method is a teaching method by demonstrating the goods, events, rules, and sequences of conducting an activity, both directly and through the use of teaching media that are relevant to the subject or material being presented (Shah, 2000). Demonstration method is a method that is used to show something the process or workings of an object relating to learning material (Djamarah, 2000).

The method of demonstration in science learning is a method in which the teacher presents a science experiment in front of the class or in a place that can be seen by all students. There are several reasons why this method was chosen (Anitah, et al., 2014), namely if:

- a. Equipment and materials available in the laboratory are not sufficient for experiments.
- b. Using hazardous lab materials.
- c. Use tools that students may not operate.
- d. The concept obtained from the experiment must be explained step by step.

Based on several definitions above, it can be concluded that the demonstration method is a teaching method that is demonstrated by the teacher to students so that students gain a learning experience directly by seeing for themselves. The demonstration method is quite effective in helping students to find answers with their own efforts through observations based on facts or correct data.

### **Changes in the Nature of Objects**

Changes to objects can usually be observed. The properties of objects can be compared between before and after a change. Some change color. Some have changed their shape and some have turned soft. There are several factors that can cause changes in objects, (Haryanto, 2006), namely: heating, cooling, combustion, decay, and solidification.

## **METHOD**

The method used in this study is Classroom Action Research (PTK) or (Classroom Action Research). The nature of PTK is an action plan carried out in a planned and systematic way to solve learning problems in the class faced by everyday teachers (Sunardi, 2008). The definition of Classroom Action Research (CAR) is a form of study that is reflective by the perpetrators of actions taken to increase the rationality of their actions in carrying out their tasks, deepen their understanding of the actions taken and improve the conditions in which learning practices this is done. Planning this action research uses the work procedures of Kemmis and Taggart with two cycles.

With the details of each cycle consists of a) Planning, b) Actions, c) Observations, d) Reflections. The research design carried out was adapted from the Classroom Action Research model developed by Kemmis and Mc Taggart in Arikunto S. (2006). The subject of the research that the authors examined in this study were fifth-grade students of Ciampel Elementary School, West Bandung Regency, the 2017-2018 school year with 30 students. Research instrument with data collection techniques. Data collection methods are intended to obtain relevant and accurate materials that can be used appropriately in accordance with the research objectives. The methods used in this study are 1) observation method, 2) test method, 3) documentation.

## **RESULTS AND DISCUSSION**

### **Results**

Based on the results of the study, the following findings are obtained:

#### **Description of Cycle I**

In the implementation of the first cycle the learning process using the demonstration method began to show improvement compared to before using the demonstration method, observations of teacher observation sheets during the learning activities in the first cycle using the demonstration method, showing that from 9 aspects the total score/percentage overall was observed 73% are in the sufficient category.

Some of the causal factors include students still not able to provide various interpretations of an experiment or problem encountered when conducting a demonstration in front of the class. Likewise for teachers who are still not used to using the demonstration method, so the teacher

still sees the learning steps in the lesson plan. In line with the implementation of learning that has not been good, the improvement of students' creative thinking in the material changes in the nature of objects is still relatively low. This can be seen from the results of the first cycle test, that is, there are 37% of students whose values are still below the KKM and have not been completed. While 63% of students have the right score or above the KKM and are complete. The average value of students in learning improvement cycle 1 is 68. Based on the data obtained in the first cycle, the researchers assume that the learning activities using the demonstration method in the first cycle is considered still unsuccessful in increasing the creative thinking of students. Then collaboratively it was decided to proceed to the second cycle by making improvements as follows: 1) The teacher is able to process in carrying out demonstrations of material or topics that are practiced; (b) able to manage the class, and master students thoroughly; (c) able to use the tools used; (d) able to carry out process assessment.

### **Description of Cycle II**

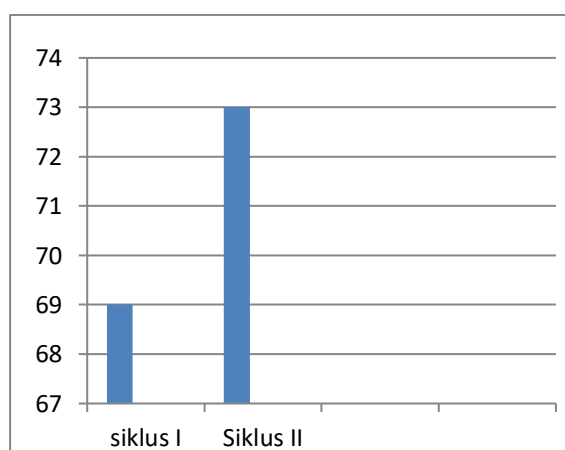
In the second cycle, the learning process using the demonstration method has begun to run well, this is because the researchers made improvements in learning activities so that students were also enthusiastic in carrying out learning in accordance with the demonstration method. Based on the teacher's observation sheet, the results of observations of the teacher during the learning activities in the second cycle show that: in the initial activity the teacher determines the purpose of the demonstration, sets out the main steps of the demonstration and prepares the necessary tools, then the study shows that in the initial learning activities with a total score of 80%, the teacher was very good at carrying out the activities at the beginning of learning.

When the core activities of the teacher are able to try so that the demonstration can be followed and observed by the whole class, the teacher is able to foster a critical attitude towards students so that questions and answers are discussed, the teacher gives each student an opportunity to try so students feel confident about a process, the teacher makes an assessment of the activities of the students in the experiment, then from the table above the study shows that the core learning activities with a total score of 80% state that the teacher is very good at carrying out the core learning activities in the demonstration method.

In the final activity the teacher also guides students to conclude the learning outcomes, the teacher provides follow-up in the form of giving assignments in writing or verbally, and closes the learning, then from the table above the research shows that at the end of the learning activity a total score of 80% states that the teacher very good at carrying out activities End of learning in the demonstration method.

## Discussion

Based on observational data and student learning outcomes data, this study was decided to be stopped in cycle II. Although there are still a number of things that have not yet been resolved, the overall percentage has been reached and the KKM has been determined Improvement of students' creative thinking skills that occur after the application of demonstration methods in science learning material Changes in the Nature of Objects can be seen in the following graph:



**Figure 1.** Average Values of Class V Science Cycle I and Cycle II

Based on the comparison of the values above there are 11 students experiencing an increase in value in cycle II. The data shows an increase in achievement or mastery of learning outcomes of fifth-grade students at Ciampel Elementary School. This proves that the use of demonstration methods has proven to be effective in increasing students' creative thinking in science learning about Changing the Nature of Objects.

### 1. Changes that occur in science learning Material Changes in the Nature of Objects

Based on the data obtained by researchers both observational data and student learning outcomes, it can be concluded that during the implementation of the first cycle to the second

cycle there were several changes and improvements that occurred, namely changes in the learning process and improvement in science learning outcomes.

a. Changes in the Science Learning Process With the implementation of the demonstration method.

With the implementation of the demonstration method, there was a change in the science learning activities of the material Change in the Nature of Objects in class V Ciampel Elementary School. After the implementation of the demonstration method on science learning, the students were more enthusiastic in participating in learning, there were even questions and answers and several students who expressed their opinions during the learning process. This shows that learning by demonstration methods can enhance students' creative thinking. The demonstration method is quite effective in helping students to find answers with their own efforts through observations based on facts or correct data. The method of demonstration in learning science is a method in which the teacher or student presents a science experiment in front of the class or in a place that can be seen by all students. There are several reasons why this method was chosen, namely if:

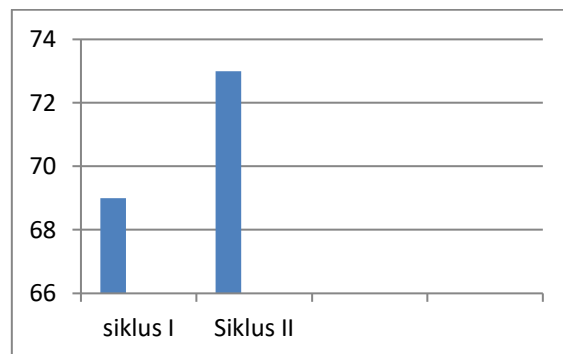
- 1) Equipment and materials available in the laboratory are not sufficient for experiments.
- 2) Using hazardous lab materials.
- 3) Using tools that students may not operate.
- 4) The concepts obtained from the experiment must be explained step by step.

The application of demonstration methods in science learning material changes in the nature of objects encourage the emergence of changes in student learning methods that not only read and understand the material conveyed by the teacher, but there are processes or stages that students and teachers must pass to increase students' understanding and creative thinking material science subjects Change the Nature of Objects in accordance with the learning steps in the demonstration method. Learning activities carried out in cycles I and II are able to encourage students to participate actively and creatively in the learning process from beginning to end, thus the learning process is not boring.

b. Enhancing Students' Creative Thinking Capabilities

Based on the results of the implementation of the repair cycle 1 and cycle 2 of the Natural Science Course, it can be seen that in general there is an increase in learning outcomes, both

conducted through tests, peer observation sheets, and observation sheets of students and teachers.



**Figure 2.** Average Values of Class V Science Cycle I and Cycle II.

Based on the comparison of the values above there are 11 students experiencing an increase in value in cycle II. The data shows an increase in achievement or mastery of learning outcomes of fifth-grade students at Ciampel Elementary School. This proves that the use of demonstration methods has proven to be effective in increasing students' creative thinking in science learning about Changing the Nature of Objects.

Based on the results of the comparison of the science grade scores of class V students that have been discussed previously, it shows that there is a significant increase in students' creative thinking in science learning about the change in the nature of objects using the demonstration method.

According to the results of the observations during the process of improving science learning about Changing the Nature of Objects in Class V of Ciampel Elementary School, the following data were obtained:

**Tabel 1.**

Combined Recap of Observation Results of Creative Thinking Students During the Process of Improving Learning Cycle 1 and Cycle 2

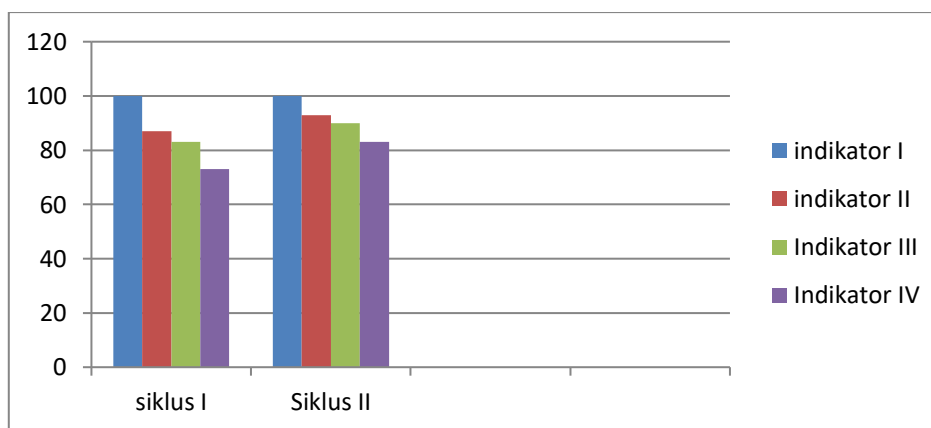
No	Kriteria Berpikir Kreatif	Siklus 1 Presentase	Siklus 2 Presentase
1	Keterampilan berpikir lancar ( <i>fluency</i> )	100%	100%
2	Keterampilan berpikir luwes ( <i>Flexibility</i> )	87%	93%



3	Keterampilan berpikir rasional, keaslian ( <i>originality</i> )	83%	90%
4	Keterampilan memperinci atau mengelaborasi ( <i>elaboration</i> )	73%	83%

### Aspects of Creative Thinking Criteria:

1. Skills of thinking fluently
2. Flexible thinking skills (Flexibility)
3. Rational thinking skills, authenticity (originality)
4. Detailing or elaborating skills



**Figure 3.** Percentage of Creative Thinking of Cycle I and Cycle II Students

From the data above in cycle, 1 student have shown creative thinking in terms of paying attention to demonstrations and teacher explanations, very good at fluent thinking skills. But still lacking in elaborating or elaborating skills, still, need guidance.

In cycle 2 students have shown creative thinking in terms of paying attention to demonstrations and teacher explanations, very good at fluent thinking skills. Good enough in detailing or elaborating skills.

This shows that there is a significant increase in students' creative thinking in science learning about the change in the nature of objects using the demonstration method.

## CONCLUSION AND RECOMENDATION

### Conclusion

Based on the results of the Classroom Action Research on science learning in the subject matter of Changes in the Nature of Objects using the demonstration method carried out on

class V in Ciampel Elementary School, Padalarang Subdistrict, West Bandung Regency the following conclusions were obtained:

1. The current state of science learning still uses many conventional learning models such as lectures. The lecture method focuses more on the teacher as the information center or the teacher only distributes knowledge to the students (Teacher-Centered), while students are only loyal listeners. Plus the teacher often assigns students to ship or write (record) all learning material. In the end, sometimes we hear that science learning is very boring, saturated even students become passive in the learning process takes place. Students are not enthusiastic in the learning process, which affects students unable to think creatively.
2. Currently, the world of education is presented with a variety of strategies, methods and learning techniques. One alternative learning that can be developed by teachers in overcoming obstacles to science learning is one using the demonstration method.
3. In science learning in class V using the demonstration method, students experience very significant improvements. In the first cycle of action learning the final evaluation results were obtained with an average value of 69.00. This shows that improvements need to be made to the next action. Furthermore, in the second cycle of action learning students experience better changes with the results of the final evaluation getting an average of 73.33. This shows that student learning outcomes have achieved maximum results and achieved learning objectives and have reached the established KKM (70.00). This illustrates that science learning in class V using demonstration methods can improve student learning outcomes.
4. Furthermore, on the results of students' creative thinking observations on learning cycle I actions showed creative thinking in terms of paying attention to demonstrations and teacher explanations, very good in thinking skills smoothly (100%). But still lacking in detailed or elaborating skills (73%), still need guidance. In cycle 2 students have shown creative thinking in terms of paying attention to demonstrations and teacher explanations, very good at fluent thinking skills (100%). Good enough in detailing or elaborating skills (83%).

This shows that the use of demonstration methods proved to have a positive impact on improving students' creative thinking in learning Changes in the Nature of Objects in Class V Ciampel Elementary School Academic Year 2017-2018.

### Recommendation

Based on the results of research in cycle 1 and cycle 2 there are several things that must be considered by teachers in improving their performance, namely

1. Teachers should practice more often using various teaching methods in science learning so students are motivated to learn.
2. The use of demonstration methods can be used as reference material for each teacher in improving the learning process in school.
3. When carrying out learning using the demonstration method, the teacher must master the steps of learning and prepare them carefully.
4. Improvement of learning must continue to be carried out in order to improve the process and quality of learning in schools.
5. The giving of subject matter should be given clearly and interestingly to students so that students become more enthusiastic in participating in learning.

Thus the things found through PTK certainly in every step there are still many mistakes and require improvement. The Teacher Working Group (KKG) really needs to be empowered to give, receive, process inputs, suggestions, and experiences in learning.

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