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STRATEGIES IN IMPROVING STUDENTS' CREATIVE THINKING SKILLS AND GEOGRAPHICAL LEARNING OUTCOMES IN 21st CENTURY

Miyatun[1], Chatarina Muryani[2], Puguh Karyanto[3]
Universitas Sebelas Maret
Email: miyatunmaryono@gmail.com

ABSTRACT

The development of the 21st century is marked by the use of advances in information and communication technology. Its application in the field of education requires students to be able to fulfill various skills. Creative thinking skills are important in the learning process because it is one of the higher-order thinking skills needed to face future challenges. This research was conducted to test the effectiveness of improving creative thinking skills and testing the effectiveness of improving student learning outcomes in social studies learning material on the physical condition of the Indonesian region at Junior High School. The method used in this research is Classroom Action Research (CAR) through cycle stages. This method is used to find out the best practices to achieve the learning objectives. The subjects of this study were 20 students of class VII Junior High School. Data analysis used the calculation of the creative thinking observation scale followed by an analysis of the percentage of students' complete learning outcomes. The results show that students' creative thinking skills increased to a very high category in cycle III. Analysis of the percentage of mastery learning outcomes reaching 90% with the average student score of 74,8 in cycle III.

Keywords: *Creative Thinking; Learning Outcome; Classroom Action Research; 21st Century.*

A. INTRODUCTION

Education form quality human resources. It's exciting to believe that we live in times that are so revolutionary that they demand new and different abilities (Rotherham & Willingham, 2010). Students are expected to develop their potential to the fullest through education to compete in the future. The digital information era is a challenge for both teachers and students to be able to make the best use of information and technology data (Griffin & Care, 2015).

21st century education puts more emphasis on how to be able to instill a new way of thinking in students. It is better for an instructional designer to consider these points to be successful when working on high level thinking skills (Sahin, 2009). A teacher plays an important role in building positive interactions so that learning objectives can be achieved optimally. Learning are carried out in a planned manner that focuses on the interests, characteristics, and conditions of students so that learning objectives can be achieved effectively and efficiently (Thobroni, 2016). The learning process by the

characteristics and needs of students can encourage learning success.

The increasingly unlimited information age requires an emphasis on information and communication technology literacy skills that allow students to understand everything (Salpeter, 2009). 21st century learning using a term known as 4C includes critical thinking, communication, collaboration, and creativity skills (Ariyana, 2018). One of the thinking skills that have to be developed is the ability to think creatively. Creative thinking can be imaginative, generate many possible solutions, different, and lateral (Harris, 2002).

In creative thinking, students are expected to be able to generate, develop, and implement their ideas creatively, either independently or in groups. Its emphasis on what students can do through knowledge rather than what knowledge they have is at the core of 21st century skills (Silva, 2015). Creative thinking skills play major roles. So that students can learn strategies for identifying problems, making decisions, and finding solutions both inside and outside of school (Eragamreddy, 2013).

Teachers must develop complete learning tools before carrying out the learning process (Sanjaya, 2016). Learning tools include syllabus, lesson plans, teaching materials, worksheets, and learning outcomes tests (Saifiana & Purnomo, 2017). The components in a learning process interact and interrelate. These components consist of learning objectives, learning materials, learning media, and evaluation. Teaching materials are one component in learning that can help students understand the material (Widyawardana et al., 2021). The application of the learning model needs to be well-chosen to be associated with learning materials (Argaw et al., 2017).

Social Science subjects are subjects that are considered too much material to be memorized. Students find it difficult and boring. It is known that the weakness of Social Science subjects is caused by teachers who have not applied the learning model. The learning process that has been going on so far only uses a lecture model and is sometimes assisted with simple power points.

The purpose of learning is to master knowledge in a way that can train students' intellectual abilities and stimulate students' curiosity and abilities. Learning outcomes are defined as patterns of action, values, understandings, attitudes, appreciation, and skills. The problem in learning is that learning outcomes in the sub-

competence of natural conditions in the Indonesian region are still low. It is widely known that the average value of student learning outcomes is 60, while the Minimum Completeness Criteria (KKM) is 70.

The Discovery learning model is learning with the concept of providing instructions along the way to help students conclude (Hanafi, 2016). The discovery learning model requires students to comment on concepts, information, and events by discussing and asking questions and reaching the information themselves, in other words, finding solutions through practice (Balım, 2009). The discovery learning model is considered able to improve learning outcomes because it is one of the means in improving the concept, especially in the material that explains a lot of concepts, and the application can be repeated (Patrianingsih et al., 2017).

Teachers make efforts to improve the learning process by using learning models that are most likely to improve creative thinking and student learning outcomes. The development of students' creative thinking skills needs to be carried out by every educator (Rahman, 2017). The four indicators of creative thinking include, fluency (the quantity of ideas), flexibility (the generation of different types of ideas), originality (the degree responses are uncommon), and elaboration (the enrichment of ideas) (Wechsler, 2010).

Strengthening 21st century skills and student learning outcomes is not an easy thing to do. A teacher needs to prepare everything carefully and in detail. Content can encourage the development of thinking that can create some 21st century skills challenges (Rotherham & Willingham, 2010). This study aims to test the effectiveness of improving creative thinking skills and to test the effectiveness of improving student learning outcomes. Researchers designed a learning process that applied through classroom actions to produce the best "formula" to improve creative thinking and student learning outcomes.

B. MATERIALS AND METHODS

The study in this article uses the type of classroom action research. Classroom action research is an alternative research application that encourages teachers to take notes about class activities, plan actions (acting), observe (observe), and reflect (reflecting) (Purrohman, 2018). CAR uses a certain cycle, if the repair is not successful in the first cycle, then the next cycle is carried out (Kemmis & Taggart, 1992; Winter, 1996). The purpose of CAR is to improve learning in the upper

class, which is considered not to run optimally (Milewski, 1999).

Respondents in this study included 20 grade VII students at the Junior High School Kasatriyan Surakarta. All respondents are students from the same class and get the CAR stages from beginning to end. Determination of the sample based on purposive sampling technique with an explanation of the sample from the data source selected with certain considerations (Sugiyono, 2013).

Identification of students' creative thinking skills is calculated based on scoring on each creative thinking indicator including fluency, flexibility, originality, and elaboration (Wechsler, 2010). Data analysis of the identification of students' initial creative thinking skills was carried out based on scoring which refers to the Likert scale. The Likert scale has five scale responses: very poor, poor, moderate, good, and very good with scale scores of 1, 2, 3, 4, and 5 (Vonglao, 2017). The criteria for students' completeness in social studies learning at SMP Kasatriyan 1 Surakarta is 70. Students are said to be complete if they have achieved a score of 70. The formula for student learning mastery is as follows:

$$T = \frac{\sum PTB}{\sum n} \; x \; 100\%$$

Explanation:

T = Percentage of learning completeness
∑PTB = Students who achieve a complete score
∑n = number of students

C. RESULTS AND DISCUSSION

Improving creative thinking and student learning outcomes are carried out through three cycles in Classroom Action Research (CAR) discovery learning model. Learning cycle I, cycle II, cycle III is carried out with the material of the physical condition of the Indonesian territory. The pre-action test was carried out before the cycle stage. Collecting data through pretest by carrying out tests and observing the learning process. The assessment of students' creative thinking is carried out by observing in the form of observations by the observation worksheets that are adjusted to the guidelines that have been made previously.

The results of creative thinking at the pre-action stage obtained results, namely 6.3% fluency indicators, 8.4% originality indicators, 9.1% flexibility indicators, and 9.7% detail indicators. This indicates that the achievement of students' creative thinking is still low due to the total achievement of 33.4%.

Observations made at the pre-action stage found that the learning process carried out was still relatively low. At the beginning of the learning process, the teacher had started by praying and attending to students, but the teacher had not motivated students to prepare themselves to receive the subject matter. In the main activity, the teacher has not allowed to ask students and students do not dare to ask questions. The results of the pre-action observation data become a reflection of researchers on ways that can be done to improve creative thinking and student learning outcomes.

The researcher coordinates with the class observers to find the right solution. It was mutually agreed to apply the learning model because it is one of the ways used to focus on identification and discovery through scientific procedures in learning and is usually carried out in groups. The discovery learning model began with worksheets made by the teacher in the learning process. Learning models that actively involve students are expected to improve creative thinking and student learning outcomes.

The stage continued to the first cycle, applied to learn using the discovery learning model. The results of creative thinking show that the fluency indicator is 12.8%, the originality indicator is 15%, the flexibility indicator is 16.6%, and the detailed indicator is 15.9%. The total percentage of critical thinking in the first cycle of 60.3% is in the medium category.

The stage continued to cycle II, applying to learn using the discovery learning model. The results of creative thinking show that the fluency indicator is 18.1%, the originality indicator is 18.8%, the flexibility indicator is 19.7%, and the detailed indicator is 18.8%. The total percentage of critical thinking in the second cycle of 75.4% is in the high category.

The stage is continued to cycle III by using the discovery learning model. The implementation of cycle III that distinguishes it from cycle I and cycle II is in the student worksheets. In cycle I, students fill in the answers on the worksheets on the paper provided. In cycle II, students decorate polystyrene foam with folded paper and match the questions and answers. While in the third cycle is done with the term “science doll”.

The third cycle stage applies to learn using the discovery learning model. The results of creative thinking show that the fluency indicator is 22.5%, the originality indicator is 23.1%, the flexibility indicator is 22.5%, and the

detailed indicator is 22.5%. The total percentage of critical thinking in the third cycle of 90.6% and is in the very high category.

The results of students' creative thinking at each stage have increased. The comparison of students' creative thinking results from the pre-action stage to cycle III can be clarified by the histogram in the following figure:

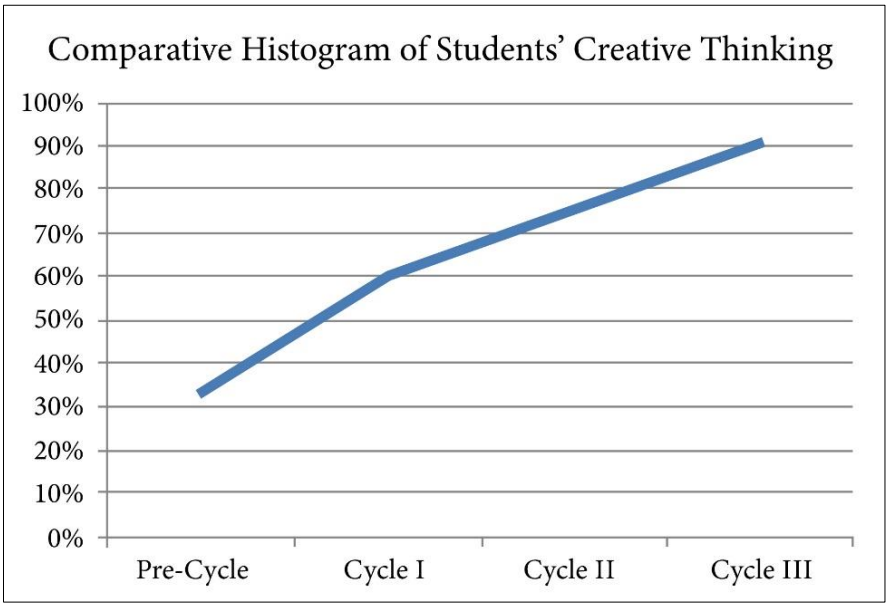

Figure 1. Comparative Histogram of Students' Creative Thinking in Each Cycle

The implementation of the learning process by students is indicated by the willingness of students to do the tasks given by the teacher. In general, the learning process with the discovery learning model has been successful. This can be seen from the development of each cycle through increasing the percentage of completeness and the average which has increased gradually.

The implementation of pre-action learning got an average value of learning outcomes of 62.75 which indicates that the learning outcomes according to the target have not been achieved. Classical learning completeness in pre-action is 40%. In the first cycle, the average value of student learning outcomes was 67.25. There is an increase in the average learning outcomes between the pre-action learning outcomes and the first cycle learning outcomes. The classical learning completeness in the first cycle is 55%. The use of stimulants or treatments in the form of Student Worksheets I (LKS I) affects the final results of the

learning process on the physical condition of the Indonesian territory. Worksheet I in cycle I is in the form of working on worksheets made by researchers using HVS paper.

In the second cycle, the average learning outcomes increased to 69.5. This is influenced by the use of variations in learning media in the form of new videos and Student Worksheets II (LKS II). Classical learning completeness in cycle II is 60%. The worksheet in cycle II is in the form of making folded paper according to the creative power of students which is attached to the polystyrene foam as a place for matched questions and answers. In the third cycle, the average learning outcomes increased to 74.8 with a 90% completeness percentage.

Student learning outcomes at each stage have increased. The comparison of student learning outcomes from the pre-action stage to cycle III can be clarified by the histogram in the following figure:

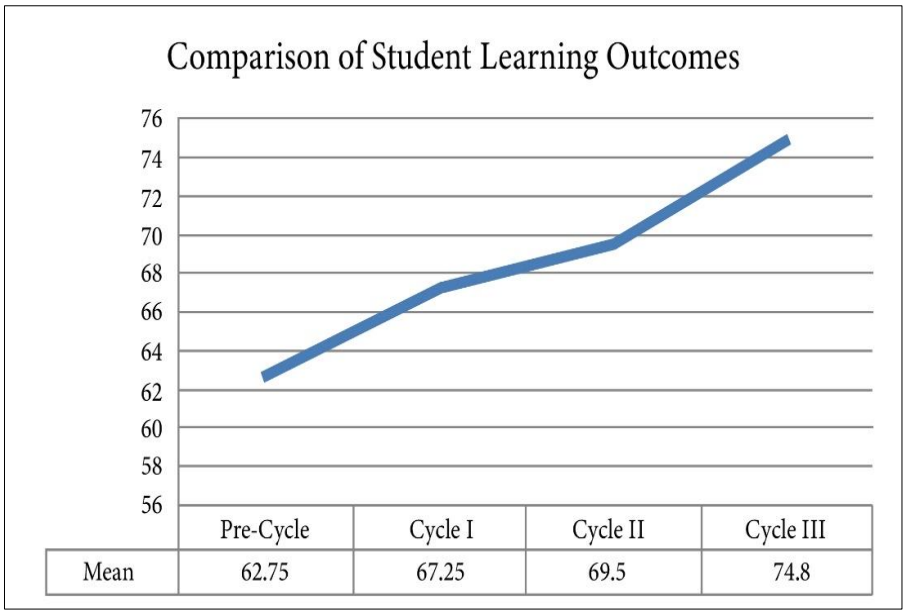

Figure 2. Histogram Comparison of Student Learning Outcomes Each Cycle

This is supported by the variation of Student Worksheet III (LKS III) which helps students to further improve their thinking power in solving material problems. In addition, the use of discovery learning syntax requires students to always develop and find solutions to the problems that are the main idea in each Student Worksheet. The student worksheet in cycle III is called the "Science Doll" worksheet. It is said to be a "Science Doll" which means

a doll with clothes decoration made of folded paper with an educational context that can facilitate students' understanding of the subject matter. Changes in the implementation of learning from cycle I to cycle III always increase. In the first cycle, learning is no longer centered on the teacher (teacher center) but turns into a student center.

Based on the pre-action stage, cycle I, cycle II, cycle III, the teacher succeeded in carrying out learning using the discovery learning model. The use of discovery learning models is implemented on the material of the physical state of the Indonesian territory. In general, the learning process with the discovery learning model has been successful. This can be seen from the development of each cycle through increasing the percentage of completeness and the average which has increased gradually. This research is useful for improving the performance of teachers to be more effective and interesting in the classroom. The success of increasing creative thinking and student learning outcomes became the basis for the research to stop in cycle III.

D. CONCLUSIONS

The low condition of creative thinking and student learning outcomes of SMP Kasatriyan 1 Surakarta becomes a challenge for teachers to be able to find solutions to meet 21st century learning. Through several cycles in this Classroom Action Research (CAR), it is concluded the results of best learning practices in improving creative thinking and student learning outcomes. This research was conducted through several cycles in classroom action research (CAR) to determine the improvement of creative thinking and student learning outcomes. The teacher takes action to achieve the best "formula" in achieving the learning objectives. This study found that the use of discovery learning models supported by "Science Doll" can improve creative thinking and student learning outcomes through 3 cycles. The results and discussion show that students' creative thinking skills have increased in the third cycle by 90.6%. The student's creative thinking skills are in the very high category. The success of improving learning outcomes is indicated by the achievement of completeness of 90% with student's mean score of 74.8. Completeness of the dominant student scores occurred in the cycle III in the CAR. It is concluded that the application of the discovery learning model can effectively improve creative thinking and learning outcomes of seventh-grade students of SMP Kasatriyan 1 Surakarta.

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