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The Effectiveness of Mind Mapping Model Toward Students' Creative Thinking Ability on Basic Concepts of Civics at PGSD FIP UNM

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Abstract. The purpose of this study was to describe the effectiveness of Mind Mapping model on students' creative thinking skills in learning the Basic Concepts of Civics in class M8 PGSD FIP UNM. The results of this study contribute as reference material and literacy for education practitioners in terms of learning implementation that emphasizes understanding and relationships between concepts. The type of the research is quasi experimental. The research sample was 62 students of PGSD UPP Makassar. Data collection used questionnaires, tests and documentation. The data validity used content validity and quantitative data analysis used t-test, effect size test, and N-gain score test. The average creative thinking ability of students who use the mind mapping learning model is higher than those using conventional learning models. The results showed that the Mind Mapping model was effectively used in learning the Basic Concepts of Civics.

Keywords: Mind mapping model, creative thinking, basic concept of civics

INTRODUCTION

Citizenship Education (Civics) is very important in shaping people's personalities to carry out their daily life as citizens and as members of society. Therefore, the mission of Civics Learning in Higher Education is to train students to get used to applying democratic attitudes in accordance with what is mandated in the constitution, namely in the Preamble to the 1945 Constitution, that the State of Indonesia is a country with people's sovereignty or democracy.

To achieve this goal, lecturers must be able to comprehensively build student personalities in the sense that the process of changing student performance is not limited to knowledge but also includes skills, perceptions, emotions, and thought processes. Lecturers as the main controller in the teaching and learning process, especially in the classroom, are expected to be able to create conducive learning conditions, to encourage and provide motivation so that students carry out learning activities well so that their learning achievement can increase [1]. To achieve this goal, one of the skills that students need to have and develop is the ability to think creatively. Creative thinking is a habit of thinking that is trained by paying attention

to intuition, developing imagination, expressing new possibilities, opening up amazing viewpoints, and generating unexpected ideas. When the ability to think creatively develops, it will give birth to ideas, find interrelated relationships, create and carry out imagination, and have many perspectives on something. Students who have high creative thinking skills tend to feel challenged and interested in solving various problems in learning.

Permendiknas Number 32 Year 2013 concerning Process Standards states that: "the learning process in each education unit is held in an interactive, inspiring, fun, challenging manner, motivates students to actively participate, and provides sufficient space for initiative, creativity, and independence according to their talents, interests, and physical and psychological development of students"[2]. Such learning must be summarized in an interactive learning model that can produce a learning climate that supports and motivates students to participate actively and creatively in learning, so that it is expected to increase student thinking and understanding in order to achieve the desired learning goals. One of the achievements of learning objectives can be seen from the acquisition of learning outcomes, thus the lecturer needs to understand the needs of students in order to carry out an active, creative, effective and fun learning process.

Based on the learning objectives of Civics subject, the ability to think creatively is one of the abilities demanded from the curriculum of Civics Basic Concepts. However, what are the hopes and goals of the Civics Basic Concepts course is not entirely in accordance with the real conditions in the field. One of the problems that occurs is that often lecturers' efforts in lesson plan, especially in developing students' creative thinking skills, are not successfully implemented according to the expected target. Based on the observations, the ability of PGSD FIP UNM students, especially in class M8.2 PGSD UPP Makassar, in developing Civics material concepts is still low. This is observed when assignment activities carried out by students tend to be dominated by certain students only, while other students prefer to be silent, they are still less confident in expressing their ideas, thoughts, feelings, rebuttals, agreements, or opinions. On the other hand, some lecturers who teach the Basic Concepts of Civics often focus on developing low-level abilities that are memorizing without understanding concepts and relationships between concepts through conventional teaching strategies such as lectures and questions and answers, while analytical and creative thinking skills are often neglected. The low quality of the Civics learning process held in the classroom implies the low ability to think creatively and the learning outcomes obtained by students.

If this condition continues, the objectives of the Civics Basic Concepts as expected will be difficult to achieve. Therefore, lecturers should be able to overcome this problem by applying various methods through learning approaches and methods that can create an atmosphere where students are able to think creatively, interact with each other, communicate and share to understand and learn the subject matter being discussed. One learning model that is in accordance with the

implications of Civics learning, especially Civics Basic Concepts is to use the Mind Mapping model. The use of the Mind Mapping Model can trigger students to think creatively in students-students, students-lecturers communication. The habit of students participating actively in learning will direct students as citizens who are accustomed to participate in carrying out social and state life. Based on the background, the formulation of the problem in this study is if there is a difference in the creative thinking abilities between students who use the Mind Mapping model and students who use conventional model in learning Basic Concept of Civics? and How is the effectiveness of the Mind Mapping model in learning the basic concepts of Civics?

Buzan states that Mind Map is an alternative to whole brain thinking to linear thinking [3]. The Mind Map reaches out in all directions and captures various thoughts from all angles. Mind Map is the easiest way to put information into the brain and take information out of the brain, a mind map is a creative, effective way of taking notes, and will literally map our thoughts. Furthermore, Buzan explained some of the meanings of a Mind Map. (1) Mind Map is a very powerful organizational thinking tool, (2) Mind Map is the easiest way to put information into the brain and retrieve that information when needed, (3) Mind Map is a way of taking notes which is creative, effective, and will literally "map" thoughts, (4) Mind Map is the result of the Mind Mapping method in the form of visualization results in the form of symbols or images, which can be used instead of written notes and the results are more memorable. Meanwhile, according to Deporter a mind map is a technique of utilizing the whole brain by using visual images and other graphic infrastructure to form impressions.[4, p. 153]

Mind Mapping is a technique of composing notes to help students use the full potential of the brain in order to optimize it. The trick is to combine the work of the left and right brain. "Based on research, average child remembers 70-90% of all children's material when they finish making their own mind map" [5] Mind Mapping has several advantages according to Hernacki in [3] including: Flexible, able to focus thoughts, increase understanding, and fun. In addition to these advantages, the mind mapping model also has weaknesses, including the application requires a long time and the possibility of causing boredom for students who do not like pictures.

In relation to the thought process to find new relationships between things, accept, remember, provide critical analysis and use the results in problem solving, a creative thinking process is needed, which requires persistence, self-discipline, and full attention, including mental activities such as: 1. Ask questions, 2. Consider new information and unusual ideas with an open mind, 3. Build connections, especially between different things, 4. Connect things freely, 5. Apply imagination to every situation to produce new and different things, 6. Listen to intuition.

Creative thinking involves curiosity and questions encouraging students to think to research the problems that have been selected for discussion related to the material. With creative thinking skills, students are expected to be able to develop

themselves in making decisions from various points of view to solve problems. The need to think creatively is not limited to complex problems as some people believe, but it is also a primary need in everyday life.

Ghufron & Rini argues that the ability to think creatively has an important role in life because creativity is a source of reliable human resources to drive human progress in terms of research, development, and new discoveries in the fields of science and technology as well as in all areas of human endeavor. Without the ability to think creatively, a person will not find answers to solve their problems so it is possible that there will never be progress in life. When the ability to think creatively develops, it will give birth to ideas and find interrelated relationships.[6]

Santrock defines creativity as the ability to think about things in new and unusual ways and give birth to a unique solution to problems [7]. Sternberg defines creative thinking as new thinking and generating valuable ideas[8]. Moeller, Cutler & Fiedler also stated that creative thinking includes brainstorming, creating new and valuable ideas, describing, refining, analyzing, and evaluating[9]. Creative thinking is often defined as divergent thinking. This is explained by Guilford (Kaufman, Plucker & Baer, 2008) who states that in the divergent thinking category, the most significant abilities are found, namely creative thinking and discovery[10]. Pehkonen defines creative thinking as a combination of logical thinking and divergent thinking that is based on intuition but has a purpose in solving a problem. This process leads to the emergence of several new understandings, ideas, practical solutions, or products that are meaningful to the individual.[11]

Munandar explains that creative thinking can be formulated as fluency, flexibility, originality, elaboration (detailing) an idea [12]. The characteristics of fluency are (a) generating lots of ideas, lots of answers, lots of problem solving, and lots of questions fluently; (b) provides multiple ways or suggestions of doing things; and (c) always think of more than one answer. Flexibility characteristics are (a) producing various ideas, answers or questions, being able to see a problem from different points of view; (b) looking for many alternatives or different directions; and (c) able to change the approach or way of thinking. The characteristics of originality are (a) able to produce new and unique expressions; (b) think of unusual ways of expressing oneself; and (c) capable of making unusual combinations of parts or elements. While the characteristics of elaboration are (a) able to enrich and develop an idea or product; and (b) add or detail details or describe coherently of an object, idea, or situation so that it becomes more interesting.

Based on some of the opinions above, creativity is the process of producing new, unusual works involving cognitive and affective aspects leading to the emergence of several new understandings, ideas, practical solutions, or meaningful products. A person who thinks creatively can use his cognitive skills and abilities to find new solutions to a problem. These solutions can be in the form of new and valuable thoughts and ideas which are obtained from the results of describing, refining, analyzing and evaluating.

RESEARCH METHOD

The research used a quantitative approach. This type of experimental research is quasi-experimental design. Experimental research is research that is carried out by giving certain treatment to the research subject using pretest-posttest control group design. The independent variable in this study is the Mind mapping learning model, the dependent variable is the students' creative thinking ability, while the control variable is the conventional learning model. The population in this study was all M8 class students at PGSD UPP Makassar in the even semester of the 2019/2020 school year which consisted of 6 classes with a total of 182 students. Before determining the experimental class and the control class from the 6 existing classes, a pretest of students' creative thinking abilities was carried out using the Carter creative thinking ability test. The result is that from the six classes, there are 2 classes that have the same low creative thinking ability, namely M8.2 class and M8.4 class, each of which consists of 31 people. Class M8.2 was the experimental class and class M8.4 was the control class. The techniques used for data collection in this study were questionnaires, tests and documentation. The questionnaire was used to collect data on students' creative thinking abilities. The test technique was used to collect student learning outcomes about the basic concepts of Civics before and after treatment. Documentation techniques are used to strengthen research data. The data analysis technique used is descriptive analysis and comparative analysis and hypothesis testing using the ANOVA test, namely the distribution normality test, variance homogeneity test and relationship linearity test using the t-test, effect size test, and N-gain score test processed using the SPSS 21 program for windows.

RESULT AND DISCUSSION

Result

The research data consisted of data on the ability to make a mind map (expressed by x as the independent variable), as well as data on creative thinking skills and data on learning outcomes (expressed by y_1 and y_2 as the dependent variable). In the research implementation stage, students were asked to make a mind map at each meeting according to the material they were learning. The mind maps produced by students are assessed based on the predetermined scoring rubric. At the end of the research, a creative thinking ability test and a learning outcome test were conducted. The learning outcome test was conducted on Wednesday, June 6, 2020 and the creative thinking ability test was carried out on Wednesday June 13, 2020. Based on the processed data, it can be seen that the average mind map score showed an increase in the second, third, and fourth meetings. This means that there is an increase in students' ability to make mind maps. This increase was because students felt happy carrying out the task of making a mind map. From the mind maps collected at each meeting, it can be seen that they tend to try to improve the mind map that has been assessed before continuing to make the next mind map. In fact, the mind map they produce is getting better. From the data on the ability to

think creatively, it was obtained an average of 68.61, a maximum value of 78.00, and a minimum value of 50.00. This shows that students' creative thinking skills are still low. This is because students have not been accustomed to facing creative thinking problems that require divergent thinking skills.

To see the effect of the ability to make a mind map (x) on the ability to think creatively (y1), an analysis was carried out which began with plotting the data. From the results of the data plot, it can be seen that the distribution of the x data with the y1 data follows a straight line. This shows that there is a linear relationship between mind map values and the ability to think creatively. The normality test shows that the dependent variable data, namely y1, is normally distributed. Furthermore, the regression significance test was carried out by comparing the F-count value with the F-table value. The result is that H0 is rejected at the significant level of 0.05. This means that the model can be used to describe the effect of the ability to make a mind map (x) on the ability to think creatively. Furthermore, the effectiveness of the mind map learning model on the creativity of students' critical thinking abilities carried out in the experimental class with the results (sig 2-tiled) 0.05 for pre-test data, and (sig 2-tiled) 0.02 for posttest data. The decision making criteria from the pretest is if (sig 2-tiled) > 0.05 then there is no significant difference in the experimental class and the control class. On the other hand, the criteria for decision-making with posttest results (sig 2-tiled) < 0.05 , there is a significant difference between the experimental class and the control class. This can also be seen from the N-gain in each class which shows the increase in different categories. The experimental class has an effect size value of 0.78 which is in the medium category, while the control class has an effect size value of 0.01 which is included in the low category.

Discussion

Learning habits that assign them to make a mind map at each meeting can familiarize them with thinking more creatively so that they can optimally solve the problems they face. Based on the value of the coefficient of determination, it can be seen that the effect of the mind map on learning outcomes is greater than the effect on the ability to think creatively. This is because so far students have not been used to facing problems that require creative thinking. The learning outcomes achieved by students also cannot be said to be good because most of the students' scores have not reached the set KKM (Minimum Mastery Criteria). This is also closely related to the ability to think creatively. From the regression analysis to see the correlation between the ability to think creatively with student learning outcomes, it is concluded that there is a positive correlation of the ability to think creatively with student learning outcomes. This means that the low student learning outcomes are also caused by the low ability of students to think creatively in addition to the ability to make mind maps and other factors. It is hoped that the learning habits that assign them to make a mind map at each meeting can get them used to thinking more creatively so that they can solve the problems they face optimally.

CONCLUSION

Based on the research results and discussion, the conclusions of this research are as follows:

1. There is an average difference in the ability to think creatively between students who received the mind mapping learning model and students who receive conventional learning models. The average creative thinking ability of students who use the mind mapping learning model is higher than the average creative thinking ability of students who use conventional learning models.
2. The application of the mind mapping learning model is more effective when compared to conventional learning models in increasing students' creative thinking skills. In terms of the effectiveness of using the mind mapping learning model in improving students' creative thinking skills, the key is the opportunity for students to think freely and express their ideas through mind map designs related to the learning material being discussed.

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