Mind Mapping Model, Student Learning and Creativity: Evidence From Economics Lesson of Senior High School

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Abstract

Student learning outcomes are low due to lack of participation and weak understanding of students on the material delivered. Students have difficulty repeating the material that has been obtained. Student notes are linear and monotonous so students are tired of reading and have difficulty re-learning the notes that have been made. The application of mind mapping learning models is done to overcome the low learning outcomes and creativity of students. The study was conducted with Classroom Action Research and used a qualitative approach. Student learning outcomes and creativity have increased from cycle 1 to cycle 2.

How to Cite

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INTRODUCTION

Education can work well if it is supported by an effective learning process. Effective learning is characterized by the learning process within students Winarno (2014). The 2013 curriculum requires the learning process in educational units to be held interactively, inspiring, fun, challenging, and motivating students for active participation Hairani (2016). In addition, students are also given sufficient space for initiative, creativity, independence in accordance with their talents, interests and physical and psychological development so that the learning process can improve the competencies found in students in Hairani (2016).

The teacher must be able to create an easy and fun learning process to attract students in learning. On the other hand, students must carry out learning activities well so that the learning outcomes obtained are satisfactory. Both parties must work together to create a good learning process. If both parties succeed in learning in the classroom, both students and teachers will have great motivation to carry out teaching and learning activities continuously.

The implementation of learning in class does not always run smoothly. The learning process is often hampered by some limitations and problems. Based on preliminary observations made by researchers during the second wave MPA in Tumpang 1 Public High School, researchers encountered a problem that occurred in class X IPS 1, namely the lack of student participation. Low student participation is indicated by many students who do not pay attention to the teacher's explanation and do activities that interfere with learning such as talking with friends, playing cellphones, or daydreaming and not focusing on the teacher's explanation. This low participation has an impact on students' low understanding of the material. This low understanding causes students to forget and must open the book when the teacher gives a question feed. This of course makes the answers submitted by students in the form of "text book" answers. Students also find it difficult to recall material that has been read, written or obtained from the teacher's explanation. The data obtained from the UTS score also shows 50% of students or as many as 19 students from 36 students did not get the value corresponding to the Minimum Completion Criteria (KKM) of 75.

Not only that, another habit encountered is how to record students who are still linear and monotonous. Student records also tend to be unstructured and still in the form of traditional notes with black ballpoint pens. Most students still record material from the teacher's explanation and do not record the core points of the material presented. This is an indication that student creativity is still low. The results of student notes that are less attractive cause students to be bored and quite difficult to re-learn the notes that have been made. This also has an impact on the acquisition of learning outcomes because students make notes as a source of learning.

Based on the above problems, the teacher needs the application of a learning model that can increase participation and understanding so that learning outcomes increase Wulandari & Narmaditya (2016). In addition, the learning model that is applied must also help students improve their creativity. One way that can be used to overcome these problems is to apply mind mapping. According to Buzan (2004) mind mapping is a great system in retrieving data in the brain, helping to learn, organize and store information, and can classify information fairly so that it allows instant access to all things desired. Hairani

(2016) states that mind mapping can help students focus on the subject, help show the relationship between parts, information that is mutually separate, gives a clear picture, allows students to group concepts, and compare them. Added by the opinion of Hairani (2016) that using mind mapping allows one to activate and explore their thinking abilities. Sapir (2013) argues that mind mapping is also able to enhance or stimulate one's creative side through the use of lines, colors and images where this can make a note into a beautiful and mentally beautiful artwork that will make it easier for someone to remember. Rusyiana et al. (2015) also believes that mind mapping is a way of recording effective, efficient, creative, interesting, easy and efficient because it is done by mapping our thoughts.

In accordance with the formulation of the problem presented above, the researcher gave the action hypothesis in the form of: 1) The application of the mind mapping learning model can improve student learning outcomes on economic subjects in class X IPS 1 in Senior High School 1 Tumpang; 2) The application of mind mapping learning models can improve students' creativity in economic subjects in class X IPS 1 in Senior High School 1 Tumpang.

METHOD

This study uses a qualitative approach with the type of research in the form of Classroom Action Research (CAR). The research was carried out in 2 cycles with each cycle having 4 stages, namely the first action planning, implementing actions, observing or collecting data, reflecting. The subjects in this study were students of class X IPS 1 in Senior High School 1 Tumpang, amounting to 36 students. Data in the form of application of mind mapping learning models are taken through observation techniques. Learning outcomes are collected by test techniques through pre-test and post-test. While data from students' creativity are taken through observation sheets of student creativity. Data collection techniques are also supported by field notes and documentation. Data analysis carried out includes 3 stages namely Reducing data; Presenting Data; Data verification.

RESULT AND DISCUSSION

Observations carried out on the learning process carried out by 3 observers, namely Ms. Riati as economics teacher in class X IPS 1 and 2 observers from the S1 Economic Education Study Program students namely Elsa Nanda Nuraini and Yuniar Adhinaya. Based on behavior towards teacher results:

Table 1: Comparison of the Success of Teacher's Actions in the Application of Mind Mapping Learning Models

Cycle	Percentage of Successful Action	Information
Cycle 1	71.875 %	Increase
Cycle 2	90.625 %	

Resource: Author (2018)

In table 1 the percentage of success of the first cycle of action shows a success rate of 71.875%. The success of this action increased to 90,625% in cycle 2. The results of the observation of the success of the action were obtained from the observation sheet which contained the actions of the teacher from the preliminary, core, and closing activities..

Student learning outcomes compared from cycle 1 and cycle 2 came from the average value of the pre test and post test given. Comparison of student learning outcomes is explained in the following table:

Table 2: Comparison of Pre Test Learning Results and Cycle 1 and Cycle 2 Post Tests

Learning Outcomes	Average Learning Outcomes		Information
	Cycle 1	Cycle 2	
Pre test	57	58	Increase
Post test	82	85	

Source: Author (2018)

Based on Table 2 shows that in cycle 1 the average pre test value of 55 increased to 82 in the post test, while in the second cycle the average value of the pre test was 57 and increased to 85 in the post test. Viewed between cycles, the increase also increased where the results of the first cycle of the pre test were 55 increased to 57 in the second cycle. Post test between cycles also increased where the average post test cycle 1 was 82 increased to 85 in the post test cycle 2. While the completeness of learning outcomes can be seen in the table below:

Table 3: Comparison of Completeness of Cycle 1 and Cycle 2 Learning Outcomes

Learning Outcomes	Percentage of Completeness of Learning Outcomes		Information
	Cycle 1	Cycle 2	
Pre test	9%	17%	Increase
Post test	72%	89%	

Source: Author (2018)

From the table above, it can be seen that in cycle 1 the percentage of learning completeness from 9% in the pre test increased to 72% in the post test, while the percentage of completeness in cycle 2 by 17% in the pre test increased to 89% in the post test. Seen between cycles, the increase also occurred where the percentage of completeness of the first cycle pre test of 9% increased to 17% in cycle 2. Post-cycle tests also increased where post test 1 cycle completeness learning 72% increased to 89% in the post test cycle 2.

Student creativity in making mind mapping is obtained from making mind mapping individually and in groups. Making mind mapping individually can be known through the following table:

Table 4: Comparison of Student Creativity in Making Individual Mind Mapping

No.	Point	Category	Criteria	Cycle 1	Cycle 2
1.	81 – 100	Very Good	A	2	10
2.	61 – 80	Good	B	17	20
3.	41 – 60	Average	C	13	6
4.	21 – 40	Poor	D	-	-
5.	< 21	Very Poor	E	-	-

Source: Author (2018)

From the table above, it can be seen that in the first cycle the number of students who made mind mapping in a very good category (A) was only 2

students. while the rest made mind mapping with the results that entered into the good category (B) as many as 17 students and 13 students made mind mapping in the fairly good category (C). While in cycle 2 there was an increase in the number of students who made mind mapping with very good category (A) with a total of 10 students, good category (B) also increased to 20 students and only 6 students made mind mapping in a fairly good category (C).

Making mind mapping in groups is shown with the following results:

Tabel 5: Perbandingan Kreativitas Siswa dalam Pembuatan *Mind Mapping* secara Kelompok

No.	Point	Category	Criteria	Cycle 1	Cycle 2
1.	81 – 100	Very Good	A	-	5
2.	61 – 80	Good	B	5	4
3.	41 – 60	Average	C	4	-
4.	21 – 40	Poor	D	-	-
5.	< 21	Very Poor	E	-	-

Source: Author (2018)

From table 5, it can be seen that the results of student creativity in making mind mapping in groups increase. In cycle 1, there was no group of students who made mind mapping in a very good category (A). The student group only made mind mapping with good categories (B) as many as 5 groups and 4 groups in the fairly good category (C). Whereas in cycle 2, the results of students' creativity increased as indicated by the presence of 5 groups of students who received very good categories (A) and 4 groups of students got good categories (B).

Application of Mind Mapping Learning Model in Economic Subjects in Class X IPS 1 in Senior High School 1 Tumpang

The application of mind mapping learning models can work well. The success that occurs can be known through the participation and enthusiasm of students in learning and making mind mapping even though at the beginning of the meeting, some students still do not understand the model applied. Students who were previously not confident about the results of making mind mapping themselves became more confident and the results of the mind mapping made became more interesting. The allocation of time in cycle 1 which is still less structured becomes more structured in cycle 2 because the teacher has tried to understand and overcome the problems that arise in the learning process. Group work that was previously only carried out by a few members in cycle 1 can be corrected in cycle 2 with guidance carried out by the teacher so that all members can contribute ideas in making mind mapping.

The increase that occurs in the application of the learning model is because teachers try to correct deficiencies that occur in the early application of the learning model. The teacher also guides students to be better able to develop their creativity in making mind mapping. The students' enthusiasm is more increased because students are getting used to the mind mapping learning model applied by the teacher. Not only that, the increase also occurs because of cooperation between teachers and students in correcting deficiencies that occur. This is in accordance with the opinion of Suyono & Hariyanto (2012) learning is an activity or a process to gain knowledge, improve skills, improve behavior and attitudes and strengthen personality.

Learning Outcomes with the Application of the Mind Mapping Learning Model in Economic Subjects in Class X IPS 1 at SMA 1 Tumpang

Student learning outcomes with the application of mind mapping can be said to increase. This increase is known from the results of pre-test and post-test students who showed an increase. The application of the learning model conducted by the teacher makes students more enthusiastic so that the students' ability to absorb the material obtained is increased. Making mind mapping by students makes students learn to look for the core material so that students are more focused in understanding the material and it is easier to remember the material that has been learned. When the teacher gives a question feed, students are also more active in answering and the answers issued have come out of the answer "text book" even though with a simple answer. This is in accordance with the opinion of Sudjana (2010) that learning outcomes are abilities possessed by students after receiving learning experiences.

Learning outcomes are increased because students are enthusiastic and interested in the applied learning model. Learning experiences of students who previously only listened to the teacher's explanation, read books and recorded linearly and monotonously can be turned into a more enjoyable learning experience with mind mapping. Students can express their ideas and understanding through mind mapping that is more colorful and interesting to use for learning. Not only that, the existence of mind mapping makes it easier for students to understand mteri because the core material is easier to remember through keywords and images that are applied in the results of mind mapping made by students. The use of mind mapping to improve understanding is supported by the opinion of Ikhwanuddin (2013) where the use of mind mapping methods helps one remember words and readings, increases understanding of the material, helps organize material and provides new insights.

The improvement of student learning outcomes in class X IPS 1 that occurred in this study supports research that has been carried out by Mar'atus Sholihah (2015) with the title "Application of Mind Mapping Learning Model to improve Student Creativity and Learning Outcomes in the Economics Subject of Class X IPS in Public High School 8 Malang Even Semester 2013/2014 Academic Year "where the results of the study also showed an increase in student learning outcomes from cycle 1 to cycle 2. In addition, this study also supports the existence of research by Nurul Farida on" Differences in Learning Outcomes Using Mind Mapping Types and Picture and Picture on Economic Subjects of Social Sciences Class XI at Garum 1 High School "where learning outcomes using mind mapping learning models provide higher learning outcomes than using picture and picture learning models on economic subjects in class XI IPS SMAN 1 Garum.

Creativity with the Application of Mind Mapping Learning Models in Economic Subjects in Class X IPS 1 at Senior High School 1 Tumpang

Student creativity with the application of mind mapping learning models also increases. This is indicated by the results of students' mind mapping at the beginning of the meeting that has not been interesting can be made more interesting at the next meetings. Students who have not understood how to make mind mapping correctly can make mind mapping correctly according to the

indicators that have been delivered. Students also carry out presentation activities from the results of mind mapping that is made according to students' ideas and understanding. Making mind mapping done in groups also involves all group members to work so that the results of mind mapping of student groups become more interesting.

Increased student creativity is influenced by the readiness of students to work on mind mapping. This is shown by students at the initial meeting that many students borrow color tools from each other, in the next meeting students are more independent and prepare a color tool to make mind mapping. The ideas held by students in making mind mapping are also growing so that students are more confident in making mind mapping. guidance from the teacher in the manufacturing process also makes it easier for students to develop their creativity.

The use of mind mapping in the learning process provides an opportunity for students to improve their ability to process creativity. This is in accordance with Sapir (2013) statement that mind mapping is able to enhance or stimulate one's creative side through the use of lines, colors and images that make notes into beautiful and mentally beautiful works of art that make it easier for someone to remember them. In addition, increasing creativity after the use of mind mapping is also in accordance with Shoimin (2014) that the way of mind mapping is soothing, fun and creative. This is also supported by the opinion of Buzan (2004) that mind map is the best way to express the unlimited creative potential of the brain.

Increased creativity after the implementation of mind mapping learning models supports previous research by Sholihah (2015) with the research title "Application of Mind Mapping Learning Model to improve Student Creativity and Learning Outcomes in Economics Class X Social Sciences in Malang 8 Middle School Even Semester 2013 Academic Year / 2014 "with the results of increased student creativity after the implementation of mind mapping learning models from cycle 1 to cycle 2. In addition, this study also supports the Hidayah (2017) study with the title" Application of Savi Approach with Mind Mapping Learning Model to Increase Student Activity and Creativity In the Economics Subject of Social Sciences Class X in SMA Negeri 10 Malang "where the results showed that students' activeness and creativity increased after using mind mapping learning models with Savi's approach.

CONCLUSION

Based on the results of analysis and discussion on the application of mind mapping learning models to improve learning outcomes and creativity of students in X IPS 1 class at Tumpang 1 Public High School, it can be concluded that: 1) The application of mind mapping learning models can run smoothly and appropriately applied to subjects economics in class X IPS 1 Senior High School 1 Intercropped with capital market material marked by increased activities from cycle 1 to cycle 2) Application of mind mapping learning models can improve student learning outcomes on economic subjects in class X IPS 1 SMA 1 Tumpang . Improved learning outcomes are seen based on student scores obtained from the results of pre-test and post-test which have increased from cycle 1 to cycle 3) Application of mind mapping learning models can improve student creativity in subjects on economic subjects in class X IPS 1 High School Negeri 1

Tumpang. Increased creativity is seen based on the value obtained through observing the creativity of students in making mind mapping that increases from cycle 1 to cycle 2.

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