

# The Influence of Mind Mapping Model towards the Result on Economical Lesson for Tenth Grade Islamic Senior High School in MAN 2 Kutai Kartanegara

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## Abstract

The study examines the use of mind mapping model and its result in Economical lesson for tenth grade Islamic Senior High School in MAN 2 Kutai Kartanegara that involves two classes consisting of 35 male and 43 female students. This study uses experimental research by using post-test only control group design as the method. The data collection technique is used by using documentation, interview with the teacher who teaches Economical lesson, test, and questionnaire of the students' respond. The technique of analyzing the data by using t-test to examine the hypothesis. The results of the study show that the implementation of using mind mapping as a leaning model is running well. The student from experimental class, X-IPS 1 or social studies class 1 shows the significant changes and conventional class, X-IPS 2 social studies class 2 shows not really the significant changes. But, from these two classes together show development from how they study, their interests in learning Economical lesson, they become active, creative, and critical student especially their result in score to pass the standard lesson value in Economic is 75 in their school. Based on the research, the average score of the first post-test shows 98,5 in experimental class and 87,64 in conventional class. In the second post-test, the average score in experimental class having more significant difference until 10,86. Then, the average score for both two post-test in experimental class is 86,91 and conventional class is 82,07. From ten questions of questionnaire are reached each questions get 70% for the statement of agreement in using mind mapping as learning model to understand and learn Economical lesson. The analyzed of the data by using t-test shows  $t_{count}$  equals 5,931 and  $t_{table}$  equals 5%, and the percent of the freedom (dk) equals 76 or 1,991. Because  $t_{count}$  is bigger than  $t_{table}$ , means the use of mind mapping to increase the result of the students' learning for economical lesson is accepted and revealed. The use of using mind mapping is also expected to solve the lower student speed in learning a certain lesson, the student to learn other lessons to increase their understanding, and the student and teacher are able to have good interaction and bounding to prepare them in facing the real word especially that links with Economy.

*Keywords:* Mind mapping model, the result of studying, post-test, economy, conventional, experimental

## 1. Introduction

To answer and face the challenges of 5.0 era are needed a renewal in the learning process. Whether from the learning model and also the method. For facing the challenges of 5.0 can be done through education. According to Munib, Budiyo, and Suryana (2012) in Fahrurrozi and Widia (2018) state education is important place to determine whether the students especially are going to have conscience, values, feelings, knowledge, and skills optimally or not. It is very depending on how the teacher especially put down the student whether to be a centered learning or not. Because, different treatment that teacher gives to the students when transforming those elements of educations (conscience, values, feelings, knowledge, and skills) will have influence with the process of the students' learning (Fahrurrozi & Febriana, 2018). Hairani (2016) in Nanda (2018) asserts because of that, education will work its role well when the teacher also learns the element of learning process consists of initiative, creativity, and independence with links to the students' talent, interests, physical, and psychological development to increase the students' competencies (Nanda, 2018). This caused people must face different age that also followed by the way teacher must teach same knowledge but with different object. The object here means the students who live different era including

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how their interest and motivation in learning which influence their result of studying. By looking at the phenomenon that how complicated in treating a student is that related to their mind, interest, and motivation in learning moreover in the adolescence and early adulthood that in fact, they do not have to be told for learning again. They should understand that learning is a need for their future. It is added how difficult the student is to reach out the standard score in their school with many factors. One of them is they do not know the pattern or style and tools when they are learning. So, all the experts start from same an anxiety about the success of student in having soft skill through education optimally. They see the learning process is still monotonous and bored. Sarmi (2020) explains the teacher taught long time without giving and telling the points or keywords or concepts of the lesson or subject that is going to be learned. Because of that, the student also made a long note without writing the points or keywords of the lesson or subject as well (Sarmi, 2020). Hairani (2016) in Nanda (2018) asserts they are proved when the students still only using a black pen to make a note which has low motivation to re-learn, the condition in the class is poorly conditioned such as there are students are talking in the class, playing cellphones, and daydreaming so that do not pay attention fully to the teacher (Sarmi, 2020). Because of that, the researcher looks for a way or strategy or an approach to solve the problems. So, one of the experts' attention to face the anxiety by appearing and applying mind mapping as learning model during learning process in the class by the hope, the motivation of teaching for teacher can serve good learning process optimally and continuously so that the competencies of the students also increase and develop as well. By considering the phenomenon, the researcher is interested in conducting a research by serving a new learning model called mind mapping in the learning process of the student in the class. By serving research question "Is mind mapping model has influence significantly towards on the result on Economical lesson for tenth grade Islamic Senior High School in MAN 2 Kutai Kartanegara", the researcher hopes the use of mind mapping model is going to reveal interest and create the students' motivation because they have found a new way in order that the lesson they need to be understood will be more easy and fun. The researcher also hopes the learning process for students can be absorbed maximally.

## **2. Literature Review**

### *2.1 Learning*

Before discussing about the result of studying, this is not linked of choosing learning model and methods in learning process which involving teacher and students (Rusman, 2012). In the activity of learning also needs the material of learning those are knowledge, moral values, art, religion, attitude, and skill. Those materials can be understood its existence and usefulness through a process named learning. According to Oemar (2012) explains learning is an activity that tries to experience and get contact psychologically in a certain experience, event, and phenomenon which is not only relying on the results (Oemar, 2012). From the statement, the reader can understand that Khairani (2014) states learning must be done continuously so that the good changes occur such as the changes in learning something better than before, the ability of acceptance and stability in getting knowledge also having increase, and the good changes in attitude and behavior as a form of the result in studying and not only by having a good score (Khairani, 2014).

### *2.2 The Result of Studying*

According to Purwanto in Hidayat (2011) states if studying will arise the change of behavior, so, the result of studying will create the changes in behavior which consist of cognitive, affective, and psychomotor domains. Cognitive domains link to six aspects, those are observation, memory, understanding, application, analysis (doing some checks and choosing them carefully), and synthesis (creating new and complete alloys). Affective domains link to five aspects, those are acceptance, welcome, appreciation (appreciative attitude), internalization (deepening), and characteristics (appreciation). Psychomotor domains link to reflex movements, basic movement skills, perceptual abilities, harmony and precision, complex movement skills, and expressive and interpretative skills (Hidayat, 2011). Gagne in Suprijono (2009) adds the result of studying consists of verbal information, intellectual skill, cognitive strategies, motoric skills, and attitudes. Verbal information means the ability of the student to say or explain what they know about a certain knowledge verbally. Intellectual skill means the ability of the student to categorize, to analyze, and synthesis about the fact of concept, and grow them by using the principals of the knowledge. Cognitive strategies mean the ability of the student to link and guide their own cognitive activities. Motoric skills mean the ability of the student to compound their movement in coordination to involve automatic movement. Attitudes means the ability of the student to internalize and externalize values from the process for accepting and rejecting object

based on their values towards the object (Suprijono, 2009). So, the conclusion of the definition that refers to the result of studying based on Winkel (2005) in Angreta (2020) explains the result of studying is a proof of success from efforts that are reached after passing the experience of learning something (Angreta, 2020). Then, Djamarah & Zain (2013) in Angreta (2020) explains the result of studying is educator assessment that links to everything that is learned in the school which involving knowledge and skill to be declared after having the result of assessment (Angreta, 2020).

### *2.3 Learning Model*

Based on Joyce & Weil in Rusman (2014) adopted again in Putri, Maria, & Rum (2015) explain learning model is a pattern or planning to build curriculum, to build long-term learning program, to design learning materials, and to guide the learning process inside and outside the classroom. One of the objective by using learning model is to increase the competencies of the students during learning process. In learning model is found the strategies for achieving the student competency with an approach, a method, and a learning technique (Putri et.al, 2015). According to Fu et al., 2019; Jiang, 2020 in Titu, et al (2023) explain learning model is the whole of the presentation for teaching materials that concluding all aspects before, after, and during learning which are done by teacher by using all facilities that link to whether direct and indirect learning process (Titu et.al, 2023). Hence, Fahrurrozi & Widia (2018) try to offer a new learning model called mind mapping (Fahrurrozi & Febriana, 2018).

### *2.4 Mind Mapping*

By considering the definition of learning and the result of studying, Djamarah (2011) states every human (student) has different potency, characteristic, need of studying, and the types of studying, the researcher offers and serves mind mapping as a new learning model (Djamarah, 2013). According to Kurniasih and Berlin (2017), mind mapping is one of a way to write down the thought or idea creatively by mapping them. In short, mind mapping is a way to map the ideas. The ideas will be ordered based on a need and link of their keywords. Then, it will be completed by using symbols, color, shapes, and so forth as the memory strengthening for the writer of mind mapping to recall again what they had ever written. Then, they absorb again the information from their note outside quickly when they (the students) need (Kurniasih & Berlin, 2017). Putri, Maria, & Rum (2015), explain mind mapping is a part of active learning from a learning model that invites the students learn actively by using brain whether to find a main idea in material, to find problem solving, and to correlate what they learn towards the problems in the real life (Putri et.al, 2015). For having the whole understanding of mind mapping, Buzan (1993) in Peter & Nor (2020) states mind mapping is a graphic instrument that links to the work of brain in processing ideas for increasing intelligent thought of person. In Peter and Nor's research, mind mapping has position as pedagogy in creating and developing the creativity of the students towards ecology for secondary school in Nigeria (Peter & Ishak, 2020). Based on Buzan (1974) in Wheeldon (2011) that adopted again in Fahrurrozi & Widia (2018) states mind mapping is a way that can open the creativity of the students for representing words, ideas, and concepts around the main idea in the form of mind maps (Fahrurrozi & Febriana, 2018). Thus, Darusman (2014) in Angreta (2020) explains mind mapping links to creative note-taking technique can produce the new knowledge from the user of mind mapping himself or herself so that the user will be creative and independent to recall the lesson or subject easily (Angreta, 2020). Hairani (2016) in Nanda, (2018) explains the role of mind mapping can make the students focus on the subject, help to display the relationship or interconnection of parts, help to display the information mutually separate, help to display a picture clearly, allow the students to classify concepts, and compare them (concepts). Nanda also convinces mind mapping can make the students are activate to explore the ability in thinking critically (Nanda, 2018).

### *2.4 Economy*

Mind Mapping is flexible so that it can be used in all needs including to map the thought or idea from an object or even a certain sequence of object to be made the framework of the thought. Because of that, the researcher correlates the usefulness of mind mapping to be applied in the class of tenth grade Islamic Senior High School with a major in social studies class. It is conducted to map the way of their thought in learning Economical lesson in the class. Economy itself according to Robert A. Mundell in Alam and Rudianto (2013) is a studies that learn every side of someone's experience to fulfill his or her needs in life until the obligation of human's value in Economical activity (Alam & Rudianto, 2013).

### 2.5 The Research of Hypothesis

Based on the theories and framework of thought that had been explained, the researcher formulates the research hypothesis below:

$H_0$ = There is no influence from the use of mind mapping towards the students' result of studying on Economical lesson.

$H_a$ = There is the influence from the use of mind mapping towards the students' result of studying on Economical lesson.

## 3. Research Method and Materials

### 3.1. Conceptual Definition

According to Setyosari (2016) states that conceptual is the way of thought to view the correlation between certain concepts with the variables that are also link to the certain concepts. There are two concepts of conceptual definition. Those are independent variable and dependent variable (Setyosari, 2016). Based on Kurniasih & Berlin (2017) state mind mapping is a way to map the users' thought especially the students' thoughts to be written creatively. Here, mind mapping as the independent variable (Kurniasih & Berlin, 2017). In addition, the result of studying based on Dimiyati & Mudjiono (2013) state the result of studying is an interaction in learning process between a teacher and the students in the class that has final in teaching for a teacher is evaluation and final learning for the student is the result of studying itself. Here, the result of studying as the dependent variable (Dimiyati & Mudjiono, 2013).

### 3.2. Operational Definition

Operational takes the function to determine whether a problem can be raised to be observed or rejected. That is why operational is a guidance for the researcher to collect all data that are needed during the research is going to be held (Setyosari, 2016). Here, the variable of operational definition in this research is mind mapping as learning model and the result of studying from the students. The indicators of mind mapping model consist of planning, organizing the student for learning, developing and serving the works in using mind mapping, analyzing and also evaluating the problem solving. In addition, the indicator of the students' result of studying is the students' result of studying from post-test or written test.

### 3.3. Population

According to Sugiyono (2015) states population is a group or community which is suitable for researcher to be observed and studied. The last, the population is going to be pulled a conclusion (Sugiyono, 2015). Arikunto (1993) in Roni, Mulyadi, & Jeri (2017) assert that population is a whole of group where the data is taken (Roni dkk, 2017). In this research, the population here is all students from two classes at tenth grade Islamic Senior High School, those are Social Studies 1 and Social Studies 2 in total 78 students in MAN 2 Kutai Kartanegara.

### 3.4. Sample

According to Sugiyono (2015) states sample is a part of total from population which is taken as an object of the research (Sugiyono, 2015). Fraenkel, et al (2012) in Roni, Mulyadi, & Jeri (2017) assert that sample is a set of information the researcher needs for analyzing the data. Shortly, explain sample is a mirror of population in representing the data including the information of sample itself (Roni dkk, 2017). So that, in this research only all students from two classes at tenth grade Islamic Senior High School, those are Social Studies 1 and Social Studies 2 in total 78 students in MAN 2 Kutai Kartanegara that consist of 35 male and 43 female without joining the students from the major of science and religion.

### 3.5. The Type of Research

This research is including of quasy experimental design by dividing two classes. A class named Social Studies 1 is given a treatment by introducing the use of mind mapping in learning Economical lesson. The class for the researcher named as experimental class. A class named Social Studies 2 is not given a treatment by introducing the use of mind mapping in learning Economical lesson. The class for the researcher named as conventional class.

**Table 1.** Research Design

Class	Treatment	Posttest
Experiment	X	O <sub>2</sub>
Control		O <sub>4</sub>

Information:

O<sub>2</sub> = The result of post-test in experimental class

O<sub>4</sub> = The result of post-test in conventional class

X = The treatment was given to the students

### 3.6 Place and Time of the Research

This research was held in MAN 2 Kutai Kartanegara in Jelawat street, number 32, Timbau sub-district, Tenggarong. The research was held in even semester in 2017/2018 exactly in January to February 2018.

### 3.6. Technic Sampling

This research used probability sampling with simple random sampling technique. According to Sugiyono (2015) states that probability sampling is giving a same chance for all members to be chosen in members of sample. Meanwhile, simple random sampling technique is the technique of taking members from population randomly without looking at and considering the members' level of the population (Sugiyono, 2015). For taking sample in the research was done randomly from two classes. The social studies 1 as an experimental class and the social studies 2 as a conventional class.

### 3.7. Data Collection Technique

The researcher collects the data by using some techniques. First, doing interview with the teacher who teaches Economical lesson; Second, doing pre-test and post-test. The pre-test to know the first knowledge of the student towards a lesson such as economic. Then, the second post-test is done to know the result of studying from the students of experimental class only, giving questionnaire that consists of five negative questions and five positive questions with two choices those are agree or disagree, and documentation in order that the research is more original and credible which includes general overview about school, the amount of students and staff, other supporting data, and photo collection when the learning process was running. Arikunto (2008) in Roni, Mulyadi, & Jeri (2017) explain questionnaire is a sequence of questions that are given to respondents for obtaining information towards a phenomenon or problem the researcher conducts as a study in the research. By using questionnaire, the researcher also obtains the students' knowledge as well to measure the rank of the success when using or applying a new learning model such as mind mapping (Roni dkk, 2017).

### 3.8. Research Instrument

In this research, the instrument used was the test of question sheet that same to be given whether for experimental class and conventional class as the post-test.

### 3.9. Data Analysis Technique

This research used t-test at the significance level  $\alpha = 0,05$  by using Statistical Package for the Social Sciences 20. After determining the score, testing criteria to examine based on  $T_{count}$  is explained below:

- Accepting  $H_0$ , if  $t_{count} \leq t_{table}$  with assumption there is no influence learning model of mind mapping towards the student's activity on Economical lesson.
- Rejecting  $H_0$ , if  $t_{count} \geq t_{table}$  with assumption there is influence learning model of mind mapping towards the student's activity on Economical lesson.

### 3.10. Experimental Procedures

This research used sample from two social studies class at tenth grade Islamic Senior High School. The first class called experimental class and the second class called conventional class. In the experimental class was applied the use of mind mapping meanwhile in the conventional class was not applied the use of mind mapping but only using conventional learning such as the teacher gave the materials then giving questions to the student, the students answer.

After giving the treatment for two classes were done, the next step was giving the students pre-test and post-test to measure the success of the model that was applied for each class those are experimental class and conventional class. The pre-test was given in the first meeting to know the first knowledge of the students about some questions on Economical lesson and the post-test was given in the fifth meeting by using ten multiple choices and two essays. In addition, after doing the post-test, next, only experimental class got questionnaire that consists of five negative questions and five positive questions with two choices those are choosing number zero for disagree answer and choosing number one for affirmative answer or agree. The knowledge of Economy that would like to be taught in the class consists of to explain the definition of central bank, to explain the definition of payment system, to mention central bank duties, to mention the function of money, to explain money requirements, and to mention the types of non-cash payment instruments.

#### **4. Results and Discussion**

This research was held five meetings for each class. Before doing the treatment, the researcher interviewed the teacher who teaches Economical lesson. The teacher said never using mind mapping before to be applied in the class when learning Economical lesson. After the interview was done, the researcher to be a temporary economic teacher during conducting a research in the school. Then, the researcher gave the treatment towards two classes. Experimental class tried learning by using a new learning model called mind mapping. Meanwhile, the researcher treated conventional class by direct learning that was the teacher gave the lesson or materials then asking question whether from the students to the teacher or the teacher to ask the students. The process of learning Economical lesson was matched with the schedule of Economical lesson itself for experimental and conventional class in the school. That was on Monday at 08.00-10.15 for experimental class. Then, on Thursday at 13.00-14.45 for conventional class.

In the first meeting for experimental class, January 15, 2018 at 08.00-10.15, the activity in the class was held by using learning process design but not suitable with the steps of mind mapping. In this first meeting, only discussing because there is no problems or materials would be raised up as a project for students yet. The teacher said greetings and introducing herself, guiding the student to pray, listing the students' present, giving apperception by asking the definition of central bank but there was no responding. It was occurred because this learning model is new for the students. After the teacher gave the definition of mind mapping and the purpose also usefulness of using mind mapping, the researcher gave the first post-test to know the first knowledge of the students about some questions on Economical lesson. After the students collected the answer to the teacher, the teacher did not directly check the students' answer but later after the class was finished. Then, the teacher welcomed the students to make a small group to discuss the Economical lesson that were going to be made into mind mapping for next meeting. After the researcher as the teacher here thought the discussion was enough, the teacher welcomed the leader class to close the first meeting by praying and saying greetings to the teacher. In the second, third, fourth, and fifth meeting for experimental class was running well. It was proved there was enthusiasm for the students to represent their discussion from their small group in front of the class by using LCD in discussing Economical lesson. In the fifth meeting, the teacher gave the second post-test to know the students' understanding about Economical lesson by using mind mapping and also questionnaire. Then, the teacher said thanks for the students' cooperation and said keep learning to the students.

In the first meeting for conventional class, January 18, 2018 at 13.00-14.45, the activity in the class was held by using learning process design. In this first meeting, only discussing because there is no problems or materials would be raised up as a project for students yet. The teacher said greetings and introducing herself, guiding the student to pray, listing the students' present, giving apperception by asking the definition of central bank but there was no responding. Because of that, the researcher gave the first post-test to know the first knowledge of the students about some questions on Economical lesson. After the students collected the answer to the teacher, the teacher did not directly check the students' answer but later after the class was finished. The next step, teacher asked the students to observe the material lesson of Economy through power point about the definition of central bank, the function of bank, and the role of bank. After giving the lesson, the teacher welcomed the student to ask. Then, there were four students asked. After the researcher as the teacher here thought the discussion was enough, the teacher gave the conclusion of the lessons and instruction about the next lesson in the next meeting. Then, the teacher welcomed the leader class to close the first meeting by praying and saying greetings to the teacher. In the second, third, fourth, and fifth meeting for conventional class was running well. It was proved there was enthusiasm for the students to ask the teacher about the lessons. In the fifth meeting, the teacher gave the second post-test to know the students' understanding about Economical lesson by using direct learning or conventional learning. Then, the teacher said thanks for the students' cooperation and said keep learning to the students.

**Table 2.** Percentage of Completion

Number	The Interval Score	Information
1	$0 < 74$	Not reached yet
2	$75 < 100$	Has been reached

The result of data measurement of the students' result of studying in learning the definition of central bank, to explain the definition of payment system, to mention central bank duties, to mention the function of money, to explain money requirements, and to mention the types of non-cash payment instruments in experimental class (n=40) is reached the highest score 100 and the lower score 80, and also average score 98,5 in the first post-test. Meanwhile, the students' result of studying in the first post-test in the conventional class (n=38) is reached the highest score 100 and the lower score 75, and also average score 87,64. In the second post-test, the average score in experimental class having more significant difference until 10,86. Then, the average score for both two post-test in experimental class is 86,91 and conventional class is 82,07. Means, there is a change because the use of mind mapping gives different atmosphere in the class to make the students easy to remember the lesson by having the skill in making mind mapping model by each the students' version and increase the students' activity for active. Meanwhile, the conventional class there is not found the significance of the students' activity for active. This is occurred because in the conventional class only applying direct learning those are giving the materials or lessons then opening the questions section so that is not giving much effect or influence to the students. But, for having the standard score in the school, whether the experimental class and conventional class is passed to have more than 75 from school.

The result in giving questionnaire for experimental class also got positive feedbacks. The student felt easy and fun in learning Economical lesson in the class. The researcher gave the students five negative questions and five positive questions. From ten questions are reached each questions get 70% for the statement of agreement in using mind mapping as learning model to understand and learn Economical lesson. For the hypothesis test by using t-test, hypothesis ( $H_a$ ) that is studied, finding the influence of using mind mapping towards the students' result of studying on Economical lesson. Equal Variances not assumed shows that the score of  $t_{count}$  is  $> 5,931$  with the probability or significance 0,000. Because of the significance  $< 0,05$ , so  $H_a$  is accepted. Another prove of the hypothesis test is  $t_{count} = 5,931$  in the fact is bigger than  $t_{table} = 1,9916$  at the level of trust 0,05 with  $dk = 76$ . So that, hypothesis test is decided that  $H_a$  is accepted.

## 5. Conclusion

The use of mind mapping brings a new atmosphere for the students at tenth grade Islamic Senior High School in MAN 2 Kutai Kartanegara especially for experimental class in Social Studies Class 1. Mind mapping as a new learning model makes the students are more enthusiastic in learning Economical lesson. The existence of mind mapping also increasing the students' interest. This is proved from the result of studying of the students which is formed through the students are successful to pass Madrasa working group standard in score for Economical lesson in the school. Especially, the ability of the students for thinking critically and looking for problem solving also increased. Even though conventional class is not given a same treatment by introducing mind mapping as a learning model in the class when learning Economical lesson, but this class, Social Studies class 2 is also having increased learning however is not really significant like occurring in the experimental class. It is proved there are some students are active to ask the teacher about Economical lesson as well, here is the researcher as the substitute teacher during conducting a research. The students from conventional class also can think critically and look for the problem solving. But, the changes that are significantly occurring from experimental class. So, the research question of this study is answered that there is good influence by using mind mapping in the class as alternative way to make students easy and fun in learning every lesson especially Economical lesson.

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