Improved Understanding of Students on History of Economic Theory through Learning Using Concept Map

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Abstract: This study aims to illustrate how students understand the history of economic theory by using concept maps. The subjects from this study are students who take the History of Economic Theory even semester 2016/2017 in the Department of Education Economics Education University of Indonesia. Data were collected through observation and test, and analyzed descriptively. The results show that using concept maps helps students improve their understanding to the history of economic theories. The implication is that implementation of concept maps brings better results, it just takes more time and good planning.

1 INTRODUCTION

The effect of Ausubel's meaningful learning theory has been observed on concept map approach which was developed by Novak. Some studies show that students receive greater benefits by creating their own concept maps (Novak 1990). The aim of concept mapping is not to generate spontaneous associative elements but can improve students' ability to analyze and compile important concepts, relationships between concepts, and knowledge structure. The map normally begins with a word or concept or phrase which represents a *focus question* that requires an answer (Novak and Canas, 2006). Melek Cakmak (2010) explain concept maps provide important contribution to teachers about their students learning and needs, and therefore the instruction that will be given to the prospective teachers gains an importance in teacher education.

There have been many studies related to the use of concept maps in learning, such as Wan-Ju Chen, et al (2014) students thru e-learning teaching methods of the Concept Map can effectively learn to acquire knowledge, skills, and show a good attitude towards learning. In short, the e-learning of Concept Map approach for students with disabilities shows positive learning results. Similarly, research by Brett Jones, et al (2012) finds the activities that students perceived as being more preferred or enjoyable were not always the ones that they perceived they learned the most from Mariya Burdina (2015) can be stated that most students believe the conceptual chapter maps helped them learn. Whether conceptual chapter maps

actually improve learning outcomes is yet to be determined. Ertug Evreklia, et al (2009) according to science teacher candidates, mind mapping can be used in constructive science and technology effectively and help students in different stages; however, some science topics is not suitable for using mind mapping. And, Nikhilkumar D. Parikh (2016) was found that the Mind Mapping technique was more effective than Traditional method. But, Mine Taskin, et al (2011) using both concept maps and traditional method is more efficient for students' learning learning.

Based on the results of teaching experience so far in the department of Economic Education University of Indonesia Education, obtained information that students are still learning by way of to memorize to understand the history of economic pique that exists. This method of memorization has a weakness because the information received is not associated with previous acquired knowledge so that the accepted concepts are easy to forget. In addition, student activity is very least once that leads to learning outcomes that have not reached the completeness of classical. This can be seen from the average value of the exam in the previous year semester, there are still some who have not achieved the expected value, but also from activities in learning activities are also not running properly.

Efforts for learning to be meaningful in the learning must be associated with the relevant concepts that have been owned by students and this will be more meaningful if students participate actively in the learning activities and delivery of the

material involves the process of thinking students. Novak and Gowin (1985: 15) develop learning by "concept maps", a theory of learning based on the principle of meaningful learning Ausubel to show the meaningful relationship between concepts and propositions. Research related to the concept map has been done, such as Novak and Gowin (1985: 5) states that the concept map function can make clear the central idea for teachers and students who are focusing on specific tasks.

To improve students' understanding and activity in teaching and learning process History of Economic Theory, it is endeavored to improve this learning by using concept map gradually, so that students can learn more meaningful. Start the concept map prepared by lecturers and students, and finally the students are able to arrange their own concept maps after the lecturers give some examples. This study aims to determine the increase in activity and understanding of History of Economic Theory students semester 2016/2017 in the Department of Economic Education University of Indonesia Education on the thinking of classical and neo-classical schools through the use of concept maps.

2 RESEARCH METHODOLOGY

This study is a classroom action research using two cycles with each cycle containing elements of planning, action, observation, and reflection. This research was conducted in the department of Economics Education FPEB University of Education Indonesia in semester four academic year 2016/2017. With research subjects are students who take the course History of Economic Theory that amounted to 32 people with 25 female students and 7 men.

To obtain the necessary data in this research, used observation by using some of the instruments, namely (1) student work sheet in the form of concept map; (2) student test result sheets, pre test and post test; (3) the observation sheet to observe the implementation of the action in the lesson; and (4) student response sheets to the implementation of this lesson.

The indicator of the achievement of the objectives of this research is the increasing of activity and motivation of student learning and the improvement of understanding and able to create the relevant concept map shown by the assessment of learning result achieved with the absorption of each student reaches 70%.

3 RESULTS AND DISCUSSION

This classroom action research is conducted in two cycles, namely the subject of the classical school of classical and classical neo-classical school of thought, where each cycle is done twice as much as the action or learning. Aspects studied in this study include student activities in preparing concept maps and understanding of students which is shown by the results of learning the history of economic theory by applying the concept map method.

a) Observation result of student activity.
Student activity here is student learning activity in preparing concept map which is all activities done in process of interaction between lecturer and student and also among student in order to reach the purpose of learning.

There are several steps that must be implemented in making a concept map that is: (i) Selecting and defining a reading material. The reading material is selected from a predefined passbook. (ii) Determining relevant concepts. Sort those concepts from the most general to the most specialized or examples. (iii) Compile / write down the concepts on paper. Mapping the concept based on the most common conceptual criteria at the top, concepts that are at the same level of abstraction are placed parallel to each other, a more specific concept under a more general concept. (iv) Linking those concepts with certain connecting words to form propositions and connecting lines. And (v) If the map is complete, it should be noted where the concepts are, if necessary repaired or rearranged in order to become better and meaningful (Ratna Wilis Dahar, 2006).

Based on the observations related to student activity in making concept map on the first cycle to the second cycle obtained information has been a significant increase. Here is a picture of the increase in student activity in preparing concept maps on cycles I and II as shown in Table 1.

Based on Table 1 it can be seen that there has been an increase in the average of student activity in creating and compiling the historical concept map of economic thinking of Classical school in cycle I and Neo Klasik in cycle II. In the first cycle there has been an average increase in the percentage of first meeting activity by 70.4% to 87.4% at the second meeting. Similarly in cycle II there has been an average increase in the percentage of first meeting activity by 85.3% to 92.2% in the second meeting.

The increased activity in preparing the concept map from cycle I to II has shown that students are motivated and enthusiastic with learning using concept maps so that they are active in following the

lecture activities. Of course the future expectation with the students has mastered the basic structure of concept map arrangement in this course by obtaining a meaningful knowledge framework in this field of study, so to study the next different material will be easier.

Table 1: Student Activity In Preparing Concept Map Cycles I and II

Indicator	Cycles I		Cycles II	
	Part . 1	Part . 2	Part . 1	Part . 2
Define important concepts	25 (80,7%)	26 (86,7%)	30 (93,8%)	31 (96,9%)
Sorts the most inclusive concepts to those that do not	22 (71%)	23 (76,7%)	26 (81,3%)	29 (90,6%)
Discuss with other students	26 (83,9%)	26 (86,7%)	29 (90,6%)	29 (90,6%)
Construct the concept into a chart	20 (64,5%)	23 (76,7%)	27 (84,4%)	29 (90,6%)
Connecting between concepts with conjunctive words	17 (54,8%)	20 (66,7%)	26 (81,3%)	28 (87,5%)
Explain the results of concept map creation	21 (67,7%)	23 (76,7%)	29 (90,6%)	31 (96,9%)
Number of students	31	30	32	32
Percentage of activity	70,4%	78,4%	85,3%	92,2%

b) Results of students' understanding (learning outcomes).

To know the progress of students understanding of the material of History of Economic Theory is also showing the level of learning outcomes then performed one post test at the end of each meeting. Increased learning outcomes with excellent category of post test score as seen in Table 2, this is because students have managed to find important concepts of each material learned and has formed into its cognitive structure.

Based on Table 2 we know that there has been an increase in learning outcomes from cycle I to cycle II of each meeting. At the first meeting of cycle I there is still one student who gets enough category value (C) with value less than 70, and fortunately at the second meeting no longer exists. In the second cycle, especially the second meeting, it was found that all the students had fulfilled the good value category (B)

with the value of more than 75. It is admitted that almost half of this class many students have received excellent grades (B +) and keep increasing from each meeting , Even those who obtained the category of value of the favor at the second meeting of cycle II has been achieved by 6 students or about 18.8% of the total.

Table 2: Level of Student Understanding After Use of Concept Map

Category	Cycles I		Cycles II	
	Part. 1	Part. 2	Part. 1	Part. 2
(A)	2 (6,45%)	2 (6,67%)	4 (12,5%)	6 (18,8%)
(A-)	4 (12,9)	6 (20%)	9 (28,1%)	10 (31,3%)
(B+)	11 (35,48%)	11 (36,7%)	14 (43,8%)	15 (46,9%)
(B)	8 (25,81%)	7 (23,3%)	3 (9,38%)	1 (3,13%)
(B-)	2 (6,45%)	2 (6,67%)	1 (3,13%)	-
(C+)	3 (9,68%)	2 (6,67%)	1 (3,13%)	-
(C)	1 (3,23%)	-	-	-
(D)	-	-	-	-
(E)	-	-	-	-
Total (%)	31 (100%)	30 (100%)	32 (100%)	32 (100%)

The improvement of learning achievement indicates the improvement of students' thinking ability to learn to relate between concepts, so that the next one is able to organize the concept into meaningful structure which in turn will facilitate the students in compiling and understanding the lecture material with stronger memory. This classroom action research aims to continuously improve and improve the process and results of continuous teaching and learning.

The findings of this study are more convincing that learning with concept maps can help improve the quality of understanding and learning activities. And the hypothesis put forward in this study that the use of concept map learning can improve quality quality of the results of the understanding of the eye History of Economic theory in proved true.

Research on the use of concept maps in learning has also been done Yana Rohmana (2016) indicates that there is an increase in the percentage of learning and completion of learning activities of students in the subjects of Micro Economics in the Department

of Economic Education, Universitas Pendidikan Indonesia. The conclusions of this study indicate that the implementation of concept maps brings better results, it just takes more time and good planning. These results are increasingly supportive of previous studies such as Novak and Gowin (1985) and Chei-Chang Chiou (2008).

4 CONCLUSIONS

Implementation of concept map method in Lecture History of Economic Theory has been able to increase student activity in learning activities in each cycle. From this research also has successfully showed that learning by using concept map can improve understanding of student participants of Economic History course in Economic Education Department Universitas Pendidikan Indonesia. Using concept map learning has made the students more involved in active and creative learning as they are directly involved in the process of drawing up a concept map both individually and in groups. In conclusion that the implementation of concept maps brings more effective results, it just takes more time and careful planning of the lecturers.

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