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THE EFFECT OF STUDENT CENTERED LEARNING APPROACH ON THE ABILITY TO IDENTIFY PLANTS IN THE FOREST OF EDEN PARK 100 IN BIOLOGY EDUCATION STUDENTS OF FKIP UISU MEDAN

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Abstract. *This study aims to determine whether there is the influence of Student Centered Learning approaches to the ability to identify plants in Taman Eden 100 forest in Biology Educations Students FKIP UISU Medan. This research was conducted in March – June 2018. This research used quasi Experiment method with research population is all college students Biology Educations FKIP UISU Medan which amounted to 103 students which then made as many as 21 students from Semester 4 Biology Educations by way of Non Probability Sampling technique with Purposive Sampling. The data analyzed in research is a written test that is pre test and post test on vegetation of plants material courses plant Ecology. The average value of pre test before applied the Student Centered Learning approaches is 50,21 and standard deviation 13,07 then as many good categories 3 people (14,28%) and 18 people including less categories (85,71%). And the average post test is obtained after the applied the Student Centered Learning approaches is 69,92 and standard deviation is 7,32 then students as many good categories is 14 people (67%) and 7 people including less categories (33%). Based on the hypothesis test obtained tcount = 6,92 while the value ttable = 1,72 so tcount > t table, thus Ha accepted and H0 rejected, and it can be concluded that there is significant effect of using the Student Centered Learning approaches to the ability to identify plants in Taman Eden 100 forest in Biology Educations College Students FKIP UISU Medan*

Keywords: Student Centered Learning Approach, Plants in the Forest of Eden Park 100, Biology Education Students of FKIP UISU Medan

INTRODUCTION

Nature as natural resources where students interact directly to observe and preserve so that it can improve scientific thinking, students are required to active learning which is implicated in physical and mental activities. Student-centered learning approach (SCL) is one approach to learning that is very effective in improving the

learning process. Wisudawati and Sulistiyawati (2014:130)said that the Student Centered Learning approach is active learning where educators must be able to carry out learning that is PAILKEM according to the concept of learning based on Student Centered Learning. In the PAILKEM concept, you can use the environment as a place or source of learning. Therefore, the study program of Biology Education FKIP UISU tries to apply student-centered learning. As the development of the quality of the education system increases. Commitment and necessity in improving the quality of education are very important to overcome the phenomenon of the decline in the quality of education. Past learning methods, students only listen to explanations of material from lecturers. Students are only limited to understanding the lecturers' explanations and making notes.

According to Sudjana (2005: 23) Learning achievement is the ability obtained by students after they receive the learning experience. The low level of student understanding of the courses taken has resulted in not optimal learning achievement. Lack of understanding in each subject causes students to have difficulty solving cases given by lecturers. Pedagogic issues criticized in Biology Education are related to the following ways of teaching (1) Much emphasis on the process of memorizing; (2) Not using much outside experience; (3) Lack of providing thinking skills that are quite relevant to students; (4) Too much lecturing, emphasizing on textbook material and other conventional learning methods; (5) Reluctance to create creative learning such as team work, case analysis and others. (6) Too simplifying the problem by looking at the problems in Biology education as something that is structured and clear. In an effort to improve the quality of education in universities, the availability of good and adequate resources is not enough.

The availability of good and adequate resources must also be linked to the rules in order to produce good performance. Especially for human resources, attitudes, caring and achieving quality are requirements that are as important as scientific ability. Current learning methods have not been able to hone students' analytical skills, sensitivity to problems, problem-solving abilities, and the ability to evaluate problems. The quality assessment of an educational product can first be seen in the development of basic attitudes, such as scientific academic critical attitude and the willingness to always seek the truth. The concept of education cannot be reduced only by means of examinations because it only measures the transfer of knowledge, but includes the formation of skills and basic attitude, such as criticality, creativity and openness to innovation and various

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inventions. HEALTS (Higher Education Long Term Strategy) or the 2003-2010 Higher Education Long Term Strategy issued by the Director General of Higher Education in April 2003 gave mandates, one of which was the application of the Student-Centered Learning principle in the learning process. There are various learning methods for SCL and one of them is Green Learning.

Based on the background of the above problems, the following problems can be identified; 1) Does the Student Centered Learning approach affect the ability to identify plants in the forest of Eden Park 100 in Biology education students FKIP UISU Medan? 2) Can the Student Centered Learning approach improve the ability to identify plants in the forest of Eden Park 100 to Biology education students FKIP UISU Medan? 3. What is the level of ability to identify plants in the forest of Eden Park 100 for students of Biology Education FKIP UISU Medan if using a Student Centered Learning approach?

LITERATURE REVIEW

The Nature of Learning and Types of Learning. Learning is a complex process that happens to everyone throughout their lives. The learning process occurs because of the interaction between a person and the surrounding environment, learning can occur anywhere either in the school environment or in the community, one of the characteristics that a person has learned because of behavior changes that occur in a person (Arsyad, 2013: 1) . According to Gredler 1994 in Aunurrahman (2012: 38) in this context, someone is said to learn when there is a change, from not knowing something can know something, that knowledge is perceived to be obtained from the teacher, this situation in turn positions the teacher as a knowledgeable person about something .

The teacher seems to be the source of all kinds of knowledge, without the teacher there is no activity called learning. Learning is an effort of cognitive, affective, and psychomotor mastery through the process of interaction between individuals and their environment that occurs as a result or effect of experience and through behavior. Most learning theorists view learning as a process that mediates one's behavior in learning (Sagala, 2013: 236). Learning can be defined as any changes in behavior that are relatively fixed and occur as a result of training or experience, this definition includes three elements, namely: (a) learning is a change in behavior; (b) Changes in behavior occur due to training or experience; (c) Changes in behavior are relatively permanent or

permanent and have a long time. Factors that influence learning can be classified into two groups, namely internal factors and external factors. Internal factors, namely 1) physical factors; 2) psychological factors; 3) fatigue factor.

Furthermore, external factors are grouped into 3 factors, namely 1) family factors; 2) school factors; 3) Community factors (Slameto, 2016: 26). From the description it can be concluded that learning is a change in student behavior in the learning process, from before students have not known something about objects after learning new students can understand what things are. Experts try to categorize the types of learning that we often know as learning taxonomies. One of the most famous is the taxonomy compiled by Benjamin S. Bloom. The types of learning were also compiled by Robert M. Gagne, and the most conclusive was carried out by a commission formed by the United Nations Educational Agency, UNESCO which was known as the four pillars of the foundation of education compiled by a commission chaired by Jacques Delors (Suhaenah , 2001: 6).

Bloom Taxonomy

Bloom's Taxonomy consists of three categories, known as the domain or cognitive domain, affective domain and psychomotor domain. What is meant by Bloom's domains are behaviors that are intended to be shown by students in certain ways, such as how they think (cognitive domain), how they behave and feel something (affective domain), and how to do (psychomotor domain). 1). Cognitive domain In this cognitive domain, there are levels ranging from only having knowledge of facts to high intellectual processes that can evaluate a number of facts. These levels are:

a. Knowledge

   Knowledge is based on activities to remember a variety of information that has been known, about facts, methods or techniques as well as remembering things that are rules, principles or generalizations.

b. Understanding

   Understanding is the ability to understand the meaning of what is presented, the ability to translate from one form to another in words, numbers, and interpretations in the form of explanations, summaries, predictions, and causal relationships.

c. Application

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This ability includes the ability to utilize materials that have been learned in new situations. This activity requires the application of principles, theories, formulas or rules. d. Analysis and synthesis Analytical ability is the ability to unravel the material that has been studied into components or parts so that the structure of the study becomes clearer. The ability to analyze this will enable a person to understand relationships and be able to recognize parts of a whole better (clearly). The ability to synthesize refers to how people combine separate elements so that they become a new form of unity. For example, one can be said to have the ability to synthesize if he can concoct a number of concepts into a meaningful and comprehensive essay or he can engineer a technology result by using smaller parts which are originally meaning or less than before. e. Evaluation This ability includes the ability to give an assessment of materials or facts based on certain criteria. Objects that are considered objective. Unlike the assessment in the affective domain, assessment in the cognitive realm produces a more objective conclusion. The nature of the characteristics used as a result of the assessment is not good or not good but for example it is less effective, efficient or less efficient.

Ability to Identify Plants

The identification process in plants is one of the activities that requires the accuracy of students through observation. The plant identification process with the key to determination is one of the subjects in the material of plant ecology by observing nature as an object in identifying plants. In the process of learning the identification of plants, especially angiosperms which belong to the kingdom of plantae. Plant identification using the Student Centered Learning approach with the Discovery Learning model is used as one of the optimization of the utilization of the natural environment as a learning resource. Students are expected to be helped in understanding and knowing how to identify plants with the key to determination through the Student Centered Learning approach. With the Student Centered Learning approach using the Discovery Learning model, students are able to understand the Angiosperm material with the key to determining the ability to identify plants in the Eden Garden 100 forest.

The ability to identify plants is an activity that encourages students to be active in direct activities when conducting field work

Student Centered Learning

Learning Approach According to Komalasari (2013: 54) the learning approach is defined as the point of view of the learning process, which refers to the view of the occurrence of a process that is still very common in which it accommodates, inspires, strengthens, and underlies learning methods with certain theoretical scopes. Approach is the point of view of the learning process that is still common then strengthened using appropriate learning models and methods. Student centered learning is learning done by students between groups and individuals to develop and solve various problems and activate knowledge from passive conditions to developing knowledge (Harman SW, 1996: 206).

Student centered learning describes the direction of thinking about learning and the lecturer provides something that can actively stimulate the development of students, interact with lecturers and with other students to find and find (Cannon, 2000: 156). Student centered learning is a learning approach that places students as active and independent subjects with psychological conditions as adult students, fully responsible for their learning, and able to actively learn in the classroom. Later, the alumni are expected to have and appreciate the characteristics of life long learning that supports hard skills, soft skills, and life skills that are mutually supportive. On the other hand, the teachers changed functions, and the instructor became a learning partner and as a facilitator (from mentor in the center to guide on the side). Student centered learning is used together with processing, learning or teaching the learning process where there is a lot of strength while staying with students. Some cases of students and lecturers work together.

Students involved in group activities are designed similar to how people learn in using real life and the relevance built into the system. Student centered learning is teaching and learning that emphasizes the responsibilities of students and learning activities without the approval of lecturers. Basically Student centered learning has student responsibilities and activities, in contrast to emphasizing on lecturer control and the scope of academic content found in many conventional.

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PAILKEM learning

The PAILKEM learning strategy is one of the strategies that can be applied in learning activities. Meant by the strategy because the field of the target is directed at how to: (a) organize learning material; (b) convey or use learning methods; and (c) managing learning as desired by learning scientists so far, such as Reigeluth and Merill which have laid instructional foundations that optimize the learning process. PAILKEM is a synonym of Active, Innovative, Environmental, Creative, Effective and Attractive Learning (Uno and Mohamad, 2011: 75-76). a. Active Learning One of the strategies created in PAILKEM learning is how to make learning active. Some characteristics of active learning as stated in the ALIS model learning guide (Active Learning in School, 2009) are as follows: (a) student-centered learning; (b) learning is related to real life; (c) learning encourages students to think high-level; (d) learning serves different learning styles; (e) encouraging learning to interact in multiple directions; (f) learning to use the environment as a media or learning resource; (g) learning centered on students; (h) structuring the learning environment makes it easy for students to conduct learning activities; (i) Lecturers monitor student learning; (j) Lecturers provide feedback on the work of students.

METHODOLOGY

The research design used is Quasi Experiment (Quasi Experiment) which is a study intended to find out whether there is a consequence of a subject that is imposed on a subject, namely a student.

Research procedure

1. Preparation stage

The activities carried out during this preparation stage include :

a. Conduct field observations into the forest where the research was conducted
b. Management of research licenses from the Teaching and Education Faculty of North Sumatera Islamic University
c. Look for relevant literature/literature reviews in accordance with the research

material that will be conducted

d. Consult the lecturer about choosing class members who will be used as a population and sample
e. Prepare a research proposal to be conducted
f. Make a lattice of questions in a multiple choice from the material to be tested as a research instrument
g. Take a proposal seminar

2. Implementation phase

The activities carried out at this stage of implementation include :

a. Determine the class to be made the population and the research sample is 4th semester Biology Education Students
b. Providing pre-test to students before students are taken to study directly to the field to find out how far the basic ability of students in studying Plant Ecology Courses.
c. Bring students who are used as research samples to the forest of Eden Park 100 Lumban Julu In the apllication of Student Centered Learning approach.
d. Mahasiswa is taught the material of Plant Ecology which is directly sourced from nature, namely the forest of the Lumban Julu 100 Eden Garden.
e. Students begin to identify plants around the forest of Eden Park 100 Lumban Julu which are related to the subject of Plant Ecology.

3. Completion Phase

The activities carried out at this completion stage include :

a. Processing data from research results
b. Perform the process of analyzing data from research results.
c. Draw conclusions from the results of the study
d. Prepare reports by completing attachments related to research.

Research Instruments and Data Collection Techniques

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Data in this study include quantitative, namely the ability of students to identify plants. The instrument used in collecting research data is a test form, namely pre-test and post test and observation sheet, called check-lists. Pre test and post test questions are arranged based on the indicators in the syllabus. The number of questions as many as 20 questions in the form of tests if the correct answer will get a score of 5 and if the wrong answer will get a score of 0. While observation is an activity that pays attention to something to something using the eyes.

Hypothesis testing

Testing the hypothesis is used to see the effect of using the Student Centered Learning approach to the level of ability to identify plants in the forest of Eden Park 100 to students, research is accepted or rejected by statistical testing with the formula: (Arikunto, 2006: 306):

$t = Md / (\sqrt{(\Sigma x^2 d) / (N (N-1))})$

With $Md = (\Sigma d) / N$ and $\Sigma x^2 d = \Sigma d^2 - ((\Sigma d)^2) / N$

Information:

Md = Mean of difference in pre-test with post test

Xd = deviation of each subject (d-Md)

Σx2d = Number of Square Deviations

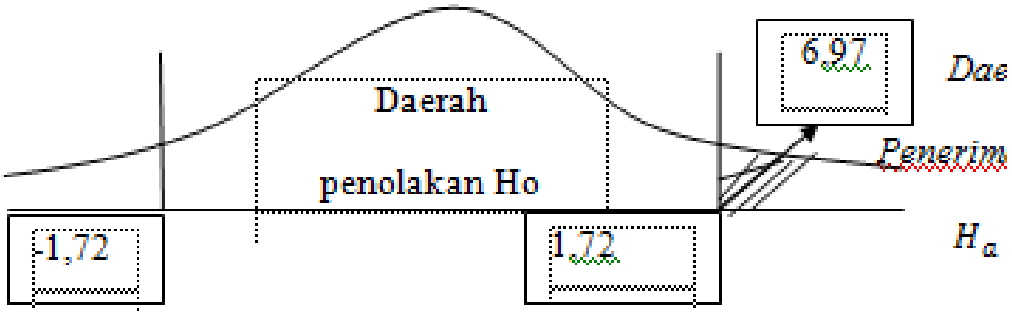
N = subject in the sample

d = the results squared to test the significant effect, then the price of tcount is consulted to the t distribution table with criteria t count> t table with significant levels $\alpha = 0.05$ and dk = n-1, then the effect is stated to be significant.

FINDINGS AND DISCUSSION

Once it is known that the data is normally distributed and has the same or homogeneous variance, then the hypothesis will be tested. From the distribution results for $\alpha = 0.05$ and dk = n-1 (21-1 = 20), the calculation is obtained t = 6.97 and t table = 1.72, so that t count> t table is 6.97> 1.72. Based on the data above, the alternative hypothesis

is accepted and the null hypothesis is rejected. Thus it can be concluded that there is a significant influence of Student Centered Learning Approach on the Ability to Identify Plants in the Eden Garden Forest 100 in Biology Education students of FKIP UISU Medan.



Based on the results of the data calculation in the pre-test given in semester 4 of Biology Education FKIP UISU Medan obtained data of 14.20% of students declared complete and 85.71% were not completed. With the highest score of 70 as many as 3 people and the lowest value of 30 as many as 4 people, with an average score of pre test 50.21 with the ability to identify plants 70 and a standard deviation of 13.07. After being taught by the Student Centered Learning approach using the Discovery Learning model for students of Biology Education FKIP UISU Medan who received the highest score of 80 as many as 6 people and the lowest score of 60 was 6 people. Then students who completed were 14 people (67%) and 7 people (35%) students were not complete, with an average value of 69.92% with the ability to identify plants 70 and standard deviation of 7.32. Based on the results of data calculations when pre-test and post-test is known by using the Student Centered Learning Approach with the Discovery Learning model on the ability to identify plants in the forest of Eden Park 100 in Biology education students FKIP UISU Medan. The initial ability of students from the average value is still below the specified ability to identify criteria that is 70. This is because in the pre-test the students were given a problem without the implementation of the learning with the Student Centered Learning Approach.

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While the results of the ability to identify plants after using the Student Centered Learning approach with the Discovery Learning model by giving a post test of the 4th semester students of Biology Education FKIP UISU Medan obtained an average value of 69.92 and it can be seen that there was an increase in the ability to identify plants after using the Student Centered approach Learning with the Discovery Learning model. This increase occurred because the Student Centered Learning approach directly brought students directly into the field and learning about identifying this was favored by students, although increasing the ability of students to identify plants not maximally, because only about 67%. This not yet optimal increase is due to too short teaching time, and when taking students to study in nature is not too long.

CONCLUSION

Based on the results of the research obtained and data management has been carried out statistically so that conclusions can be drawn, as follows:

1. Based on the initial ability of student test results (pre-test) the average value of students was 50.21 and the standard deviation was 13.07 with the standard competency criteria determined as 70. Students were under the category of 18 students and 3 students were categorized good .
2. From the post-test results after applying the Student Centered Learning approach with the Discovery Learning model, the average student score was 69.92 with a standard deviation of 7.32. Based on the specified competency standard, 70. Students were in the good category, namely 14 people (67%). So it can be concluded that the student competency value has increased after the application of the Student Centered Learning approach with the Discovery Learning model. 3. After testing the hypothesis obtained tcount> t table or 6.97> 1.72 so that it can be concluded that there is a significant effect on the application of the Student Centered Learning Approach with the Discovery Learning model on the ability to identify plants in the Eden Garden Forest 100 in FKIP Biology Education students UISU Medan.

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