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The application of a problem-based learning model to increase student learning activeness on ecosystem material in class x agribusiness of food crops and horticulture at state vocational high school 1 hilimegai in the 2022/2023 academic year

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ABSTRACT

The character of students in Class X Agribusiness of Food Crops and Horticulture of State Vocational High School 1 Hilimegai for ecosystem material was previously less active in learning Biology, this is indicated by the lack of student response to the subject matter, students tend to be passive in learning. This study aims to improve student learning activeness through the application of the Problem Based Learning learning model. This type of research is Classroom Action Research (PTK) which is carried out in two cycles. Each cycle consists of several stages, namely planning, action implementation, observation and reflection. The subjects in this study were students in Class X Agribusiness of Food Crops and Horticulture of State Vocational High School 1 Hilimegai in the 2022/2023 academic year consisting of 31 students. The main techniques in data collection were observation, questionnaire and documentation. The results showed that in cycle I the average percentage of student learning activeness was 74%. In cycle II, the percentage of student learning activeness was 85%. Based on the percentage data for each cycle, there was an increase in student learning activeness. The conclusion of this study is that the Problem Based Learning (PBL) learning model can increase student learning activeness in ecosystem material in the X Agribusiness competency of food crops and horticulture at the State Vocational High School 1 hilimegai, 2022/2023 academic year.

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1. INTRODUCTION

Learning is said to be effective when students are actively involved in organizing and discovering information (knowledge), so that they do not only passively receive knowledge provided by the teacher but there is a response back from students.

School is one of the centers of learning activities(Metin, 2017). Thus at school is an arena for developing student activities(Graham et al., 2018). The situation where students carry out learning activities is what is called learning activeness(Chi, 2009).

Student activeness in the learning process will cause high interaction between teachers and students or students with students(Braxton et al., 2000). Which makes the class fresh and conducive,

involving their abilities as much as possible so that it is hoped that there will be an increase in the absorption of material both knowledge and skills taught(Chen et al., 2009).

High intellectual and emotional involvement in the learning process is very influential(Oberst et al., 2009). Students are given the opportunity to discuss expressing their opinions and ideas, exploring the material being studied and interpreting the results together in the group(Purwanto, 2022). These activities allow students to actively interact with the environment and their groups, as a medium to develop their abilities(Grabinger & Dunlap, 1995).

The character of students in class X Agribusiness of Food Crops and Horticulture of State Vocational High School 1 hilimegai for the previous material is less active in learning biology, this is indicated by the lack of student response to the subject matter, students tend to be passive in learning. Both interaction between students and student interaction with the teacher is lacking. In an effort to change passive students and lack of response, the authors want to try to conduct research to overcome these problems(Cheng, 2000). For this reason, the author conducted a study entitled: Application of Problem Based Learning Model to Increase Student Learning Activeness on Ecosystem Material in Class X Agribusiness of Food Crops and Horticulture at State Vocational High School 1 hilimegai the purpose of this study is to find an alternative learning model that can increase student activeness on Ecosystem material in Class X Agribusiness of Food Crops and Horticulture at State Vocational High School 1 hilimegai.

Delisle in Abidin (2014: 159) states that the PBL model is a learning model developed to help teachers develop thinking skills and problem-solving skills in students as they learn learning materials(Lestariningsih et al., 2021). This model facilitates students to play an active role in the classroom through the activity of thinking about problems related to their daily lives, finding the procedures needed to find the information needed, thinking about contextual situations, solving problems, and presenting solutions to these problems.

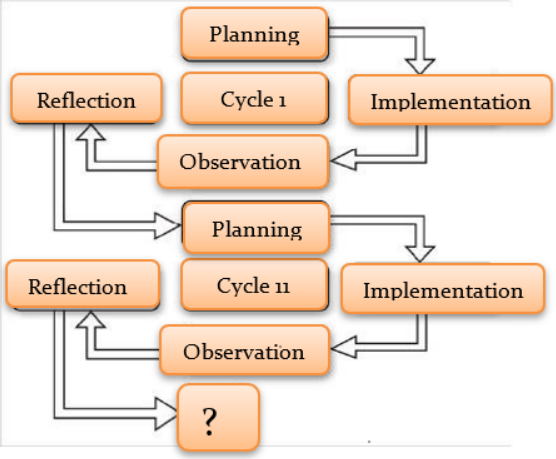
Kemendikbud (2013b) in Abidin (2014: 159) views the PBL model as a learning model that challenges students to "learn how to learn", working in groups to find solutions to real-world problems. The problem given is used to bind learners to curiosity in the learning in question(Kang et al., 2009). Problems are given to students before students learn concepts or material related to the problem to be solved(Hmelo-Silver, 2004). This is in line with the opinion of Sudarman (2007: 69), the Problem Based Learning model or problem-based learning is learning that uses real-world problems as a context for students to learn about critical thinking and problem-solving skills, as well as to gain essential knowledge and concepts from the learning material.

Problem Base Learning is an approach where problems control the learning process(Schmidt et al., 2011). Problems are posed so that learners realize that they must learn some new knowledge before they solve the problem. Problem Based Learning focuses on presenting a problem to students, then students are asked to find a solution through a series of research and investigations based on theories, concepts and principles learned from various fields of science(Savery, 2015). The problem is the focus, stimulus and guide for the learning process. While the teacher becomes a facilitator and guide (Davis & Harden, 1999).

2. RESEARCH METHOD

The method used in this research is classroom action research. The approach used in this action research is a qualitative approach(Mertler, 2009). This research was conducted because of the low student learning activeness in biology learning activities(Freeman et al., 2014). This problem is followed up by applying a learning model that can increase student activeness in learning(Bonwell & Eison, 1991). Researchers use the Problem Based Learning learning model because it is considered practical and suitable for ecosystem material and 2013 curriculum learning(Lewinsohn et al., 2015).

Basically, this research design follows the sequence of implementing classroom action research activities with a cycle model design. Listen to the flow as follows:



Plan

Create an action plan to increase student activity. Things that need to be prepared in planning include:

1. Establish a research schedule
2. Develop learning tools, namely a Learning Implementation Plan using the Problem Based Learning (PBL) learning model and Student Worksheets
3. Prepare the tools/materials used for each meeting
4. Prepare observation sheets, namely student activity sheets for each meeting and sheets

Implementation of the Problem Based Learning (PBL) learning model

Implementation of Actions

The action stage is carried out by the teacher based on the contents of the design that has been prepared. The action implementation stage is in the form of applying the PBL model during the learning process.

In carrying out the researcher's actions as a teacher in the classroom, he was assisted by colleagues who acted as observers. The teaching and learning process in implementing the action consisted of four meetings, each cycle consisting of two meetings.

Observation (Observation)

At this stage, researchers and observers collect student activity data during learning. Data collection was carried out through observing student activity according to the research instruments and observing the implementation of the PBL learning model. Observations were carried out by researchers assisted by colleagues/observers.

Reflection

The reflection stage is an activity of observing and analyzing the overall actions carried out. Analysis is carried out based on data that has been collected during observations. This stage also evaluates the constraints and barriers that have been collected during observations. This stage also evaluates.

3. RESULTS AND DISCUSSIONS

Cycle I consisted of two meetings. In each meeting, students are given group assignments that must be completed during that meeting. Student activities were observed by a writer assisted by colleagues/observers using student activity observation instruments. Whether the application of the Problem Based Learning model is appropriate or not for the purpose of increasing student activity is also observed by a colleague/observer using an observation instrument/observer implementing the based learning model. After two learning meetings (cycle 1) the author reflects on it.

Based on the results of observations in cycle I, the Problem Based Learning learning model has been implemented well based on the syntax of the base learning model. Student activity is shown by

percentage data at the first and second learning meetings. At the first meeting, data obtained on the percentage of research indicators for student learning activities were as follows:

NO	INDICATOR STUDY	S1/P1	S1/P2
1	Listening to the Teacher	90%	94%
2	Actively ask questions	61%	68%
3	Group discussion	65%	65%
4	Complete the report	77%	81%
5	Collecting data	68%	71%
6	Doing experiments	84%	87%
7	Actively answering	55%	65%
8	Make conclusions	71%	77%

Data from observations of the percentage of each research indicator

This means that students are actively involved in the learning process. This student involvement can be seen from the average student learning activity which is 74% which is included in the good category. Cycle II consisted of two meetings. In each meeting, students are given group assignments that must be completed during that meeting. Based on the results of observations in cycle II, the Problem Based Learning learning model has been implemented well based on the syntax of the problem based learning model. Student activity is shown by percentage data at the first and second meetings. At the first meeting, data obtained on the percentage of research indicators for students' active learning in learning were as follows:

NO	INDICATOR STUDY	S2/P1	S2/P2
1	Listening to the Teacher	97%	100%
2	Actively ask questions	71%	77%
3	Group discussion	74%	81%
4	Complete the report	87%	87%
5	Collecting data	81%	81%
6	Doing experiments	94%	94%
7	Actively answering	74%	84%
8	Make conclusions	84%	90%

Data from observations of the percentage of each research indicator

This means that students are actively involved in the learning process. This student involvement can be seen from the average student activity which is 85% which is included in the very good category. It turns out there was an increase in student activity from cycle I to cycle II which can be seen from the average percentage of cycle I and cycle II, namely from 74% to 85%.

4. CONCLUSION

Based on the results of the research and discussion, it can be concluded that students' active learning in learning is in the good category with an average in cycle I of 74% and very good in cycle II of 85%. There was an increase in student learning activity in learning, namely from 74% to 85%. The Problem Based Learning learning model has been proven to increase the activity of Class

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