



Efforts to Improve Student Learning Outcomes on the Diversity of Living Creatures in My Environment With a Problem Based Learning Model for Class IV State Primary School 020273 Binjai Utara

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ABSTRACT

This research aims to improve learning outcomes for Natural Sciences (Science) in class IV of SD Negeri 020273 North Binjai. The low student learning outcomes in Natural Sciences (Science) subjects led to this research being carried out. In the classroom, this research uses problem-based learning (PBL) strategies. The research subjects were fifteen fourth grade students at SD Negeri 020273 North Binjai. The purpose of this research is to provide the results of my use of image media and Problem Based Learning (PBL) methodology to study the diversity of animals that inhabit my area. After giving students a five-question comprehension test, researchers gathered information about their learning goals. Based on the research results, an average of 47% of students in cycle I and 80% of students in cycle II met the KKM. To improve the learning outcomes of class IV Natural Sciences (IPA) students which include the diversity of living creatures around me, this learning completeness value was created. Improving student learning outcomes is the goal of initiatives that apply the problem-based learning (PBL) paradigm. Because scientific research is taught through lectures, researchers often choose this approach.

Learning Outcomes, Science, Problem Based Learning

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INTRODUCTION

A person who carries out teaching obligations and duties in a learning environment is an educator. The teacher acts as a second parent for the students in the class. The definition of instructor as stated by Mulyasa (2013). Teachers are guides in action, with the knowledge and experience necessary to oversee the smooth running of the educational process. Educator is a great job because it not only helps children develop a sense of patriotism and a proper education, but also helps them become

independent adults. Because educators are the ones who determine the future of the country, it is their duty to improve the quality of students entering class.

A person who has power and responsibility in the field of education is an educator. According to Safitri (2019) educators are qualified teachers who teach, guide, train, administer tests and assess students. A teacher who is fully aware of his role as an educator is essentially a professional teacher. (Jailani 2014). According to this description, an educator is a professional who has the skills needed to teach, lead, train, assess and evaluate students. its task is to produce the next generation of quality citizens. Apart from that, a teacher also needs to provide an example to his students. The nation's talented next generation is largely created by its teachers.

In accordance with the goals of education itself, natural science has the ability to produce people who have the ability to support human growth and the achievements needed to advance to become superior human resources (Herliana & Anugraheni, 2020). A nation's development capacity is influenced by various factors, including the quality of human resources and the abundance of natural resources. If the citizens of a country demonstrate high moral standards and moral behavior both in society and individually, then that country is considered beautiful. Education is an important tactic in helping children build their character.

A teacher's ability to convey knowledge is demonstrated by the way students learn in class. Many aspects, both internal and external, of the material being studied must be considered so that learning outcomes can be maximized. Teachers' expectations are not met due to low student learning outcomes, especially in science lessons, which do not meet teacher expectations. Various elements of education, including infrastructure and learning environments, teachers, students, equipment, and teaching styles, may be the cause of today's low student learning outcomes. The methods used in teaching must be in line with learning objectives, adapted to student skills, and consistent with psychological education. Other suitable methods include instructor-style lectures, discussion learning strategies adapted to the curriculum, time limits, and infrastructure adaptation. These are just a few things to think about when choosing a teaching strategy.

Class IV students at SDN 020273 North Binjai have learning outcomes that are far below expectations. The low student learning outcomes are thought to be caused by a lack of motivation and sincere desire to learn. Low student learning outcomes are still the impact of this. To ensure the success of their learning activities, students must be motivated. This is caused by students' curiosity and drive to learn. The definition of learning motivation is all the driving forces within students that give rise to learning activities, so that the goals desired by the learning subject can be achieved (Sardiman, 2018). According to Uno (2017), learning motivation is the act of providing internal and external support to students when they learn to change their behavior. This assistance is

often provided in several ways. Low student learning outcomes may also be caused by the use of inappropriate tactics. Therefore, an approach is needed to improve student learning outcomes. These strategies include the Problem Based Learning (PBL) paradigm which encourages students to think critically and actively.

According to Widasworo (2018) Problem Based Learning is a type of teaching that involves presenting a problem to students and asking them to solve it. This approach can encourage students to learn and work together in groups to solve problems and create an interactive process between stimulus and response. Problem-Based Learning is a learning approach process that is related to real world problems as a context for thinking so that students have skills and can think critically in solving problems to gain knowledge and concepts related to the subject matter discussed (Maryati, 2018). Problem-based learning is an educational technique that encourages students' application of critical thinking to address practical problems.

RESEARCH METHOD

PTK is an extension of classroom action research, namely action research carried out in the classroom to evaluate teacher effectiveness through introspection in order to improve student learning outcomes. PTK's search is subject to certain rules that need to be adhered to. Sani & Sudiran (2013) said that PTK is practical research that focuses on studying the problems faced by educators in the classroom and the results can be immediately applied by the teachers themselves to improve the teaching and learning problems they face. PTK is a scientific project based on classroom action research.

On the other hand, self-reflection is a method of analyzing problems in classroom learning, according to Sanjaya (2013). Fitria, et al., (2019) Classroom Action Research (PTK) has several benefits including; (1) the implementation is well planned and controlled to obtain quality learning; (2) intensive problem solving will improve the quality of learning; (3) improving the role of teachers will increase the capacity of teachers as educators. PTK is an abbreviation for Participatory Teaching Knowledge, which is an acronym for Participatory Action Research, namely action research carried out in the classroom to improve student learning outcomes and increase instructor effectiveness through self-reflection. Sani & Sudiran (2013) state that Classroom Action Research is practical research that is focused on examining the problems faced by teachers in the classroom, with the aim of improving the teaching and learning problems faced by teachers immediately after completing the research,. One type of research activity is classroom action research or PTK.

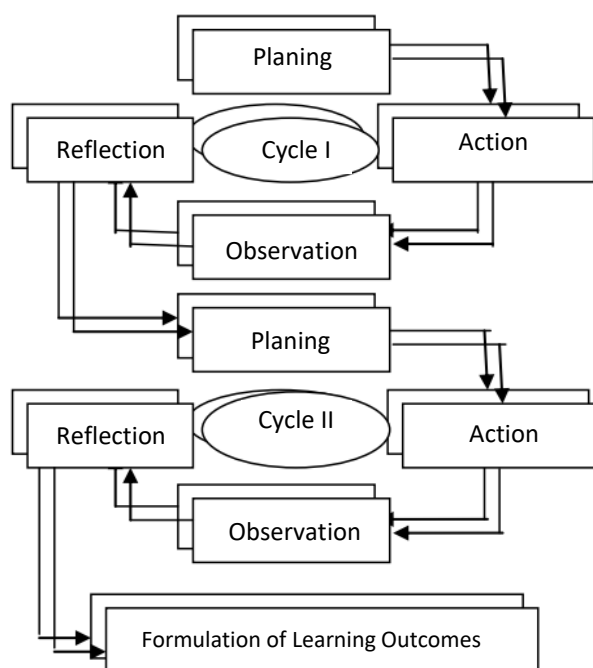


Figure 1.
PTK Cycle (Inayati & Kristin, 2018)

This class research project has a three-loop cycle as its methodology, with one or more meetings possible throughout each cycle. The ultimate goal of each meeting is to improve learning outcomes in science subjects, especially in material about the diversity of living things around me. Like research in general, PTK adheres to certain protocols or regulations which provide direction for educators conducting research. According to Arikunto (2013), there are four main processes in the PTK cycle: planning, implementation, observation, and reflection. The PTK flow that can be carried out by teachers during each cycle occurs in the following Figure 1.

Planned stages: Based on the results of initial observations, an activity plan for cycle I is formed. Problems and solutions are identified first before making a learning plan for teaching and learning. In terms of preparing media and monitoring tools such as test observation sheets, daily notes, and the like, this plan can be compared to the KBM that teachers make every day. At this preparation stage the researcher selects a topic, arranges the lessons to be provided, develops a learning plan and learning resources, designs learning scenarios, develops an assessment framework, and develops a learning observation sheet.

Action/Implementation Phase (action): This step includes the application of theory, learning techniques, and action (therapy) using the Problem Based Learning (PBL) learning paradigm. In this exercise, the instructor motivates the class by presenting difficulties and leading them through problem scenarios. After that, the teacher divides the class into groups of three to start learning. Teacher Gives

assignments to groups so they can solve problems through conversation. The teacher gives the group the opportunity to study books written by students or other sources, or conduct research to find out more about the subject being discussed. Furthermore, education directs investigations both individually and in groups, providing critical questions to students in searching for answers to given problems. With the help of image media, teachers facilitate students in solving problems. Next, the instructor asks the group leaders to demonstrate their results, specifically solutions to the challenges presented, and allows the other groups to react and share their thoughts on the group demonstration. Instructors can assist students in rethinking or assessing their research and the methods they use. Finally, the teacher gives homework to each student individually.

Observation and Monitoring Stage: Using the Problem Based Learning (PBL) learning paradigm, researchers carried out the observation stage of the learning process. Researchers observed students engaged in various learning activities. During the observation process, many indications were recorded, including the child's visual, auditory, written and mental indicators. Observation emphasizes the process of remembering and considering an activity, which is included in reflection. Understanding the procedures, issues, circumstances, and obstacles that arise throughout strategic action is the goal of reflection. In addition, reflection includes understanding the problems and circumstances that give rise to a problem, as well as considering other points of view that may exist in certain circumstances. Conversations between researchers and collaborators help enhance the reflection process, which in turn provides a foundation for improving plans in subsequent cycles.

Researcher Location and Time: Selecting a research location is the first step taken before starting any investigation; The location and condition of the research location is confirmed through location orientation. The research was conducted at SD Negeri 020273 North Binjai. Each of the two components of the school building contains six classrooms, a library, a principal's office, two restrooms and a teacher's room. In the odd semester 1 of 2023-2024, research was carried out from October to the end. Consult the institution's academic calendar to find out when research is permitted.

Person in quantity refers to an item that has every feature or quality that the topic or item being sold has. Population according to Hamzah (2019) is a domain consisting of items or people with certain qualities that the researcher chooses to be the main topic of his research in order to draw conclusions. The population studied in this research were all 15 grade IV students at SD Negeri 020273 North Binjai. A group of students representing the sample using probability sampling (Hamzah, 2019). Then to obtain relevant data as a conclusion comes from two factors namely; (1) using the Problem Based Learning (PBL) paradigm in science classes to teach about the diversity of living creatures in the environment; and (2) providing learning activities for fourth grade

students at SD 020273 North Binjai. Furthermore, the categories of student learning success levels can be seen in table 4 below.

Table 4.
Criteria for Student Learning Success

Level of success (%)	Criteria
>80%	Very high
60 - 79%	High
40 - 59%	Middle
20 - 39%	Low
<20%	Very Low

The data collected is then processed using a collaborative, reflective and review process as an analytical tool. The following data analysis methods are applied; (1) compiling test instruments in the form of descriptions; (2) compiling a rubric for assessing learning outcomes; (3) assessment of student learning outcomes; (4) provide feedback on student learning outcomes on a scale of 0 - 100.

RESULTS AND DISCUSSION

Cycle I

Based on the evaluation that has been carried out, several weaknesses are known which are expected to affect learning outcomes and the achievement of learning objectives. Therefore, researchers carried out improvements in cycle 1, where the activity was the Planning stage during cycle 1, which was carried out on Tuesday, October 17 2023.

The core activities of the RPP cycle I are: the teacher provides orientation to students in problem situations. This activity takes the form of providing motivation, namely by giving problems to students. The teacher then arranges the students according to their learning order. Students work together in groups of three. Instructors give students group talks to overcome challenges. Learning provides opportunities for groups to conduct research to seek knowledge about a particular subject, read books written by students or other sources, or both. Next, the instructor guides the class by asking important questions to help them find answers to the challenges at hand. Instructors also conduct investigations both individually and in groups, asking students to gather relevant facts. With the help of image media, teachers can facilitate students in solving problems.

Next, the instructor asks the group leaders to demonstrate their results, specifically solutions to the challenges presented, and allows the other groups to react and share their thoughts on the group demonstration. The instructor then guides the

class in reflecting or asking questions about themselves and their methods. At the end, the instructor gives each student a personal assignment.

After carrying out the action, observations are made. In the first cycle, observations were carried out to observe the students' activities in learning, whether students' activeness in learning where educators used the Problem Based Learning (PBL) learning model with science subjects on the Diversity of Living Creatures in My Environment could increase or not. It turns out that based on researchers' observations in cycle I, student activity and learning outcomes were still very poor.

The reflection stage of the results of the data collection is then discussed by the researcher and colleagues to determine the level of success in implementing the actions in cycle I. In this stage the researcher will review the extent to which the objectives of the actions taken have been achieved. For example, learning outcomes are still unsatisfactory, the use of teaching aids is not optimal or students are still awkward in carrying out the methods implemented.

Table 2.
Completeness of Learning Results in Cycle I

Statistical Component	Data
Maximum value	80
Minimum value	65
Average	71
Number of Completed Students	7 Students
Total students	15 Students

It can be concluded that 7 students or 47% of students whose scores met the KKM completed the exam based on the statistics above. The average is 71. I have seen a significant improvement in cycle I results compared to pre-action findings. But that's not what was expected. Maybe because they are still not familiar with how to use media, children don't do this. So the delivery of the content of the material has not been conveyed well. Based on the data above, the researcher draws the conclusion that cycle II needs to be held to further improve student grades.

Cycle 2

The planning stage for Cycle II will be held on Friday, 27 October 2023. As for the description of the implementation of Cycle II, there are slight differences between the activities of the first cycle and the activities of the second cycle. The topics discussed are the only things that are different. When students are faced with difficulties, instructors help them get started. This practice consists of offering difficulties to students to motivate them. Then the teacher arranges for students to study. Students collaborate in small groups of three. The teacher assigns groups to conduct group discussions to overcome difficulties. The teacher gives the group the opportunity to study books

written by students or other sources, or conduct research to find out facts relevant to the subject being given. After that, the instructor helps students in their investigations both individually and in groups, assigns them to collect relevant data, and guides them by asking important questions that will help them find solutions to the given problems. By using visual media, educators can help students solve problems.

Next, the instructor requests that group leaders demonstrate their results, particularly solutions to the challenges presented, and allows other groups to provide feedback and comments regarding the group demonstrations. Afterward, instructors assist students in rethinking or assessing their research and procedures. Finally, the instructor gives homework that must be completed by yourself. After carrying out the action, the researcher continues the observation stage, namely the activity of observing (data collection) from the subjects being observed to record or obtain data on how far the effect of the action taken reaches the target. Observation activities were carried out. After completing an activity during teaching and learning activities, an observation process is carried out. In cycle II observations, it was determined whether student interaction with science material on the topic Diversity of Living Creatures in My Environment could increase or not if the instructor used a learning model. It turns out that the researchers came to the conclusion that learning outcomes had increased based on observations.

After this stage, comes the period of contemplation. Reflection is carried out to observe the entire process of implementing actions and the results of students' understanding of the subjects being taught. In cycle II reflection in learning, it was found that students had understood the science material. Using a learning model with science subjects as material on the Diversity of Living Creatures in My Environment and using image media as a supporting tool to motivate students, this was because in delivering the material, the method used by the teacher was already appropriate question and answer method with discussion method. This makes students active in participating in learning.

Table 3.
Student Learning Results in Cycle II

Statistical Component	Data
Maximum value	95
Minimum value	70
Average	86
Number of Completed Students	12 Students
Total students	15 Students

From the data on learning results from cycle II above, it can be concluded that there were 12 students whose grades were above the KKM. This is an increase of 5

people compared to cycle I, meaning 80% of students have passed their grades. Meanwhile, there were 3 students whose scores did not complete the KKM, meaning there were 20% who did not complete it. The average score is 90. The researcher has come to the conclusion to stop this research, because the researcher feels that the expected learning objectives have been achieved.

Discussion of Each Cycle

Based on the results of research conducted in class IV of SD Negeri 020273 North Binjai at the pre-cycle stage. Of the fifteen children being cared for, only five had scores reaching the KKM or 33 percent of the total. This is because in the learning activities carried out so far teachers have only relied on lecture techniques; There is no educational media used to encourage student participation and contribution, resulting in low student learning outcomes.

Student learning outcomes were found to have increased in cycle I, as evidenced by an increase in learning completeness from 33% to 47% or from 5 people to 7 people who completed and complied with the K KM. However, this has not yet been anticipated because it does not meet the requirements for student learning success. Asis & Berdiati, (2014:55) stated that the Problem Based Learning model is transmitted through five steps; understanding problems, organizing learning activities, directing investigations, and evaluating problem solving processes. Then research conducted by Wibowo (2015) with the application of Problem Based Learning can improve learning outcomes with an average of 86 and can also increase learning motivation in the good category. Then research conducted by Ahmad (2017) concluded that the application of problem-based learning can produce higher grades and more student learning activities. It was found that student learning outcomes had increased, this was proven by the achievement of student learning outcomes in cycle I of only 47% to 80% or from 7 students to 12 students who had completed and met the criteria for student learning success, so the research was only in cycle II. The percentage of learning completeness by applying the Problem Based Learning model can be shown in Figure 2 below:

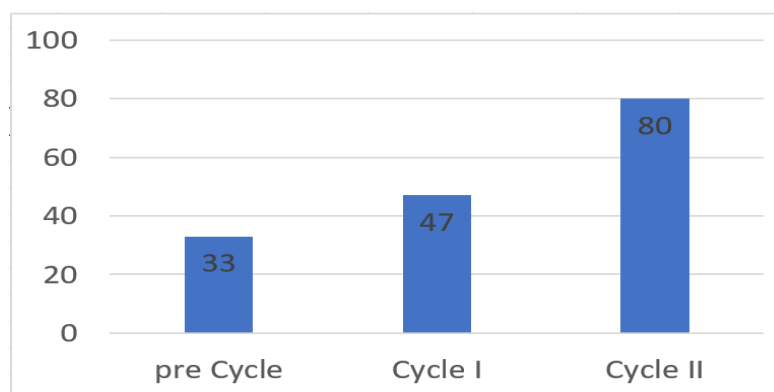


Figure 2.
Percentage of Student Learning Completeness in each Cycle

The positive influence of the problem-based learning model on student learning outcomes in the subject of the diversity of living things is supported by several other research results such as Habeahan, et al (2022) which concluded that the PBL model can improve student learning outcomes as seen from tcount (20.680) which is greater than ttable (2,015). Relevant research. Other research results that are relevant and show the same conclusions as the results of this research are research conducted by Ningsih & Ni'mah (2017), in more detail they conveyed student responses to the PBL learning model of up to 93.94%. The high number of positive responses shows that the learning model can facilitate students learning and interpreting the material being studied.

CONCLUSION

Based on the researchers' findings and discussions that occurred in the classes at SD Negeri 020273 North Binjai, we can draw the conclusion that using the Problem Based Learning (PBL) paradigm in teaching science content about the Diversity of Living Creatures at SD Negeri 020273 North Binjai. The environment is anticipated to improve student learning outcomes and overall student engagement. find. The Problem Based Learning (PBL) paradigm is used to demonstrate students' active involvement in group discussions, sharing ideas, and public presentations of their work to peers.

Suggestions and follow-up efforts to improve teacher professionalism to improve the quality of learning using the Problem Based Learning (PBL) model for class 4 SD 023904 North Binjai, material on Diversity of Living Creatures in My Environment, namely: In science learning, teachers should use learning media so that students do not get bored and are active in following learning and also teachers should be able to create a conducive classroom atmosphere so that learning runs smoothly. And choosing the right method can have an impact such as improving student learning outcomes.

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