

Research Article

How to Improve Students Learning Outcomes Using Problem-based Learning with Hypnoteaching Method

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Paradigm of learning began to change according to the current development. Students will have to start with more complex problems and require good abilities and skills. One of the efforts that teacher can do is to choose the right learning model and method for students. Selection of learning models is adjusted to the characteristics of students based on the results of the diagnostic assessment. Diagnostic assessment is used to see the characteristics of students and determine the appropriate treatment for these students. The appropriate learning model is problem-based learning. Problem-based learning uses problems as learning media; and serves students to actively think, communicate, search and process data, and draw conclusions from a problem. The learning method used is hypnoteaching. Hypnoteaching is used to make learning more interesting and fun. The advantage of hypnoteaching method can create a supportive learning atmosphere by giving positive suggestions to students. This study uses classroom action research in only one class with 2 cycles. Data collection is done by observation to see learning activities and tests to see an increase in student learning outcomes.

Keywords: problem-based learning, classroom action research, hypnoteaching method, learning outcomes

1. INTRODUCTION

Curriculum is one tool to achieve educational goals and making it a guide to implementation of learning all types of education levels, there are SD/MI, SMP/MTs, and SMA/SMK/MA. Curriculum has a very important role in education because there are plan or phase of learning designed for students [1]. The development of the curriculum continues to be carried out periodic following the era. Nowadays, curriculum currently used is the Kurikulum Merdeka. Kurikulum Merdeka aims to improve children's interests and talents from an early age. Kurikulum Merdeka have focused on 3 aspects, there are essential material, character development, and student competence. In line with the goal of an independent curriculum, the current learning paradigm is starting to

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change. Students will later be faced with more complex problems that require qualified abilities and skills by considering the social environment [2]. Efforts that can be made by teachers as facilitators in the field of education are always creative and include elements of innovation in learning [3].

Kurikulum merdeka is used to improve education. The existence of Kurikulum merdeka make teachers able to adjust teaching materials that will be delivered to students [4]. Material adjustments were made based on a diagnostic assessment. Diagnostic assessment are designed to map students' abilities. Based on diagnostic assessment, Even though uses Kurikulum Merdeka but test data obtained score of average class 27.25 with only 15 students having grades above the class average or about 41.67% with only 1 student who has a score above the KKM or 2.7% of all students in the class. One of the efforts that teachers can do in overcoming these problems is to choose the suit models, methods, or approach learning for students. The selection of learning models and learning methods is adjusted to the characteristics of students. One of the learning models and is thought to be able to overcome these problems is PBL (Problem Based Learning). In this learning model there are activities that make students able to thinking, communicating, searching and processing data, and make conclusions with real life problem to be a experiences. Problem Based Learning models also makes it easier for students to understand concepts because of the use of problems that are close to the context of everyday life [5].

Meanwhile of the learning methods that can be applied by teachers in carrying out fun learning is hypnoteaching method. Metode hypnoteaching can allowing students to be controled to learning materials because it can provide positive suggestions and use games, yells, positive motivation [6]. Hypnoteaching method can used to change behavior of students for the better and leading to the achievement of the desired learning goals, one of which is seeing an increase learning in class is score of students learning outcomes. One way to see an increase in student learning outcomes is to applying CAR (Classroom Action Research).

2. METHOD

This research is CAR (Classroom Action Research). Classroom Action Research can improve learning outcomes through change by encouraging teachers to evaluate learning and change it to the next action plan in next cycle [7]. The main objective of Classroom Action Research which is focus of researchers is to improve student learning outcomes through the application of the Problem Based Learning models with the

hypnoteaching method in class X-A2 SMA Negeri 8 Malang. The method in this research is collaborative, that's means the researcher takes action (acts as a teacher) is also involved in the research process. Stages carried out in CAR in one cycle consist of: (1) *plan* (planning), (2) *do* (implementation of learning and observation), and (3) *see* (reflection).

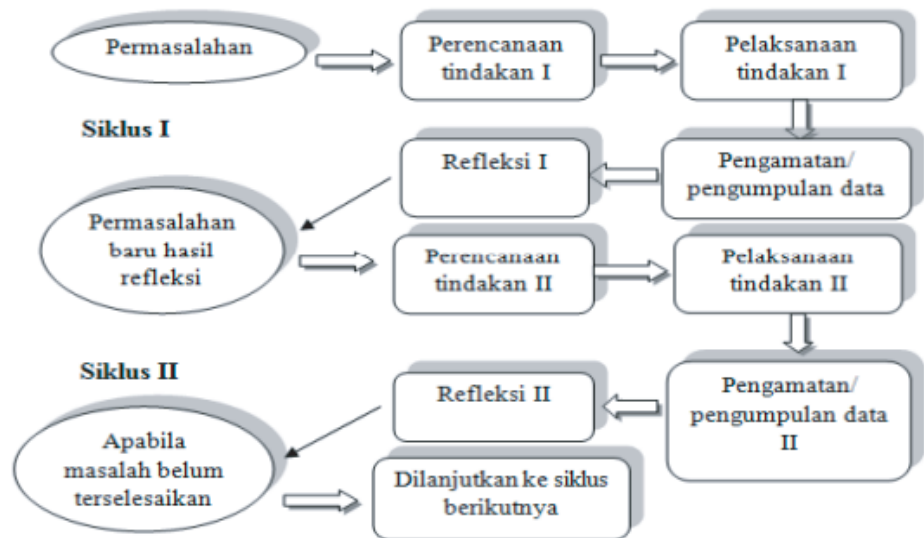


Figure 1: Cycle of Classroom Action Research.

This research was carried out at SMA Negeri 8 Malang of 1 – 30 August 2022. Data collection was carried out in the first semester of the 2022/2023 Academic Year. Subjects of this research were students of class X-A2 at SMA Negeri 8 Malang with 36 students. Establishing discussion group is based on various abilities by considering the diagnostic assessment carried out, namely Tes Kemampuan Dasar (TKD) and learning styles to obtain a description of the activities of students during the learning process.

3. RESULTS AND DISCUSSION

This research using classroom action research was carried out by two cycles and have been finished with each cycle consisting of three stages, there are plan (planning), do (implementation of actions and results of actions), and see (reflection).

3.1. Cycle 1

In this activity, researchers as teacher preparing several things to practice in the class. In cycle I of CAR, consist of (1) compiling learning tools consisting of ATP (Learning

Objective Flow) based on CP (Learning achievement) and Teaching Moduls; (3) preparing teaching materials based on students needed; (4) arranging observation sheets and attitude questionnaires; and (5) preparing links for teaching moduls and reflection at the end of learning activities.

The researchers designed the learning in class X-A2 using the PBL (Problem Based Learning) models with the hypnoteaching method on exponential numbers and the properties of exponents. Learning mathematics by giving a problem about the reproduction of bacteria that forms an exponential pattern according with the concept of the PBL model that connected learning with problems in real life [8]. Then ask students to work in groups to discuss the problem.

Teachers who teach in class carry out learning activities based on ATP and teaching moduls are previously prepared. In the opening activity, the teacher conditions the class and checks the attendance of students. At the beginning of the lesson, the teacher gives motivation about the use of exponent material and talks the learning objectives. In this activity, the teacher asks students about are they have studied the teaching materials via the link <https://bit.ly/BahanAjarBuTia> that was given earlier. The teacher gives students the opportunity to read a problem related to the exponent, there are the reproduction of bacteria. After reading the problem, the teacher gives icebreaking as the application of the hypnoteaching method to support a learning atmosphere that makes students relax and improves teacher performance in delivering material that involves emotions and maximizes the function of the five senses [9].

In core activities, teacher asks questions to students about the problems that have been raised, such as: (1) what information can be found from these problems; (2) what nub problems arise; and (3) what is the solution/action plan that can be taken. Then, teacher asks students to carry out discussions with a groups be formated. Formation of group based on phase II of the PBL learning model, name it organizing students. In this phase, teacher can organize learning tasks according to the problem that focus of learning by considering the formation of heterogeneous groups [10]. The teacher goes around directing and ensuring that the discussion activities ongoing and according with the learning objectives. When there are groups that have difficulties, teacher can provide directed guidance. Teacher giving facility group discussions with pre-solution without telling directly the solutions that can be found to the problems being discussed. Along with the characteristics of problem based learning which prioritize independent learning and enable students to carry out collaborative, communicative and cooperative learning [11]. After the group discussion process, the teacher gave several groups the opportunity to presenting the results of the discussion regarding the problem of bacterial

reproduction. At the end of the core activities, teacher giving evaluating and reviewing the results of student investigations through class discussions to provide input to all students. Learning activities on numbers and properties of exponents were carried out in 2 meetings.

At the end of the learning activity, the teacher giving a final assessment to determine learning outcomes with quizzes and tests in cycle 1. Teacher gives awards or appreciation to groups who are willing to presentation and active in class. Quiz is given to see the progress of learning and estimate students' understanding of learning. Meanwhile, tests are given to see the achievement of learning objectives in cycle 1 CAR. In reflection, teacher gives a "feeling today board" and a reflection link <https://bit.ly/ReleksimatBuTia> to find out their feelings after learning mathematics.

3.1.1. Results of Cycle 1 Actions

Based on the results of treatment actions in class X-A2 through the Problem Based Learning models with the hypnoteaching method found that the class average value in cycle I with numbers and properties exponen material was 45.38 or 55, 55% of all students have score higher than the class average. The results of this study are used to be an assessment with the target of the cognitive domain relating to intellectual learning outcomes [12].

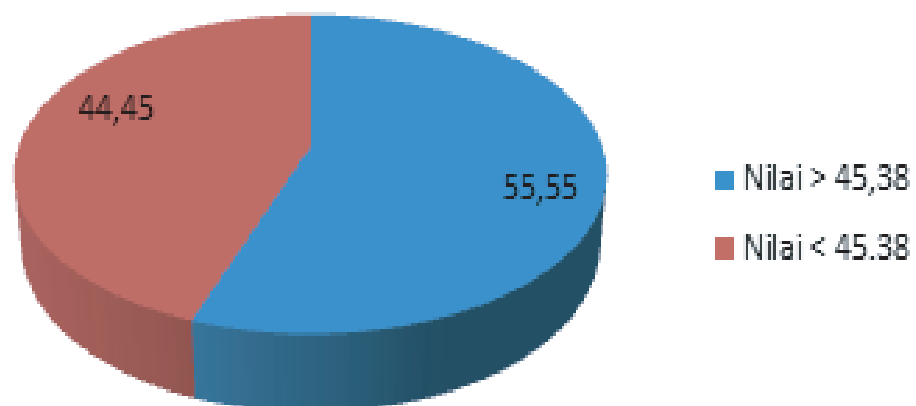


Figure 2: Percentage Completeness of Students Material on Numbers and Properties Exponent of Cycle I.

Based on observations of observers (students of PPL PPG Prajabatan, expert teacher, and Lecture) it shows that the results of learning management on several indicators obtained an average value of 4.64 and categorized as GOOD. Meanwhile, on the observation instrument of students who entered the skill value, it was found that the

activity of students during learning was good, marked by many students who were enthusiastic in discussing and no students who were not enthusiastic about learning.

From the results of the student questionnaire of attitude after learning which was filled out by all students, it was found that students felt happy about the learning process. Because in learning process, students interact between students, learning resources (teaching materials, the internet, learning links) and the teacher as a facilitator. In the questionnaire of attitude, it can be seen that 13.94% of students strongly agree that mathematics is fun and enjoys participating in learning mathematics, 44.68% of students agree that learning mathematics is fun with observing, understanding, and recording learning activities. Students are interested of teachers performance who can managing well and feel at a loss if they don't go to school and don't take mathematics lessons. Only 34.17% and 9.71% of students did not agree and strongly disagreed that learning mathematics was interesting and fun.

The reflection stage aims to determine the level of success and deficiencies after the implementation of cycle I actions and will be used as material for consideration in implementing actions in cycle II. Weaknesses in the implementation of cycle I included, the teacher did not provide guidance to the study group at the back of the class, as well as in terms of pacing method hypnoteaching (equalizing positions, gestures, and language) between teacher and students who were not yet optimal so that in the next cycle an increase was needed in that matter. The observer considered that there was a need to reinforce ice breaking as a way to attract students' attention to learning. Ice breaking can be varied and maybe can give a simple game that can grow and increase concentration [6]. In the activity of quizzes, there were still some students who opened their mobile phone or notebooks while working on it so that the teacher did not get optimal results according to the conditions of the students.

Improvement plans that can be carried out by teachers as researchers in cycle II are continuing to given motivation, giving ice breaking, giving problems through video shows that are close to students, establishing study groups by considering student characteristics, and touch groups evenly in providing guidance and attention to students.

3.2. Cycle 2

Reflections in cycle I CAR contributed to improving the implementation of cycle II. Researchers as a teacher prepare materials including: (1) compiling learning tools consisting of ATP (Learning Objective Flow) and teaching moduls with modification based on teaching moduls cycle I CAR; (2) preparing teaching materials with revisions; (3)

compiling observation instrument and attitude questionnaires; (4) preparing video about exponential function and power point to delivery of learning; and (5) preparing links for teaching materials and barcodes for reflection.

In cycle II CAR, the researcher took material that was different from cycle I, there is exponential function. Researchers are consistent with the treatment given to class X-A2. researchers giving problems through Problem Based Learning and forming groups with 4 students. However, there is a difference between cycle I dan II, researchers giving the problems with video to students. Video about exponential function showing learning videos related to growth and decay as an application of the exponential function. The teacher also prepares a power point that will be carried out that day so that students are interested in learning. The teacher also tries to vary the use of reflection using mentimeter so that students will be interested.

In the opening activities, teacher giving motivation, conveys the learning objectives and does ice breaking to increase students' feelings when learning mathematics. Teacher shows a video about exponential function material via link and barcode <https://me-qr.com/ERnM2M4> then asks students to read teaching materials via link previously provided. The teacher and students observe the video together and conduct questions and answers regarding the video. teacher asks students relate video to the learning about exponential function. Providing this learning video is also one of the leading efforts made by the teacher to direct students expected learning [6]. That way, students learning outcomes will increase because students are in a conducive position when doing learning [13].

In core activity, teacher asks students to pay attention to the problems in the teaching materials and then examines together the information obtained from these problems. The problems raised in cycle II is related to the growth and decay of exponential function. Teacher gives questions similar with cycle I to students about these problems such as: (1) what information can be extracted from these problems; (2) what problems arise; and (3) what is the solution or action plan that can be taken. Then teacher asks students to carry out discussions with the formation of groups determined. Formation of this group is heterogeneous based on the reflection results of cycle I but name of group is different from cycle I. While discussion activities, teacher do arounding, directing, and ensuring discussion activities have been done optimally. In cycle II, discussion activities must have experience better than cycle I. Teacher goes around making sure students discuss according to the learning objectives that have been set previously. In cycle II, teacher was able to reach all study groups to find out whether the discussion was going well or not. This is in line with the PBL principle of guiding group investigations [14]. After

the group discussion process, the teacher invites several groups to make presentations related to the discussion results of the problem of the growth and decay exponential function. Teacher provides opportunities for other study groups to present the results of different discussions even though they have the same final results. So that here, teacher can play a role in evaluating and reviewing the results of student investigations and providing suggestion to all students. Teacher gives awards or appreciation to groups who are willing to express their opinions in front of the class.

At the end of the learning activity, teacher makes a final assessment. Teacher giving an assessment in cycle II CAR. Teacher also provides learning reflections with mentimeter by providing a link <https://www.menti.com/g1ttc6ocqe> and ask students to fill in the feeling today to find out how they feel after learning mathematics.

3.2.1. Results of Cycle 2 Actions

Based on the results of treatment actions in class X-A2 through the Problem Based Learning models with the hypnoteaching method found that the average grade value in cycle II with exponential function of growth and decay was 73.42 or 58.33% of all students have scores more than the class average. From cycle II, it was seen that there was a significant increase in the class average from 45.38 to 73.42. When viewed from the improvement of each student, it was found that 31 students experienced an increase in terms of learning outcomes or 86.11% of class X-A2 students experienced an increase in terms of learning outcomes. This is supported by using of the hypnoteaching method can increase students' self-confidence by showing an increase in their learning outcomes [15].

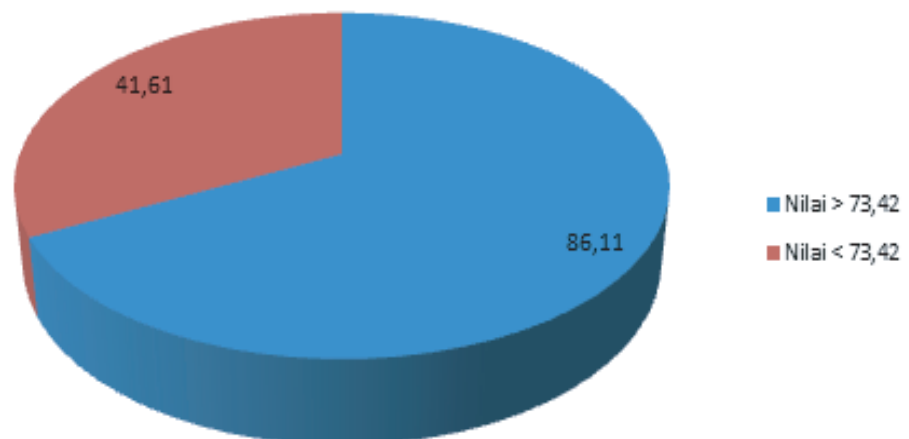


Figure 3: Percentage Completeness of Students Material on Exponential Functions (Growth and Decay) of Cycle II.

From the observations of the observers (expert teacher and PPL PPG Pre-service students) it shows that the results of learning management on several indicators obtained an average value of 4.68 and were categorized as GOOD. Meanwhile, in terms of the activeness of students during learning, it is well marked by many students who are enthusiastic and work together in groups and there are no students who do not contribute in groups.

From the attitude questionnaire of students in cycle II which was filled in by students, it was found that students felt happy about the learning that was carried out. This is caused by the interaction between students, learning resources such as teaching materials, learning videos, learning links, and teachers who act as facilitators. In the cycle II attitude questionnaire, it can be seen that 15.02% of students strongly agree that mathematics is fun and enjoys participating in learning mathematics. 46.99% of students agree that learning mathematics is fun with observing, understanding, and recording learning activities. Students feel that the teacher can condition well and feel a loss if they don't take part in learning mathematics. Only 30.03% and 7.96% of students stated that they disagreed and strongly disagreed that learning mathematics was interesting and fun.

In reflection activity, the success that has been carried out by the practicing teacher, including students, looks more enthusiastic about learning compared to the implementation of learning in cycle I. Based on the observations by the observers, it shows that teacher has maximized managing time (3 x 45 minutes). By using power point, students can focus on paying attention to the teacher in carrying out learning. Teachers also use learning videos in the form of barcodes so that students can open learning videos individually. When teaching growth and decay, teacher has tried to display learning videos that are close to students. So that students feel that what they are learning is close to their lives. Teachers have also made innovations to hypnoteaching method such as using ice breaking at the beginning of learning and the end of learning. Teachers have started to adapt by adjusting body language with students so that a conducive atmosphere is created during learning.

Based on the results of the research and descriptions of cycle I and cycle II CAR, to see more clearly of the research results in each cycle with criteria are presented in the following table.

TABLE 1

No	Action	Cycle I	Cycle II
1	Application of Problem Based Learning	4,64	4,68
2	Using hypnoteaching method	58,63%	62,01%
3	Students Learning Outcomes	55,55%	86,11%

4. CONCLUSION

Student learning outcomes after applying the Problem Based Learning (PBL) models in class X-A2 of SMAN 8 Malang using the kurikulum merdeka showed an increase. Learning outcomes increased from 55.55% to 86.11% and increased by 30.56%. This is due to the modification of learning carried out by practicing teachers in cycle I and cycle II of CAR, there are using learning videos and power point which help transfer knowledge to students. Teachers also innovate in the use of barcodes in learning so that learning is not monotonous.

The increase in learning outcomes occurs due to the application of learning models that are in accordance with the characteristics of students, there is use of Problem Based Learning (PBL) models that can accommodate all learning styles and characteristics of students with various study groups (considering high, medium, low abilities) [16] and conditions students to be able to discuss a problem that is close to everyday life supported by the use of appropriate hypnoteaching methods so as to make students conducive and happy in learning mathematics.

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