Implementation of Problem-Based Learning to Improve Student Learning Outcomes for Economics Subject

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Abstract

This study aimed to improve the Economics learning outcomes by implementing the Problem-Based Learning model. The method employed was classroom action research, which included multiple cycles of several learning activities. The findings indicated that students' Economics learning outcomes have improved. It was evident from 6 or 18% of students reaching the passing grade in the Pre-cycle. Meanwhile, in Cycle I, 17 or 50% of students achieved a passing grade, which subsequently increased to 27 or 79% in Cycle II.

Keywords: *Problem-Based Learning; Learning Outcomes; Economics Subject*

Introduction

Education is a crucial component of the growth of Indonesia. According to Canl and Demirtas (2017), the primary purpose of education is to develop the skills and qualifications necessary to survive with limited natural resources. A teacher's role cannot be separated from the process of achieving this objective. Based on Inde et al. (2020), educators are crucial to student success. As per Wulandari & Surjono (2013) and Asrifah & Arif (2020), the teacher plays a vital role in determining the quality of the learning process. Syahputra (2018) confirms that the function of the educator in the modern era is that of facilitator and motivator, so students must be creative and critical in their participation in the learning process. However, many educators disregard it, resulting in unsatisfactory student learning outcomes (Muhajrin, 2018; Romadoni et al., 2017; Resmawati et al., 2017; Rambe & Sani, 2014). Similarly, this phenomenon occurred at SMA Negeri 1 Jogorogo.

According to interviews with Economics teachers at SMA Negeri 1 Jogorogo, student learning outcomes remained relatively low. Less than half of them were able to absorb the lesson materials. This condition was influenced by several variables, including the instructor and instructional strategy (Thobroni, 2015:29). In the meantime, Alfitry (2020:78) revealed some related external factors, including teacher involvement and instructional strategies. Based on Purnasari and Sadewa (2020), teachers must meticulously select teaching models/methods and media when planning the implementation of learning. Likewise, learning models are strategies or plans used by educators to achieve learning goals (Lahir et al., 2017; Lovisia, 2018). Octavia (2020:13) discovered that learning models significantly affected the quality

of teaching and learning activities, given that students were required to actively use their critical thinking skills and build teamwork/cooperation. In this context, problem-based learning was a model that could be implemented.

Problem-Based Learning (PBL) instructs students how to learn and collaborate in groups to solve real-world issues (Vebrianto & Susanti, 2021:3). Reinsini (2021) asserts that Problem-Based Learning is an innovative learning model that incorporates problems at the beginning of the learning process. One of the activities in this model is group learning (Masitoh & Fitriyani, 2018), which requires students to solve problems collaboratively (Dakabesi et al., 2019). It emphasizes students as learning centers, with teachers serving as facilitators (Amalia et al., 2017; Zuhriyah, 2017; Ali, 2019; Djonomiarjo, 2019; Rahman & Zamili, 2021). In addition, Problem-Based Learning encourages students to take an active role in the learning process and to think critically and collaborate in order to gather information about multiple problems in order to determine the best solution (Woa et al., 2018; Satwika et al., 2018; Nurtato, 2020; Eismawati et al., 2019). Problem-Based Learning is implemented by introducing students to problems, organizing them for learning, directing individual or group experiences, developing and presenting work results, and analyzing and evaluating problem-solving processes (Lestanti et al., 2016; Suhendar & Ekayanti, 2018; Tumanggor, 2020:28). Problem-Based Learning is believed to improve student learning outcomes (Nurtanto & Sofyan, 2015; Fauzia, 2018; Rahmasari, 2016; Magdalena, 2016; Handoko et al., 2018; Agustin et al., 2019; Parwata, 2021). According to constructivism theory, students must be able to develop their skills during the learning process, while teachers serve as facilitators and motivators. Researchers chose the Problem-Based Learning model because it was perceived to encourage students to master 21st-century skills and enhance learning outcomes.

The present study was conducted to improve learning outcomes in the Economics subject in class XI IPS of SMA Negeri 1 Jogorogo. Therefore, researchers carried out a study entitled "Implementation of Problem-Based Learning to Improve Student Learning Outcomes for Economics Subject".

Research Method

This research was conducted at SMA Negeri 1 Jogorogo in the Ngawi Regency. The subjects were 34 students of class XI IPS 3. The method used was classroom action research, describing the treatment's causal procedure, processes, and impacts (Arikunto, 2015).

In this study, researchers administered 20 multiple-choice questions as a post-test to collect data on class XI IPS 3 students' learning outcomes in Economics. Several cycles, which were preceded by multiple pre-cycle activities, were implemented by researchers. Plan, action/observation, and reflection constituted the three components of a cycle. The reflection made it possible to determine if the expected outcome was reached. Consequently, if it were not met, researchers would conduct the subsequent cycle to accomplish the anticipated results. The indicators of achievement in this research were: a. at least 75% of students obtained a predetermined passing grade, namely 75; b. the average student score, classically, was at least 75%.

Results and Discussion

This study was conducted in multiple cycles to determine the improvement in learning outcomes in the Economics subject as a result of implementing the Problem-Based Learning model with Employment-related instructional materials. Researchers gathered the following data based on the findings:

1. Research Results of Pre-cycle

Pre-cycle activities were carried out at the beginning of learning. At this stage, students were given several tests, the results of which are presented in the table below.

Table 1. Post-test scores of Pre-cycles

No	Indicator	Pre-cycle
1	The lowest score	10
2	The highest score	80
3	Mean score	35 (35%)
4	Students who achieved the passing grade	6 (18%)
5	Students who did not achieve the passing grade	28 (82%)

(Source: Processed primary data, 2022)

Only 6 out of 34 students, or 18%, passed pre-cycle tests. In addition, on a scale from 1 to 100, the lowest score was 10, and the highest was 80. In addition, the mean score of class XI IPS 3 students at SMA Negeri 1 Jogorogo was 35. Researchers concluded that teachers required improvement based on these findings.

2. Research Results of Cycle I

Cycle I was completed in two meetings. At the first meeting, the teacher implemented the learning scenario according to the Problem-Based Learning model's lesson plan. Based on the model syntax, the process consisted of six steps: introducing students to problems, organizing students for learning, guiding individual/group experiences, developing and presenting work results, and analyzing and evaluating problem-solving processes. After discussing the lesson materials during the second meeting of Cycle I, the teacher administered a test to determine student learning outcomes. The following are the results of Cycle I's tests:

Table 2. Post-test scores of Cycle I

No	Indicator	Cycle I
1	The lowest score	40
2	The highest score	90
3	Mean score	69 (69%)
4	Students who achieved the passing grade	17 (50%)
5	Students who did not achieve the passing grade	17 (50%)

(Source: Processed primary data, 2022)

According to the Cycle I post-test results, 17 out of 34 students, or 50%, achieved the predetermined passing grade. In addition, the highest and lowest scores, respectively, were 90 and 40. In the meantime, the mean score percentage was 69%. Based on the CAR success criteria (Setiawan, 2022), Cycle I results were categorized as "good."

Table 3. Classroom Action Research Success Criteria

Percentage	Letter Grade	Score Weight	Predicate
75% - 100%	A	4	Excellent
50% - 75%	B	3	Good
25% - 50%	C	2	Adequate
0% - 25%	D	1	Poor

Researchers concluded that Cycle I did not demonstrate maximum improvement. Based on the reflection results, Cycle II must be implemented to optimize learning outcomes in the Economics subject.

3. Research Results of Cycle II

Similarly, Cycle II was conducted in two meetings. At the first meeting, the teacher implemented the learning scenario according to the Problem-Based Learning model's lesson plan. Similar to Cycle I, the learning process followed the model syntax in six steps. After discussing the lesson materials during the second meeting of Cycle II, the teacher administered a test to determine the student's learning outcomes. The following are the results of Cycle II's tests:

Table 4. Post-test scores of Cycle II

No	Indicator	Cycle II
1	The lowest score	50
2	The highest score	95
3	Mean score	78.9 (79%)
4	Students who achieved the passing grade	27 (79%)
5	Students who did not achieve the passing grade	7 (21%)

(Source: Processed primary data, 2022)

Cycle II post-test results indicated that 27 students achieved passing grades. Thus, 79% of students achieved success, compared to 21% of those who did not. Considering the mean score percentage of 79%, Cycle II's results were regarded as "excellent." Hence, researchers concluded that there was a substantial improvement in Cycle II. Based on the results of the reflection, additional cycles were unnecessary.

4. Discussion of Inter-Cycle Results

Table 5. Comparison of learning outcomes between research cycles

Score	Criteria	Pre-cycle		Cycle I		Cycle II	
		F	P (%)	F	P (%)	F	P (%)
75 - 100	Passed	6	18%	17	50%	27	79%
0 - 74	Failed	28	82%	17	50%	7	21%
Total		34	100	34	100	34	100
Mean Score		35 (35%)		69 (69%)		78.9 (79%)	
Minimum		10		40		50	
Maximum		80		90		95	

(Source: Processed primary data, 2022)

According to the table above, Pre-cycle, Cycle I, and Cycle II's student learning outcomes in terms of success criteria, minimum score, maximum score, and mean score increased consistently. Figure 1 below presents the improvement of student learning outcomes in the Economics subject.

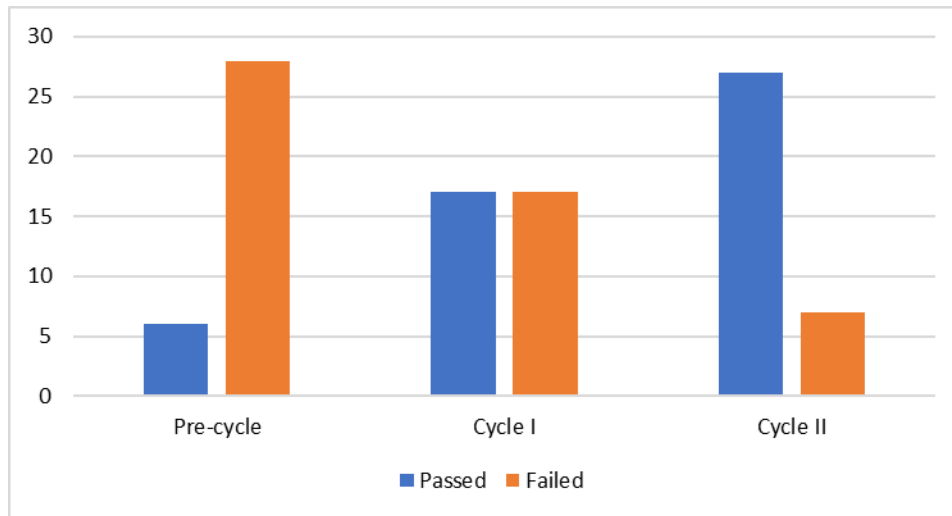Figure 1. Diagram of student learning outcomes between research cycles

Figure 1 illustrates an increase in class XI IPS 3 student learning outcomes in the Economics subject at SMA Negeri 1 Jogorogo. 6 students passed the Pre-cycle, indicating that most of them still needed assistance understanding the lesson materials. On the Cycle I post-test, the number of students who passed increased by precisely 17 students. However, it was distinguishable from the predetermined criteria. 79%, or 27 out of 34 students, passed the Cycle II post-test. It confirmed that students achieved the required passing grade. Anchored on these results, researchers concluded that the research was successful, considering the increase in student performance in each cycle following the predetermined indicators. In short, the Problem-Based Learning model enhanced student learning outcomes in the Economics subject.

Conclusion and Suggestion

The Problem-Based Learning model employed to teach Economics in class XI IPS could improve student learning outcomes and increase classroom participation. Based on the test results in each research cycle, the students' mean score was 35 in the Pre-cycle, 69 in Cycle I, and 78.9 in Cycle II. Regarding the passing grade percentage, the results were 18% for the Pre-cycle, 50% for Cycle I, and 79% for Cycle II. According to these findings, researchers made the following recommendations to teachers: before initiating the learning activities, teachers should adequately prepare the media, tools, and materials; teachers should provide students with explanations in simple sentences; teachers should provide authentic examples to help students comprehend lesson materials effectively.

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