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Enhancing Learning Outcomes in Creative Products and Entrepreneurship Through Problem-Based Learning at Class XI APHP 2

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Abstract: This study aims to determine whether the Problem-Based Learning (PBL) method can improve the learning outcomes of Grade XI APHP 2 students at SMK Negeri 1 Puring. The research design employed classroom action research intended to enhance teacher performance and student learning outcomes. The subjects of this study were 36 students of Grade XI APHP 2. Data collection took place from September 19 to October 10, 2024, over two learning cycles or four sessions. In the first cycle, student mastery was only 61.12% with an average score of 75.389. In the second cycle, the number of students achieving the Minimum Mastery Criteria (MMC) increased to 75%, with an average score of 77.827. Thus, it can be concluded that the PBL model can improve student learning outcomes in the Creative Products and Entrepreneurship subject for Grade XI APHP 2 students at SMK Negeri 1 Puring.

Keywords: *Learning Outcomes*; *Problem-Based Learning*; *Entrepreneurship*

INTRODUCTION

Education is an effort by more mature individuals to develop the character of younger individuals by instilling values and norms appropriate to the local community (Hasbullah, 2017). Education serves as a fundamental basis that everyone must have to think constructively and discover their skills and unique potentials.

The government, as the facilitator of education, has made various efforts to design curriculum that enable students to adapt to social environments and contribute to national development after they graduated. According to Prianto et al. (2021), the government places great expectations on vocational schools (SMK) as educational institutions capable of fulfilling development goals because students in these schools focus on honing skills aligned with labor

market demands. Another goal of vocational education is to prepare students not only for employment but also to develop entrepreneurial skills (Santika et al. 2023).

Under the Independent Curriculum at the vocational school level, the subject of Creative Products and Entrepreneurship (PKKw) aims to shape character and instill entrepreneurial spirit in students from an early age (Vitariyanti et al. 2024). Vocational schools not only offer theory but also practice in specific topics. In the 2013 curriculum, the subject was named Creative Product and Entrepreneurship. Khairat (2020) explains that the renaming of the subject aimed to align vocational high school (SMK) graduate profiles with the demands of the workforce (demand-driven) and to foster the development of positive individual character. However, during theoretical sessions, students tend to become bored, as observed at SMK Negeri 1 Puring during the author's teaching assistance program in October 2023. Students showed little enthusiasm as teachers still used the lecture method. This finding aligns with (Prianto et al. 2021), who stated that entrepreneurship education in vocational schools remains suboptimal, mainly because teachers lack the necessary competencies.

Sumaryanto (2019) defines entrepreneurship and the entrepreneur in his book, stating that an entrepreneur is someone who can identify opportunities to start new businesses, create added value, manage resources, and realize these ideas within a profit-oriented organizational structure. Meanwhile, entrepreneurship is described as the process of developing creativity and initiating something distinct from what already exists. The inclusion of the *Creative Product and Entrepreneurship* subject at the vocational high school (SMK) level is expected to foster entrepreneurs capable of creating employment opportunities and absorbing local labor so that they will not be solely dependent on the manufacturing industry in a particular region to access job opportunities (Bakar, 2023).

Khotimah et al. (2020) outlines the objectives of implementing the *Creative Product and Entrepreneurship* subject in vocational high schools (SMK) and Islamic vocational schools (MAK), which include: fostering students' independence so they are not easily reliant on others in completing assigned tasks; providing knowledge about the attitudes and ethics possessed by entrepreneurs; nurturing students' enthusiasm for developing a strong work ethic and entrepreneurial spirit from an early age; teaching relevant skills and competencies aligned with students' areas of expertise and labor market needs upon graduation; offering insights into building micro, small, and medium enterprises for students who wish to enter the workforce immediately after graduation; and producing skilled entrepreneurs capable of competing in the development of Indonesia's creative economy (Rinawati et al. 2022).

From the previous statements, this issue highlights the need for teachers to deliver material in a varied manner that keeps pace with educational trends. The diverse perspectives on learning methods arise due to the varied learning styles of students across different generations. This also serves as an indication that varied learning models are needed so that students are less likely to feel bored while going through learning activities at school (Loilatu et al. 2022).

The choice of learning method will greatly influence students' performance and learning outcomes (Jaswadi & Damayani, 2025). Rahman (2021) defines learning outcomes as the results obtained by students after the teaching and learning process has concluded. These outcomes may take the form of enhanced abilities in terms of knowledge, attitudes, or skills,

as a result of the learning process delivered by the teacher. Another definition of learning outcomes refers to a learning process measured by students' ability to achieve scores in accordance with established criteria, where behavioral changes occur as part of the learning experience (Yohana, 2021).

Without clear instructional guidelines, teachers may struggle to achieve learning goals. Setiaji (2019) states that a learning model typically includes four stages: appreciation, core, production, and reflection. The appreciation stage involves opening activities like prayers and checking student readiness. The core focuses on delivering material and fostering learning enthusiasm. The production stage evaluates understanding, and the reflection stage is used to review the process, address shortcomings, evaluate performance, and summarize the material. In this study, the author applied the Problem Based Learning (PBL) model to Grade XI

APHP 2 students at SMK Negeri 1 Puring. According to Muhartini et al. (2023), PBL leverages technology to understand social phenomena, prepare students for changes in the workforce, and enhance decision-making, leadership, and teamwork skills. PBL is suitable for subjects that promote independent learning. Teachers of Creative Products and Entrepreneurship play a vital role in equipping students with early business knowledge. Without this, graduates may struggle in the workforce, increasing unemployment. Low student motivation is also influenced by the high Minimum Mastery Criteria (KKM) of 75, which many students fail to achieve in final assessments. The following is the percentage of the End-of-Semester Assessment (PAS) results for the subject "Creative Products and Entrepreneurship" of Grade XI APHP 2 students at SMK Negeri 1 Puring:

Table 1
End-of-Semester Assessment Results for the Subject Creative Products and Entrepreneurship Grade XI APHP 2 – SMK Negeri 1 Puring

Number of Students	Highest Score	Lowest Score	Number of Students Passed	Number of Students Not Passed	Class Average Score
36	90	60	6	30	64,41

Source: Processed research data

Based on the data above, it can be seen that many students of Grade XI APHP 2 at SMK Negeri 1 Puring are still achieving scores below the KKM, with a class average of 64.41 or 83.4% of students failing to meet the established standard. According to Sihombing (2021), these results reflect a low level of subject mastery and serve as a point of evaluation for the learning process. Therefore, the researchers chose to implement the Problem-Based Learning (PBL) model with the hope that it would improve students' motivation and learning outcomes to meet the KKM.

According to studies conducted by Setyarini et al. (2023), Nabin et al. (2023), Halid (2022), and Djonomiarjo (2019), the Problem-Based Learning (PBL) method can assist students in improving their expected learning outcomes.The identified problems in this study are as follows: (1) the teacher still applies a lecture-based teaching model to deliver the learning materials; (2) the learning outcomes of the subject Creative Products and Entrepreneurship for Grade XI APHP 2 students at SMK Negeri 1 Puring mostly do not meet the school's Minimum

Mastery Criteria (KKM), which is set at 75, and (3) the low level of student engagement during the learning process results in limited understanding of the subject.

Based on the identification of the problems, the research problem and objectives are formulated to determine whether there is an improvement in student learning outcomes in the subject Creative Products and Entrepreneurship for Grade XI APHP 2 students at SMK Negeri 1 Puring after the implementation of the Problem-Based Learning (PBL) model by the teacher.

RESEARCH METHODOLOGY

This research design employed a classroom action research (CAR) approach. Arikunto & Suhardjono (2019) explains that classroom research is conducted to improve teacher performance and enhance the quality of learning in the classroom. The research was carried out in two cycles, with each cycle consisting of four stages: planning, implementation, observation, and reflection.

The subjects of this study were 36 students from Grade XI APHP 2 at SMK Negeri 1 Puring. The data collection was conducted over the period from September 19 to October 10, 2024. The methods used for data collection included interviews, observations, tests, and document analysis.

The research instruments consisted of test and non-test instruments. Widoyoko (2020) explained the test instruments were used to assess students' abilities through post-tests at the end of both Cycle I and Cycle II. Meanwhile, non-test instruments were used to conduct interviews with students after the research process was completed.

To calculate the average of students' learning outcomes, the following formula used by Harefa (2020) and Oktiati (2023):

$$\bar{x} = \frac{\Sigma x}{n} \; x \; 100\%$$

Explanation:

$\bar{x}$	: Mean (Average)
Σx	: Total Score (Sum)
N	: Number of Students
100%	: Percentage

To determine the students' learning outcome scores, the researchers used the following formula to calculate the score for each post-test conducted in every cycle:

$$Final\ Score = \frac{Score\ Obtained}{Assesment\ Score} \; x \; 100\%$$

(Widoyoko, 2016)

The researchers used the following Minimum Mastery Criteria (KKM) to determine whether students had achieved mastery in their learning outcomes:

Table 2. Minimum Mastery Criteria (KKM)

Score Interval	Category
0 – 74	Not Passed
75 – 100	Passed

Source: Sugiyanti (2022)

By implementing the Problem-Based Learning (PBL) model in the subject Creative Products and Entrepreneurship for Grade XI APHP 2 at SMK Negeri 1 Puring, it is expected that students will be able to achieve the Minimum Mastery Criteria (KKM) of 75. This minimum threshold was established based on the school's policy conveyed during the observation. The research is considered successful if 60% of the students reach the KKM, taking into account that a small portion may still fall below the standard, and that the class average shows improvement compared to the pre-cycle results.

RESULTS AND DISCUSSION

Implementation of Problem-Based Learning Model in Cycle I

The data collection process during the implementation of Cycle I consisted of two sessions, held on September 19 and September 26, 2024. The activities began with the delivery of material, group division, task completion, and concluded with an assessment. The researchers assigned simple tasks, such as crossword puzzles and word searches to enhance student engagement during the class. In Cycle I, several students were less active during group learning activities because some had to participate in the Computer-Based National Competency Assessment (ANBK). Although some students were absent during group work, their learning outcomes were still considered good. These outcomes were measured through a short essay test, though the researchers noted that some students had not yet achieved the predetermined Minimum Mastery Criteria (KKM). Consequently, the researchers deemed it necessary to implement improvements in Cycle II. The following are the post-test results of learning outcomes in Cycle I:

Table 3 Recapitulation of Cycle I Test Results

Number of Students	Highest Score	Lowest Score	Number of Students Passed	Number of Students Not Passed	Average Score
36	95.5	49	24	12	75,38

Source: Processed research data

Based on the table above, it can be observed that the test results in Cycle I achieved an average score of 75.38, with 14 out of 36 students still failing to meet the predetermined KKM. When calculated as a percentage, 38.89% of students had not yet attained the KKM in the Creative Products and Entrepreneurship subject.

Implementation of Problem-Based Learning Model in Cycle II

The data collection process during Cycle II was conducted over two sessions, held on October 3 and October 10, 2024. In this cycle, the researchers explicitly explained the stages of the Problem-Based Learning (PBL) process to the students. The students were again divided into groups and assigned tasks to discuss and present before the class. During Cycle II, the researchers compared post-test results across cycles and observed a significant improvement in students' performance on the assigned tasks. Although a few students still did not meet the Minimum Mastery Criteria (KKM), the researchers ensured optimal efforts to enhance overall learning outcomes. Below are the post-test results for Cycle II:

Table 4. Recapitulation of Cycle II Test Results

Number of Students	Highest Score	Lowest Score	Number of Students Passed	Number of Students Not Passed	Average Score
36	88	62	27	9	77,875

Source: Processed research data

As evidenced in the table above, the assessment results from Cycle II demonstrated notable improvement, with an average score of 77.875. Notably, 27 out of 36 students (75%) successfully achieved the predetermined Minimum Mastery Criteria (KKM) in the Creative Products and Entrepreneurship subject.

The collected data revealed that students initially obtained low scores during the pre-cycle phase when completing teacher-assigned tasks. However, a marked improvement was observed from Cycle I to Cycle II following the implementation of the Problem-Based Learning (PBL) model for instructional delivery. This increase of learning outcomes resulted from the teacher's consistent reflection and evaluation practices, which were strategically employed to maximize student achievement in the subject. For comprehensive insight, the table below presents a detailed recapitulation of student performance across all phases:

Table 5. Recapitulation of Assessment Results: Pre-Cycle, Cycle I, and Cycle II

Indicators	Test Score		
	Pre-Cycle	Cycle I	Cycle II
Mean	64.41	75.389	77..827
Highest Score	90	95.5	88
Lowest Score	60	49	62
Number of Passed Students	6	22	27
Passing Rate (%)	16,67%	61,12%	75%

Source: Processed research data

According to the KKM set by SMK Negeri 1 Puring, students are considered to have achieved mastery in assessments, tests, or evaluations if they get a score of 75 or above. Based on the research results presented in the table above, the mastery level of students in the pre-cycle test was only 16.67%, meaning only six students reached the KKM score. The lowest score obtained was 60, while the highest score was 90. This low mastery was attributed to students' inadequate preparation before the learning process began, resulting in their inability to achieve the required KKM score when asked to complete the pre-cycle test.

The Cycle I assessment was conducted after the researchers implemented the Problem Based Learning (PBL) method. The researchers found that the mastery percentage increased to 61.12%, with 22 students able to reach the KKM score. The lowest score in this cycle was 49, the highest was 95.5, and the average score was 75.389. The improvement in students' learning outcomes after Cycle I was due to their active involvement in the learning process—not only listening to the teacher's explanation but also participating actively through discussions, case analyses, and group work, which enhanced their critical thinking skills. The presence of the PBL method effectively increased student participation during the teaching and learning activities. The mastery percentage in Cycle I met the minimum requirement of 60% of the class population. However, the researchers will continue to conduct Cycle II to ensure that the PBL method can be optimally applied to further improve students' learning outcomes.

In the Cycle II assessment, students' scores showed a consistent increase from the previous cycle. 75% or 27 students were able to achieve the predetermined KKM score, with the lowest score 62 and the highest score 88, resulting in an average mastery score of 77.827. This improvement was due to the more effective implementation of the Problem Based Learning (PBL) method and students becoming accustomed to the learning model. Students became more active during the learning process and the classroom atmosphere was more interactive as they were encouraged to solve the given problems and accustomed to group learning. The enthusiasm and high learning motivation of the students following the application of this teaching method were the main factors driving the improvement in learning outcomes in Cycle II.

CONCLUSION

Based on the results of the research conducted, it can be concluded that the implementation of the Problem Based Learning (PBL) model has led to an improvement in the learning outcomes of the eleventh-grade students of APHP 2 at SMK Negeri 1 Puring in the subject of Creative Products and Entrepreneurship. The mastery level in Cycle I was 61.12%, with the lowest score being 49 and the highest score 95.5, resulting in an average score of 75.389. In Cycle II, there was an increase in the number of students who achieved the KKM score, reaching 75%, with the lowest score of 62 and the highest score of 88, resulting in an average mastery score of 77.827. Therefore, there was a significant improvement in the learning outcomes of the eleventh-grade students of APHP 2 at SMK Negeri 1 Puring in the subject of Creative Products and Entrepreneurship.

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