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THE APPLICATION OF THE PROBLEM-BASED LEARNING (PBL) MODEL TO IMPROVE THE LEARNING OUTCOMES OF HISTORY CLASS X SMK PGRI AIR BELITI

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Abstract

This research aims to determine the completeness of the learning outcomes of class X students at SMK PGRI Air Beliti after using the *Problem-Based Learning* (PBL) model. The method used is a quantitative method with a pseudo-experimental research design. The population in this study were class X students consisting of two classes. The sampling technique used was random sampling, where the sample was chosen randomly after being given a lottery number and shaken, which became the research sample for class X.B of 28 Students. The data collection technique used was *pre-test* and *post-test* using a test in the form of multiple choice questions. The analysis requirements testing technique uses a one-sample z-test. The results of this study showed the average *pre-test* score was 51,71 with a completeness percentage of completeness 0%, or none of the students were complete, while the average *post-test* score was 74,89 with a completion percentage of 78,57%, or 22 students completed. The z-table results obtained calculated Z value 3,11) ≥ Z table (2,052). The conclusion is that the application of the problem-based learning model on the history learning outcomes of class X SMK PGRI Air Beliti is significantly complete.

Keywords: *Application, Problem-Based Learning (PBL), Science Learning Outcomes*

Abstrak

Penelitian ini bertujuan untuk mengetahui ketuntasan hasil belajar siswa kelas X SMK PGRI Air Beliti setelah mengunakan model pembelajaran Problem Based Learning (PBL). Metode yang digunakan adalah metode kuantitatif dengan desain penelitian eksperimen semu. Populasi dalam penelitian ini adalah siswa kelas X yang terdiri dari dua kelas. Teknik pengambilan sampel yang digunakan yaitu teknik random sampling, dimana sampel diambil secara acak setelah diberikan nomor undian dan diguncang yang menjadi sampel penelitian kelas X.B sebanyak 28 siswa. Teknik pengumpulan data yang digunakan *pre-test* dan *post-test* dengan mengunakan tes berbentuk soal pilihan ganda. Teknik pengujian persyaratan analisis mengunakan uji-z satu sampel. Hasil penelitian ini menunjukan nilai rata-rata *pre-test* diperoleh 51,71 dengan presentas ketuntasan 0% atau tidak ada satu pun siswa yang tuntas, sedangkan nilai rata-rata *post-test* 74,89 dengan presentase ketuntasan 78,57% atau 22 siswa yang tuntas. Hasil uji-z diperoleh nilai Z_{hitung} (3,11) ≥ Z_{tabel} (2,052). Kesimpulan, bahwa penerapan model pembelajaran *Problem Based Learning* (PBL) pada hasil belajar sejarah siswa kelas X.B SMK PGRI Air Beliti signifikan tuntas.

Kata Kunci: Penerapan, *Problem Based Learning* (PBL), Hasil Belajar Sejarah

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INTRODUCTION

Education is a curious and planned effort to create a learning atmosphere and learning process so that students actively develop their potential to have religious spiritual strength, self-control, personality, intelligence, noble character, and skills needed by themselves and society Rahman et al. (2022:2-3). Education is an experience humans possess that develops a mindset or ratio and develops that person's character. Education plays an important role when its essence is the potential that is present to renew and influence human life towards a better than before (Hendri, 2022:9). Education serves to meet the needs of society. Therefore, the curriculum must be based on the needs of society and directed to meet these needs. Such a curriculum is a curriculum that is relevant to society. Behind that, the community, in the sense of an environment that affects schools and vice versa schools, affects community life.

Learning is an educational process that provides opportunities for students to develop their potential into abilities that are increasingly increasing in attitudes, knowledge, and skills needed for themselves to live in society and nation and contribute to the welfare of humanity. Therefore, the learning process activities aim to empower all students' potential into the expected competencies. Furthermore, learning strategies must be directed to facilitate the achievement of competencies so that each individual can become an independent lifelong learner. In turn, they become essential to realizing a learning society (Rusman, 2017:10).

Learning is interacting students with educators and learning resources in a learning environment. Learning is assistance provided by educators so that students can acquire knowledge, master skills and habits, and form attitudes and beliefs (Ubadubiddin, 2019:21). Meanwhile, according to Susanto (2014:62), learning history is a way to develop a social attitude: mutual respect, respect for differences, tolerance, and willingness to coexist in the nuances of multiculturalism.

History learning is Education about the meaning and value of events that describe a process of human life in society for the development of a nation. To be able to present the meaning of an event, the historical presentation must be able to answer the questions of what and how the process of an event occurred. In learning history, students receive guidance to understand the meaning of an event; the historical presentation must be able to answer the question of what, how the process of an event occurred, the character, and where the event occurred. In learning

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history, students receive guidance to understand and be able to live every historical event (Nasution and Tanjung, 2020:35).

History learning is a very important process because historical awareness can foster a sense of pride and love for the country, create empathy and tolerant behavior that can be implemented in various fields of community and national life, and increase students' understanding of themselves and society (Sayyidah, 2019:9).

In today's globalization, history learning as a sub-system of the education activity system is an effective means to improve the integrity and personality of the nation through the teaching and learning process. This success will be supported by various components, including the ability to apply effective and efficient learning methods. The education and learning activities system is a complex social system, placed as a joint effort to meet educational needs to build and develop themselves. An effective feedback system intends to bridge the gap between educators and students in learning.

So, it can be concluded that Education is a planned effort that can develop a person's potential/mindset to be better than in his previous life. Education can also not be separated from the existence of learning because learning is a process of interaction between students and educators in order to develop abilities in students so that they can channel the knowledge they can.

In the current era of globalization, many cultures enter and develop in Indonesia, both those that have positive and negative impacts on the lives of Indonesian people. Therefore, globalization must be faced with a wise attitude so that it is used properly and can become a source of knowledge that positively impacts us. In the era of globalization, Education has experienced significant developments, one of which is the change from a traditional learning system to a more integrated and technological one. The blackboard is replaced with a projector displayed in front of the class, and the way of collecting assignments also changes from submitting them to the teacher in class or at home to using an online system.

Based on the results of observations that researchers made on November 4, 2023, in class X.B SMK PGRI Air Beliti with Mr. Inggou Haringgou, S.IP, as a history teacher, most students still depend on the teacher in solving a problem that occurs in the surrounding environment related to history subjects. It can also be seen from the value of the learning model: 1) the minimum completeness criteria (KKM) for history subjects atSMK PGRI Air Beliti is 70; 2) the

curriculum used is the independent learning curriculum ; 3) the learning methods used are conventional and 4) the learning media used are printed book. Students learn history by taking notes and listening, and they tend to be apathetic. Students' thinking skills are lacking, and the classroom atmosphere is still living life due to the absence of student opinion expression. Learners also feel bored learning history, and students do not understand the meaning of learning history, so they cannot implement the values of learning history in student life. A problem through the stage of the scientific method so that students can learn knowledge related to the problem and at the same time have the skills to solve problems (Safitri et al., 2023, 2024; Uswatun Hasanah et al., 2023). Students' interest is to continuously learn to gain flexible expertise in everyday life and improve student learning outcomes through increased understanding and solving problems with the material being studied.

Based on the background described above, there is a problem in which the learning process at school is still conventional so that students can be better able to think critically and meet the demands of a better curriculum. Researchers argue that improvements need to be made in the learning process, in the learning process, in the history subject of class X SMKPGRI Air Beliti, which will make learning better with the aim of a maximum learning process.

To overcome these problems, teachers should teach not only using books but also using models or methods so that students can more easily understand the material being taught because, with models or methods, students can directly practice with these tools and can immediately understand the practice problem given by using these methods. According to Shilphy (2020: 7), the learning model is the design of teaching and learning activities that can run well, are fascinating, and are easy to understand and by the required sequence.

This is reinforced by Nurniyanto (2019: 118). The *Problem-Based Learning* (PBL) model is based on problems. Students are required to learn by solving a problem given by the teacher. The development of critical thinking, cooperation, positive interaction, and the creation of a conducive atmosphere from the application of *Problem-Based Learning* (PBL) is expected to improve the quality of learning so that learning outcomes will also increase.

METHODS

According to Sugiyono (2019: 2), the research method is a scientific way to get data with specific purposes and uses. Based on this, four keywords must be considered: scientific methods,

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data, goals, and uses. According to Hakmawati (2017: 92), quantitative research methods are data analysis with quantitative descriptive analysis techniques, basically converting research data into numbers that are easy to understand, for example, in the form of percentages. Meanwhile, according to Sugiyono (2019: 8), qualitative research methods can be interpreted as a research method based on the philosophy of positivism, used to research specific populations or samples, data collection using research instruments, data analysis is quantitative/statistical, with the aim of testing predetermined hypothesis. From this explanation, it can be concluded that the research data is in the form of numbers, and then the data is analyzed statistically.

The method used in this research is experimental research. Experimental research is research conducted by manipulating, which aims to determine the effects of manipulation on the behavior of individuals observed. Manipulations carried out may involve certain situations or actions given to individuals or groups. Indra,A,S, et al (2015: 179).

The approach used in this research is a pseudo-experiment with *pre-test* and *post-test* categories; pseudo-experimental research is research that is close to real; this research aims to directly test the influence of other variables and test the hypothesis of a causal relationship. Sugiyono (2015:114). The data research design is as follows :

Table 1. Experimental Design

Pre-Test	Treatment	Post-Test
O_1	X	O_2

Table 2. Population

No	Class	Gender		Total
		Male	Female	
1.	X A	16	13	29
2.	X B	10	18	28
	Total			**57**

Table 3. Sample

No	Class	Male	Female	Total
1.	X B	10	18	28
Total				28

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RESULT AND DISCUSSION

The description of the data in the intended research provides an overview of the data obtained in the field during the research process. This research was conducted in class X. B SMK PGRI Air Beliti in the 2024/2025 school year, starting July 10 to August 10, 2024. Before this research, the instrument test was conducted on Saturday, July 13, 2024; the instrument test participants were class X.B, which numbered 26 students. The instrument test was carried out to know and understand the quality of the questions that would be used as data collection instruments in the research process.

A pre-test was conducted on June 17, 2024, in class X.B SMK PGRI Air Beliti, which 28 students attended. The pre-test was conducted to determine the student's ability to use the material on "Basic Concepts of History" before being treated with applying the Problem-Based Learning (PBL) learning model. The pre-test questions were multiple-choice and consisted of twenty-four questions. Based on the data calculation results, a recapitulation of the pre-test results can be seen in the table.

Table 4. Recapitulation of Pre-test

$\bar{X}$	Highest	Lowest	Students who completed	Students who have not completed
51.17	66	29	0	28

Based on Table 4.1, it can be seen that no students score more or equal to the KKM, and the overall average score is 51,71. So, it can be concluded that the initial ability of students in class X.B SMK PGRI Air Beliti before the implementation of history learning by applying the *Problem-Based Learning* (PBL) learning model is not complete.

Table 5. Recapitulation of Post-test

$\bar{X}$	Highest	Lowest	Students who completed	Students who have not completed
74,89	87	62	22 (78,57%)	6 (21,42%)

Based on Table 4.2, it can be seen that the average post-test score is 74.89, and 22 students, or 78.57%, have completed it. This shows that students in class X.B SMK PGRI Air Beliti are complete because the average value obtained from the final test research exceeds the KKM value of 70. Based on Table 4.2 above, descriptively, it can be concluded that the final

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ability of students in class X.B SMK PGRI Air Beliti in 2024/2025 has been treated with the *Problem-Based Learning* (PBL) in the significantly complete category.

The average score obtained by students has increased compared with the *pre-test* data. In the pre-test, no or 0% of students were complete, and in the *post-test*, 22 students were complete after participating in history learning by applying the *Problem-Based Learning* (PBL) learning model.

Normality Test

Table 6. Recapitulation of Normalization Test Results

Data	X^2_{hitung}	DK	X^2_{tabel}	Conclusion
Pre-test	9,4846	5	11,07	Normal
Post-test	4, 8259	5	11,07	Normal

Based on $X^2_{tabel}$the demonstrated value X^2_{hitung} *of the pre-test* data, 9. 4846, while the value of 4.8259. value $X^2_{tabel}$for *Pre-test* and *Post-test* data 11.07. Based on the provisions of the normality test using uji x^2 (*chi* quadrant), it can be concluded that the *pre-test* and *post-test* data for each class show that both groups are normally distributed. $X^2_{hitung} \leq X^2_{tabel}$). Thus, a significant 5% (a = 0,05) and degrees of freedom (dk) = n-1 = 5.

Table 7. Hypothesis Z Test Results

Data	Z_{hitung}	DK	Z_{tabel}	Keterangan
Post-test	3,11	27	2,052	$Z_{hitung} \geq Z_{tabel}$, H_a diterima

The table obtained $Z_{hitung} > Z_{tabel}H_o$shows whether it was accepted $H_a$or rejected. Based on the above calculations $Z_{hitung} \geq Z_{tabel}(3{,}11 \geq 2{,}052)H_o$, it was rejected and$H_a$ accepted.

DISCUSSION

The research was conducted at SMK PGRI Air Beliti in the 2024/2025 school year, totaling 28 students. The hypothesis tested in this study is "the Distory Learning Outcomes Of

Class X.B Students of SMK PGRI Air Beliti After The Application of The *Problem-Based Learning* Model (PBL). On the subject of " Basic Concepts Of History," this research was conducted in 2 meetings, with details of *the pre-test* meeting and an explanation of material about "basic concepts of History" using the problem-based learning (PBL) learning model. 1 *post-test* meeting. The *pre-test* is given before the learning process is carried out and determines students' initial ability. At the same time, the *post-test* is given after the learning process, which serves to determine students' learning outcomes after applying the *Problem-Based Learning* (PBL) learning model.

At the meeting, the teacher opened the lesson by saying greetings and inviting students to pray; the teacher checked the presence of students and continued to carry out the initial test (*pre-test*), which was carried out on July 17, 2024, on Wednesday. At the core stage of learning, in the first meeting, the teacher explained the material " Basic Concepts of History" using the *Problem-Based Learning* (PBL) learning model, dividing five groups. In each group, students work on student worksheets (LKS). This will make it easier for students to solve problems given by the teacher. Students do the task by learning with the group, and the teacher assists if students need it. The teacher provides scores for the group work. After completing the task, students present the results of group work in front of the class, and other students participate in the discussion, after which the group work is collated with the teacher. The teacher provides reinforcement and discusses the subject matter that has been learned at the end of the lesson. Students who took the *pre-test* were 28 students.

The second meeting was held on July 18, 2024, with 28 students. At this meeting, the teacher opened the lesson by greeting the students and inviting them to pray. The teacher checks the presence of students, and then, in this second meeting, the teacher reviews the outline of the material that was delivered at the first meeting to find out whether the material presented previously has been understood. The final stage of learning after being implemented through the problem-based learning (PBL) learning model, after completing the *post-test* the research motivated students to be enthusiastic about learning and to be more active in the learning process carried out by their class teacher later, after giving a motivation to students the researcher said goodby to leave the class.

Based on the comparison of students' *pre-test* learning outcomes before applying the *Problem-Based Learning* (PBL) learning model with *post-test* learning outcomes after applying the

problem-based learning (PBL) learning model., the results are not the same. The learning outcomes at the time of the *post-test* experienced an increase compared to the learning outcomes in the *pre-test*. It is said to increase because it can be seen from the *pre-test* learning outcomes that no students are complete, and from the *post-test*, 22 students are full out of 28 students. The average learning score also increased from the *pre-test* with an average of 51,17 and an average *post-test* of 74,89, an increase of 57,15%. The z-test result $Z_{hitung}(3,11) > Z_{tabel}(2,052)$shows that the learning outcomes of history class students X.B SMK PGRI Air Beliti are significantly complete. , H_a Accepted andH_o rejected. The value of learning outcomes shows that many are full or above the accepted KKM, namely 70.

The impact of this research is that students' history learning outcomes can increase, as seen from the student's learning process, where they can solve a problem in learning, respect each other, and share each student's learning abilities. For example, when students discuss in groups, these students can solve problems related to the tasks the teacher has given.

The research can be seen from the *pre-test* (initial test) of 28 students. None of the students were complete in learning history. Still, after the application of the *Problem-Based Learning* (PBL) learning history, they experienced an increase in learning outcomes to find out the rise in learning outcome history experienced an increase in learning outcomes to find out the increase in learning outcomes history from the results of the *post-test* (final test) after the implementation of the learning model of 28 students who are not yet complete now after applying the learning model to 22 students who are complete in learning (Fitriani et al., 2022; Mansah & Safitri, 2022; Safitri et al., 2022; Syahputra & Safitri, 2022).

From the results of this study, there is an increase in learning outcomes by using the *Problem-Based Learning* (PBL) learning model; from several studies reviewed, there are similarities and differences, where the similarities in this study with previous studies are both improving learning outcomes and using the *Problem-Based Learning* (PBL) leaning model while the difference is where previous researchers examined learning activeness, subjects, and objects in research. So, from the results of the above research, using the *Problem-Based Learning* (PBL) learning model to improve historical learning outcomes in class X.B SMK PGRI Air Beliti.

CONCLUSION

Based on the results of research and discussion of the application of the *Problem-Based Learning* (PBL) learning model in learning history to improve the learning outcomes of History class X.B SMK PGRI Air Beliti in the 2024/2025 school year and the results of *pre-test* and *post-test* data analysis after applying the *Problem-Based Learning* (PBL) learning model significantly completed. This completeness can be seen from the results of the *pre-test* and *post-test*. *Pre-test* (initial test) where in this *pre-test* of students 28 students, none of the students were complete in learning history, but after the application of *Problem-Based Learning* (PBL), learning history experienced an increase in learning outcomes to determine the increase in learning outcomes. History is seen from the results of the *post-test* (final test) after the learning model is applied to 28 students who are not yet complete now after applying the learning model to 22 students who are full in learning. In the normality test of the *Problem-Based Learning* (PBL) learning model, the collected data were analyzed using the z-test based on the results of the z-test analysis at a significant level a = 0,05 obtained from $Z_{hitung} > 3{,}11 \; dan \; Z_{tabel}$ that is > 2,052, so it can be concluded that the history learning outcomes of X.B class students using the *Problem-Based Learning* (PBL) learning model is significantly complete. This means that this *problem-based learning* (PBL) model can be used for history and learning.

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