

THE EFFECT OF PROBLEM BASED LEARNING MODEL ON STUDENTS' ABILITY IN WRITING REPORT TEXT

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Abstract

The purpose of this research was to determine whether the use of the Problem Based Learning (PBL) model has a significant effect on students' ability in writing report texts at grade X SMA N 1 Sei Kepayang in the academic year 2024/2025. This research used a quantitative method with an experimental design involving two classes: an experimental class and a control class. The population of this research was all students of grade X at SMA N 1 Sei Kepayang. The sample consisted of 25 students from the experimental class and 25 students from the control class. The instrument for collecting data was a writing test, in which students were asked to write a report text based on one of three given topics. The data were analyzed using the t-test formula. The result showed that the mean score of the experimental class increased from 29.9 in the pre-test to 65.4 in the post-test, while the control class increased from 29.6 to 38.7. This indicates that the alternative hypothesis (Ha) is accepted and the null hypothesis (Ho) is rejected.

Keywords: Problem Based Learning Model, Writing Ability, Report Text

INTRODUCTION

Writing skills are a crucial component of English language learning, enabling students to organize their thoughts, communicate ideas effectively, and demonstrate mastery of grammatical structures and vocabulary. Unlike receptive skills such as listening and reading, writing demands higher cognitive engagement, as it requires not only understanding but also production of language. Despite its importance, writing remains one of the most challenging skills for students in Indonesia. Many learners exhibit significantly lower proficiency in writing compared to other language skills, reflecting a critical gap in English instruction. This gap highlights the necessity for educational reforms that prioritize writing development in the classroom (Johnson, 2021).

The Merdeka Curriculum, recently implemented in Indonesian schools, places particular emphasis on factual writing such as report texts, which are designed to develop students' logical thinking and objective expression. Report texts demand strong analytical and linguistic competencies, yet many students struggle with producing them effectively. Observations and interviews conducted at SMA N 1 Sei Kepayang revealed common difficulties, including choosing

appropriate vocabulary, constructing grammatically accurate sentences, and organizing ideas coherently. Teachers often rely on conventional lecture-based methods that fail to actively engage students in the writing process, further contributing to low motivation and limited progress.

In light of these challenges, the Problem-Based Learning (PBL) model emerges as a promising pedagogical approach. PBL emphasizes real-world problems, encouraging students to work collaboratively, think critically, and learn autonomously. This model offers authentic learning contexts that enhance students' engagement and facilitate the development of essential writing skills. According to (Lin, 2021), PBL significantly improves students' ability to structure their ideas and present them coherently in writing. Moreover, its learner-centered philosophy aligns with the Merdeka Curriculum's focus on interactive and project-based learning environments.

Empirical studies support the effectiveness of PBL in enhancing students' writing outcomes. (Smith, 2023) reported that students taught using PBL demonstrated higher engagement and produced better-quality written work than those taught using traditional approaches. Similarly, research by (Yusnita et al., 2021) showed that PBL strengthens students' analytical and linguistic skills, particularly in factual writing such as report texts. These findings suggest that implementing PBL in schools like SMA N 1 Sei Kepayang has the potential to overcome persistent instructional challenges and foster critical academic competencies among learners.

However, the implementation of PBL in the Indonesian educational context is not without obstacles. Factors such as limited teacher training, lack of resources, and resistance to pedagogical change can hinder the effective application of this model. Nevertheless, the long-term benefits of adopting PBL—such as increased student engagement, improved writing skills, and better preparation for real-life problem solving—far outweigh these initial challenges (Barrows, 2022). Therefore, this study seeks to examine the impact of Problem-Based Learning on students' ability to write report texts at SMA N 1 Sei Kepayang, contributing to the ongoing discourse on innovative teaching practices in Indonesia.

METHOD

This study used a quantitative research approach to examine the impact of the Problem-Based Learning (PBL) model on students' skills in writing report texts. The research adopts a quasi-experimental design, specifically a pre-test and post-test control group design, to assess the effect of the PBL model on the dependent variable, which is students' writing performance.

The sample of this research was students of class X1 as the experimental group and X2 as the control group. X1 consist of 25 students and X2 Consist of 36 students, so the number of samples is 50 students. The design of this research focuses on the provision of treatment and the results obtained. Data were collected through pre-test and post-test to measure the effect of using Problem Based Learning Model on Students' Ability in Writing Report Text. The design of this study is:

Table 1. Two Groups Pre-Test Post-Test

Group	Types	Experiment	Types
Experiment Group	Pre-test	X	Post-test
Control Group	Pre-test	Y	Post-test

Note:

X : Using Word Wall Interactive Media

Y : Using Conventional Way

The instrument for collecting data was a writing test, in which students were asked to write a report text based on one of three given topics. According to (Arikunto 2014), a test is defined as "a tool or procedure used to discover or assess something within a specific context, under pre-established methods and rules." In this study, the researcher employed both observation and testing techniques, using pre-test and post-test formats as research instruments. The test applied was an objective-type assessment focused on narrative texts.

1. Pre-test

Prior to administering the treatment, a pre-test was conducted to assess the students' initial ability. The researcher distributed an essay-based task, instructing students from both the experimental and control groups to describe a provided image. This stage aimed to establish a baseline of their writing proficiency before any instructional intervention took place.

2. Treatment

Following the analysis of pre-test outcomes, a targeted instructional approach was implemented. The experimental group received instruction through a technology-integrated learning model, while the control group continued with traditional, conventional teaching methods. This stage represented the core intervention of the research.

3. Post-test

The final phase involved administering a post-test to both groups. This evaluation aimed to determine the extent of the impact that the Problem-Based Learning (PBL) model had on students' ability to write report texts. The results were used to identify any significant improvement in the experimental group after the treatment had been applied.

RESULTS AND DISCUSSION

The result of the students' test can be seen on the following table score.

Table of Pre-Test and Post-Test Experiment Class

No	Student's Initial	Score of Pre-test (X)	Score of Post-test (Y)	X ²	Y ²	XY
1	A.F.	24	64	576	4096	1536
2	A.P.	32	64	1024	4096	2048
3	B.W.	32	72	1024	5184	2304
4	D.M.	28	60	784	3600	1680
5	D.P.	28	64	784	4096	1792
6	D.R.	32	72	1024	5184	2304
7	F.H.	24	56	576	3136	1344
8	F.N.	32	64	1024	4096	2048
9	G.R.	32	72	1024	5184	2304
10	H.G.	28	60	784	3600	1680
11	J.A.	28	64	784	4096	1792
12	L.A.	28	60	784	3600	1680
13	M.S.D.	28	64	784	4096	1792
14	N.A.L.	28	68	784	4624	1904
15	N.K.	32	68	1024	4624	2176
16	N.P.A.	28	64	784	4096	1792
17	R.A.	32	72	1024	5184	2304
18	R.N.	32	64	1024	4096	2048
19	R.O.	32	68	1024	4624	2176
20	S.A.	28	68	784	4624	1904
21	S.M.	32	64	1024	4096	2048
22	T.A.	32	72	1024	5184	2304
23	W.P.	32	64	1024	4096	2048
24	W.S.	32	64	1024	4096	2048
25	Z.A.	32	64	1024	4096	2048
Total		ΣX: 748	ΣY: 1636	Σx²: 22544	Σy²: 107504	ΣXY: 49104

Referring to the data presented in the table above, it is evident that the pre-test scores of students in the experimental class ranged from a highest score of 32 to a lowest score of 24. These scores were recorded prior to the introduction of the learning treatment and explanation of the instructional material. Subsequently, after the application of the Problem-Based Learning (PBL) model, the students' post-test scores improved significantly, with the highest reaching 72 and the lowest recorded at 56. This shift clearly demonstrates a positive impact of the PBL approach on students' learning outcomes.

In greater detail, the pre-test results showed varying levels of performance. The test shown that 14 students scored 32, namely AP, BW, DR, FN, GR, JA, MSD, NK, RA, RN, RO, SM, WP, and ZA. Nine students scored 28, namely DM, DP,

HG, LA, NAL, NPA, SA, TA, and WS. Two students scored 24, namely AF and FH. These results reflect the baseline abilities of students before the experimental treatment was administered.

Following the implementation of the PBL model, the post-test scores revealed a noticeable improvement in student performance. Five students scored 72, namely BW, DR, GR, RA, and TA. Four students scored 68, namely AF, NK, RO, and WS. Twelve students scored 64, namely AP, DP, FN, JA, MSD, NAL, NPA, SA, SM, WP, ZA, and RN. Three students scored 60, namely DM, HG, and LA. Lastly, one student scored 56, namely FH.

Overall, the data underscores a notable upward trend in academic achievement among students in the experimental class, indicating that the application of the Problem-Based Learning model contributed meaningfully to their progress in writing report texts.

Table of Pre-Test and Post-Test Control Class

No	Student's Initial	Score of Pre-test (X)	Score of Post-test (Y)	X ²	Y ²	XY
1	A.H.	32	40	1024	1600	1280
2	A.P.	28	36	784	1296	1008
3	A.R.P.	32	44	1024	1936	1408
4	A.W.	40	48	1600	2304	1920
5	B.N.	28	36	784	1296	1008
6	B.S.	28	36	784	1296	1008
7	C.K.	40	52	1600	2704	2080
8	D.A.S.	36	44	1296	1936	1584
9	D.O.	28	36	784	1296	1008
10	F.H.	32	44	1024	1936	1408
11	F.R.	28	36	784	1296	1008
12	I.F.	28	40	784	1600	1120
13	I.P.D.	32	36	1024	1296	1152
14	K.A.	20	28	400	784	560
15	L.I.P.	20	32	400	1024	640
16	M.A.L.	24	40	576	1600	960
17	N.R.	24	36	576	1296	864
18	R.A.	32	44	1024	1936	1408
19	R.K.S.	24	36	576	1296	864
20	R.M.	24	32	576	1024	768
21	S.N.	36	48	1296	2304	1728
22	S.N.P.	28	36	784	1296	1008
23	V.M.	28	40	784	1600	1120
24	Y.P.	24	36	576	1296	864

25	Z.A.	28	32	784	1024	896
Total		$\sum X:$ 724	$\sum Y:$ 968	$\sum x^2:$ 21648	$\sum y^2:$ 38272	$\sum XY:$ 28672

The data presented in the table clearly illustrates the learning outcomes of students in the control class before and after the conventional teaching method was applied. Prior to the intervention, the pre-test scores of the control group ranged from a minimum of 20 to a maximum of 40. These results were obtained before the delivery of any instructional materials or learning activities. Following the teaching session using conventional methods, post-test scores increased, with the highest score recorded at 52 and the lowest at 28. This progression indicates that some improvement occurred in student performance after the intervention, though it varied across individuals.

A closer examination of the pre-test results reveals that two students, namely AW and CK, achieved the top score of 40. Students DAS and SN each scored 36. Five other students—AH, ARP, FH, IPD, and RA—earned scores of 32. The most frequent score, 28, was obtained by nine students: BN, BS, DO, FR, IF, KA, SNP, VM, and ZA. A group of five students—MAL, NR, RKS, RM, and YP—scored 24. The lowest score of 20 was recorded by AP and LIP, suggesting limited initial understanding or ability in the subject matter.

After the conventional learning method was implemented, the post-test scores reflected modest academic gains. CK achieved the highest score of 52, followed closely by AW and SN with 48. ARP, FH, and RA each scored 44. AH, DAS, IF, and VM earned 40 points. Ten students demonstrated moderate progress with scores of 36: AP, BN, BS, DO, FR, IPD, NR, RKS, SNP, and YP. Meanwhile, LIP, RM, and ZA each earned a score of 32. The lowest score, 28, was received by KA.

When comparing the post-test results of the control group with those of the experimental group taught using the Problem-Based Learning (PBL) approach, a clear distinction emerges. Students exposed to PBL strategies showed superior performance, suggesting that the model was more effective in enhancing their ability to grasp and apply the material. The difference in outcomes underscores the potential benefits of adopting student-centered, inquiry-driven learning models over traditional instructional methods.

CONCLUSION

The conclusion of the study are:

This research uses quantitative methods with random sampling techniques to determine the sample, namely class X students of SMA Negeri 1 Sei Kepayang in 2024/2025 academic year. The data in this study was collected in three stages, namely pre-test, treatment and post-test. Based on the results and discussion in the previous chapters, it can be concluded that teaching report text writing using the Problem-Based Learning (PBL) model is effective in improving students' writing ability. Through PBL, students are encouraged to become independent learners who actively seek knowledge, take responsibility for their learning, and engage in reflective self-evaluation. The mean score of the experimental group increased

significantly compared to the control group. Therefore, the use of PBL in writing report texts has a positive and significant impact on the learning outcomes of students at SMA N 1 Sei Kepayang. The research was successfully conducted, and it revealed that the hypothesis (H_1) is accepted. There is a significant difference in learning outcomes between students who were taught using the Problem-Based Learning model and those who were not.

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