JEELi
Journal of English Education and Linguistics

Vol. 3 No. 2, Juli 2025, p. 58 – 66
Available online http://jurnal.una.ac.id/index.php/jeeli/index

THE EFFECT OF PROBLEM BASED LEARNING MODEL ON STUDENTS' READING COMPREHENSION IN DESCRIPTIVE TEXT

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Abstract

This research aimed to investigate the effect of the Problem Based Learning (PBL) model on students' reading comprehension in descriptive texts among grade XI students of SMA Negeri 1 Sei Kepayang in the academic year 2024/2025. The study employed a quantitative experimental method with a pre-test and post-test design. The population consisted of 89 students, and a sample of 58 students was selected using random sampling, divided into two groups: an experimental group taught using the PBL model and a control group taught using a conventional modelThis research found that using Problem Based Learning Model has significant effect in reading comprehension. It can be proved by the result that t_{score} = 6,3 was higher than the t_{table} = 1,673 with the significant 0,05 or it can be understood as $t_{score} > t_{table}$ (5%) = 6,3 1,673. So, Ha is accepted. Statistical analysis using a t-test indicated that the PBL model had a significant positive effect on students' reading comprehension.The findings suggest that the PBL model is an effective instructional approach to enhance students' understanding of descriptive texts, fostering active learning, critical thinking, and deeper engagement with reading materials.

Keywords: Problem Based Learning, Reading Comprehension, Descriptive Text

INTRODUCTION

Language is a universal means of communication used by people around the world. Every country has its own language, and each of these languages carries unique cultural and structural characteristics. English has emerged as a global language, playing a central role in international communication. According to (Sidabalok, 2020), language is a vital communication tool that enables individuals to express their thoughts, feelings, and desires. As a universal language, English is necessary to be learned by people from all nations to facilitate global interaction.

In Indonesia, English is categorized as a foreign language. As stated by (Putri, 2020), given its role as an international language, English must be taught and learned in schools. The ability to speak English helps individuals communicate effectively in various global domains such as politics, business, science, and technology. Furthermore, English is a required subject from junior high school through university level in Indonesia, underscoring its importance. Mastery of

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English involves the development of four essential skills: listening, speaking, reading, and writing.

Among these skills, reading plays a critical role in helping students acquire new knowledge and enhance their academic performance. Reading is not merely a process of decoding words but also involves comprehension, interpretation, and connecting ideas with prior knowledge. According to (Saputra et al., 2019), reading comprehension is one of the skills that needs to be improved to enhance students' scientific knowledge. Students who frequently engage in reading activities tend to expand their vocabulary, improve their comprehension skills, and develop stronger overall language abilities.

However, students at SMA Negeri 1 Sei Kepayang face several difficulties in reading English texts, especially descriptive texts. Many students struggle to identify the main idea, understand vocabulary, recognize references, make inferences, and extract detailed information from the text. These problems stem from both internal and external factors. Internal factors include students' cognitive abilities, vocabulary mastery, reading fluency, motivation, and learning styles. Meanwhile, external factors such as the use of traditional teaching methods, limited access to learning media, and an unsupportive school environment also contribute to the problem.

To overcome these issues, innovative and student-cantered teaching models are required. One effective approach is the Problem-Based Learning (PBL) model. PBL engages students in solving real-world problems, encouraging them to collaborate, think critically, and construct knowledge through inquiry. (Hagi & Mawardi, 2021) describe PBL as a learning innovation that fosters creative thinking in a systematic group work process, continuously developing students' competencies. The application of PBL in the classroom has the potential to increase student engagement, motivation, and reading comprehension. Based on this rationale, the researcher is interested in conducting a study entitled "The Effect of Problem-Based Learning Model on the Students' Reading Comprehension in Descriptive Text at Grade XI SMA Negeri 1 Sei Kepayang in the 2024/2025 Academic Year."

METHOD

This study employed a quantitative approach using a quasi-experimental design with a pre-test and post-test control group. The aim was to investigate the effect of the Problem-Based Learning (PBL) model on students' reading comprehension of descriptive texts. The research was conducted at SMA Negeri 1 Sei Kepayang, specifically in classes XI IPA 1 and XI IPA 2, located at Jl. Pendidikan No.3, Sei Kepayang Barat, from February to April 2025.

The population of this study consisted of all eleventh-grade students, totalling 89 students across three classes. Two classes were selected as samples

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using random sampling: XI IPA 1 as the experimental group and XI IPA 2 as the control group, with 29 students in each class. The experimental group was taught using the Problem-Based Learning model, while the control group received instruction through a conventional teaching approach

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 PBL model on reading comprehension in descriptive text
Y : Using Conventional Way

The instrument used was a **multiple-choice reading comprehension test** consisting of **20 items**, administered as both **pre-test and post-test**. Each question had five options (A–E). The test assessed students on five aspects of reading comprehension (Herman, Sibarani, & Pardede, 2020):

Table 2 Reading Comprehension Indicators and Items

No	Component	Description	Item Numbers
1	Main Idea	Identifying the main idea or topic of a paragraph	1, 7, 14
2	Vocabulary	Understanding vocabulary in context	2, 5, 12, 19
3	Reference	Identifying the referent of pronouns or expressions	3, 6, 10
4	Inference	Drawing conclusions based on the information in the text	14, 18
5	Supporting Detail	Recognizing supporting details and factual information	4, 9, 13, 20

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1. **Pre-test** was administered to both groups to measure baseline reading comprehension.
2. **Treatment** was conducted for the experimental group using the PBL model. Students were given problems related to descriptive texts and worked in groups to investigate and present their findings.
3. **Post-test** was conducted to measure changes in students' reading comprehension after the intervention.

RESULTS AND DISCUSSION

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

Table 3 Score of Pre-test and Post-test of Experimental Group

NO	INITIAL NAME	Score of Pre-test (X)	Score of Post-test (Y)	X^2	Y^2	XY
1	AA	80	85	6400	7225	6800
2	AF	15	80	225	6400	1200
3	AS	30	65	900	4225	1950
4	AAH	75	95	5625	9025	7125
5	EH	40	75	1600	5625	3000
6	FBL	45	80	2025	6400	3600
7	FR	45	80	2025	6400	3600
8	IA	50	95	2500	9025	4750
9	IF	40	90	1600	8100	3600
10	KNH	45	90	2025	8100	4050
11	MR	50	55	2500	3025	2750
12	MS	45	90	2025	8100	4050
13	MJ	40	85	1600	7225	3400
14	NI	50	80	2500	6400	4000
15	NA	45	90	2025	8100	4050
16	NM	50	70	2500	4900	3500
17	PY	50	90	2500	8100	4500

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18	RAT	35	85	1225	7225	2975
19	RR	60	80	3600	6400	4800
20	RS	60	90	3600	8100	5400
21	SOM	45	90	2025	8100	4050
22	SJM	60	75	3600	5625	4500
23	SRN	25	100	625	10000	2500
24	SA	60	85	3600	7225	5100
25	VM	60	80	3600	6400	4800
26	YPH	55	85	3025	7225	4675
27	YS	35	90	1225	8100	3150
28	VH	70	95	4900	9025	6650
29	ZR	45	85	2025	7225	3825
	Total	$\sum X = 1405$	$\sum Y = 2435$	$\sum X^2 = 73625$	$\sum Y^2 = 207025$	$\sum XY = 118350$

Referring to the data presented in the table above, tthe lowest score in the **pre-test** was 15, obtained by one student, while the highest score was 80, also achieved by one student. In total, one student scored 25, one scored 30, and two students obtained a score of 35. Three students received a score of 40, while seven students scored 45. Furthermore, five students achieved a score of 50, one student scored 55, and five students scored 60. Additionally, one student scored 70, one scored 75, and one reached the highest score of 80.

As for the **post-test** results, the scores ranged from 55 to 100. One student scored 55, another scored 65, and one student achieved 70. Two students obtained a score of 75, while six students scored 80. Similarly, six students earned a score of 85. A larger number, eight students, scored 90, followed by three students who scored 95. Finally, one student attained the perfect score of 100.

From the data above, it showed that student's score in pre-test was lower than post-test. The mean of student's score in pre-test was 48,4. After giving treatment of Problem Based Learning Model, it increased 35,5 % and the score mean was being 83,9 in post-test.

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Table 4 Score of Pre-test and Post-test of Cotrol Group

NO	INITIAL NAME	Score of Pre-test (X)	Score of Post-test (Y)	X^2	Y^2	XY
1	AD	65	85	4225	7225	5525
2	AI	35	60	1225	3600	2100
3	ASA	25	70	625	4900	1750
4	AH	40	60	1600	3600	2400
5	AN	65	55	4225	3025	3575
6	DD	55	80	3025	6400	4400
7	DN	30	85	900	7225	2550
8	EH	25	30	625	900	750
9	EZP	45	70	2025	4900	3150
10	FM	25	65	625	4225	1625
11	FAJ	30	65	900	4225	1950
12	GG	25	65	625	4225	1625
13	HA	35	75	1225	5625	2625
14	IS	50	75	2500	5625	3750
15	LF	40	75	1600	5625	3000
16	LR	55	55	3025	3025	3025
17	MA	40	65	1600	4225	2600
18	NS	45	75	2025	5625	3375
19	NM	50	85	2500	7225	4250
20	NS	50	80	2500	6400	4000
21	NH	45	75	2025	5625	3375
22	PS	40	60	1600	3600	2400
23	SJ	25	65	625	4225	1625
24	SJA	10	30	100	900	300
25	SR	50	80	2500	6400	4000
26	SNR	30	65	900	4225	1950
27	SSN	45	90	2025	8100	4050
28	SY	50	70	2500	4900	3500
29	TW	50	75	2500	5625	3750
	Total	$\sum X =$ **1175**	$\sum Y =$ **1985**	$\sum X^2 =$ **52375**	$\sum Y^2 =$ **141425**	$\sum XY =$ **82975**

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Based on the data, the **pre-test** scores ranged from a minimum of 10 to a maximum of 65. One student obtained the lowest score of 10. Five students scored 25, three students achieved a score of 30, and two students scored 35. Additionally, four students received a score of 40, and another four scored 45. Six students obtained a score of 50, while two students scored 55. Lastly, two students reached the highest pre-test score of 65.

In the **post-test**, the scores ranged from 30 to 90. Two students scored 30, which was the lowest score recorded. Two students obtained a score of 55, three scored 60, and six students achieved a score of 65. Furthermore, three students scored 70, six students scored 75, and three students received a score of 80. Three more students scored 85, and the highest post-test score of 90 was attained by one student.

From the data above, it showed that student's score in pre-test was lower than post-test. The mean of student's score in pre-test was 40,5. After giving treatment of Conventional Model, it increased 27,9 % and the score mean was being 68,4 in post-test.

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-cantered, inquiry-driven learning models over traditional instructional methods.

CONCLUSION

Based on the findings from the study, it can be concluded that the Problem-Based Learning (PBL) model significantly improved students' reading comprehension in descriptive texts at SMA Negeri 1 Sei Kepayang. The data presented in the results section indicates a marked improvement in the experimental group's post-test scores compared to their pre-test scores. The mean score of the experimental group increased by 35.5%, rising from 48.4 in the pre-test to 83.9 in the post-test. This improvement suggests that the PBL model, which encourages active participation, critical thinking, and collaboration, had a positive effect on the students' ability to comprehend and analyze descriptive texts.

In contrast, the control group, which received conventional instruction, demonstrated a more modest improvement of 27.9%, with the mean score increasing from 40.5 in the pre-test to 68.4 in the post-test. While the conventional method did lead to some improvement, the results clearly show that PBL was more effective in enhancing students' reading comprehension skills.

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The findings of this study highlight the potential benefits of integrating student-cantered and inquiry-based approaches like PBL into the classroom. PBL not only promotes deeper understanding but also fosters student engagement and motivation, ultimately leading to better academic performance. Therefore, it is recommended that educators consider incorporating PBL into their teaching strategies to improve students' reading comprehension and overall academic achievement.

So the research had been successfully. Ha is accepted and it revealed that hypothesis using Problem Based Learning Model in reading comprehension on descriptive text was affective because it gets higher score than without using problem based learning model.

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