

THE EFFECT OF PROBLEM BASED LEARNING (PBL) MODEL ON READING COMPREHENSION OF NARRATIVE TEXT

Maysaroh¹, Hamidah Sidabalok²

^{1,2}Pendidikan Bahasa Inggris, Universitas Asahan

e-mail: syaroh731@gmail.com

Abstract

This research aims to examine the effect of Problem Based Learning (PBL) Model on students reading comprehension of narrative text at grade XI of SMA Swasta Nasional Petatal in 2024/2025 academic year. Using a quantitative method with a pre-test and post-test experimental design, this research involved students in class XI-A and XI-B who were selected through a random sampling technique. Students' reading comprehension was assessed through pre-test and post-test results to determine the effectiveness of the PBL model in improving their understanding of narrative texts. The results showed a significant increase in reading comprehension, with an average score increase of 9.1% in one group and 15.8% in the other group. Data analysis using the t-test revealed that the increase was significant, as evidenced by the t-scores value exceeding the critical value at the 0,05-significance level. With degrees of freedom (df) 68 and a significance level of 0,05, the t-scores value was obtained of 7,16 which was greater than the t-table, which was 1,668 ($7,16 > 1,668$). These results indicate that the alternative hypothesis (H_a) is accepted, which confirms the effectiveness of the PBL model in improving students' reading comprehension of narrative texts.

Key words: Effect, PBL Model, Reading Comprehension.

INTRODUCTION

Language is a tool of communication used by everyone worldwide. Each country has its own language, and these languages differ from one another. As English is recognized as an international language, everyone needs to learn it. The significance of English as a global language is evident in its vital role in various sectors such as economics, politics, technology, and education (Mustofa & Hidayah, 2020).

English is a widely used international language. Good English skills make communication easier and are important for competing in the global era. On the other hand, limitations in this language can make us lag behind. In Indonesia, English is a mandatory subject from middle school to university. Learning includes reading, writing, speaking and listening skills. Reading aims to understand the message in writing. A learning method is considered effective if it is able to help understand the text well (Syahfutra, 2019).

Grabe & Stoller (2019) state that reading comprehension is an active process in which readers combine their background knowledge with information in the text to achieve a full understanding. However, this process often encounters various reading difficulties that can impact the reader's ability to comprehend the text thoroughly. This aligns with the theory proposed by Nuttall (in Rismadewi, 2023), which suggests that the challenges readers face in reading comprehension include identifying the main idea, understanding vocabulary, finding references, making inferences, and locating specific or detailed information.

Understanding reading across different languages is crucial to make the activity more enjoyable and provide a deeper experience. For students, understanding English texts can be challenging, especially at the beginning when they feel the need to rely on dictionaries or translation apps. The reading process is not merely about grasping the meanings of words but also involves connecting with the content through the use of prior knowledge and experience. Without the help of a dictionary, students who read independently can enhance their reading comprehension, expand their vocabulary, and improve their overall language proficiency (Nurul Huda, 2023).

The interesting thing about conducting this research is to find a more effective method in improving students' reading comprehension, considering the many challenges they face in understanding English texts. (Ramadhani, 2019). The main purpose of this research is to analyse the effectiveness of the Problem-Based Learning model in improving students' reading comprehension of narrative texts.

Based on interviews with teachers at SMA Swasta Nasional Petatal, several problems faced by students were identified, such as difficulties in understanding and determining the tenses to use when reading narrative texts. Apart from that, students also face difficulties in understanding unfamiliar vocabulary when reading narrative texts. Another difficulty is that students have difficulty recognizing the structure in narrative text when reading, making it difficult to follow the story line well. Therefore, it is necessary to change the teaching approach so that students can be more active in understanding and improving their literacy skills.

Widahyu (2021) states that Problem-Based Learning (PBL) is a student-centered learning model that provides various real-life problems. Based on this statement, the effect of PBL on reading comprehension is that this model is able to increase students' understanding of narrative texts and make them enjoy the learning process more. Therefore, this research decided to adopt the title "The Effect of Problem-Based Learning Model on Students' Reading Comprehension of Narrative Texts at Grade XI of SMA Swasta Nasional Petatal in Academic Year 2024/2025."

METHOD

This research uses an experimental method with a quantitative approach. The research sample consists of two groups, namely the Experimental Group and the Control Group. There are two variables in this research, namely the problem-based learning model as the independent variable and the reading comprehension

of narrative texts as the dependent variable. 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 effectiveness of the Problem Based Learning model in teaching reading. The sampling technique used was simple random sampling. The sample of this research was students of class XI-A as the experimental group and XI-B as the control group. The design of this study is

Table 1. Two Groups Pre-test Post-test

Group	Types	Experiment	Types
Control Class Group	Pre-test	X	Post-test
Experimental Class group	Pre-test	Y	Post-test

Note:

X : Using Conventional way

Y : Using Problem Based Learning (PBL) Model

The data collection process in this study will be carried out through several systematic and planned stages. The first stage is to complete various formal administrative procedures which are the main requirements before carrying out data collection. One of these procedures is to obtain official permission from the principal as a form of approval to carry out research activities in the school environment. This permission is very important to ensure that the data collection process runs in accordance with applicable provisions and gets full support from the school. After the permission is successfully obtained, the next step is to conduct direct observation in the classroom. This observation is carried out to observe various aspects related to the implementation of learning and student activities, so that the data collected is truly relevant and supports the research objectives. Thus, this stage is a crucial part of obtaining accurate and comprehensive data.

1. Pre-test

Before special treatment or teaching methods were applied, students in both groups were given a pre-test. This test aims to determine the extent of students' ability to master vocabulary before certain learning methods are applied. In this test, students are asked to answer 20 multiple choice questions, each of which has four answer choices: A, B, C, D and E. The results of this initial test become a reference for comparing students' development after being given treatment at a later date.

2. Treatment

The first stage is to divide students into two groups: experimental and control. The experimental group was taught using a problem-based learning model, while the control group used conventional methods without special treatment. The control group serves as a comparison to see differences in results between the two groups. During treatment, the problem-based model was applied to the experimental group to test its effectiveness in aiding reading comprehension. It is hoped that the final test will show an increase in understanding in the experimental group compared to the results of the pre-test and control group.

3. Post-test

The final test was carried out to assess the level of success of the problem-based learning model in helping students understand the content of the reading. In this process, the scores from the pre- and post-tests of the experimental group as well as the control group are compared with each other. Next, the results of these scores are processed as main data to determine the extent to which students' reading comprehension has improved through the application of this problem-based learning model.

4. Scoring Test

Student learning outcomes scores can be calculated used the formula, Cohen in (Tials 2017)

$$\text{Score} = \frac{\text{The number right answer}}{\text{The number of items}} \times 100$$

Table 2. Scoring Students' criteria and percentage

Score	Category
95 – 100	Excellent
85 – 94	Very Good
75 – 84	Good
65 – 74	Average
55 – 64	Poor
< 54	Very Poor

Each part of a question plays an important role in determining the final form of the question. In this case, items to measure reading comprehension, both for pre-test and post-test, must also be designed taking into account relevant components. Based on research by Herman, Sibarani, and Pardede (2020), there are five main characteristics in reading comprehension that students should master. Mastering these five characteristics allows students to understand the content of the text more effectively.

Table 3. The Rubric Assessment of Questions

No.	Component	Variable
1.	Main Idea/Topic (Identifying main idea Reading Comprehension topic of a paragraph)	Question Number 1,6, and 16
2.	Understanding Vocabulary (Identifying various of sentence structure in Narrative text)	Question number 4,10,11,14 and 15
3.	Identifying Reference (Identifying the noun to which pronoun or other expression express the passage)	Question number 9,12, and 20
4.	Making Inference (this question to draw conclusions based on information the text)	Question number 3,5, and 18
5.	Detail Information (identifying supporting detail of the text)	Question number 2,7,8,13,17 and 19

*(Nuttal Theory)***RESULTS AND DISCUSSION**

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

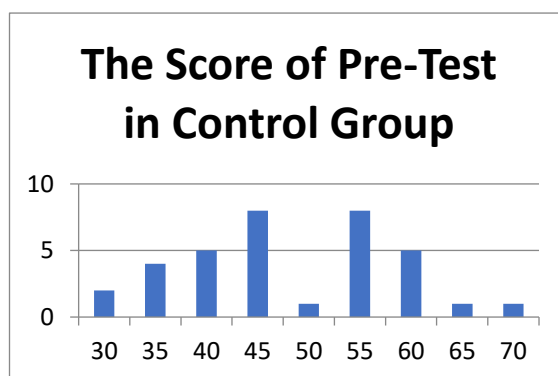
Table 4. The Sore of Pre-test and Post-test in Control Group

No	Initial Name	Score of Pre-test (X)	Score of Post-test (Y)	X ²	Y ²	XY
1	ASP	35	45	1225	2025	1575
2	AR	55	60	3025	3600	3300
3	AAN	30	40	900	1600	1200
4	AA	45	55	2025	3025	2475
5	DSA	65	65	4225	4225	4225
6	DAP	55	60	3025	3600	3300
7	DM	60	60	3600	3600	3600
8	DRD	45	55	2025	3025	2475
9	DPA	30	45	900	2025	1350
10	FPS	60	60	3600	3600	3600
11	HQ	45	60	2025	3600	2700
12	IS	50	55	2500	3025	2750
13	IW	40	45	1600	2025	1800
14	KRA	40	50	1600	2500	2000
15	LN	45	60	2025	3600	2700
16	MAS	40	45	1600	2025	1800
17	MIH	55	60	3025	3600	3300
18	MR	70	70	4900	4900	4900

19	MRA	55	60	3025	3600	3300
20	NVS	35	60	1225	3600	2100
21	NA	55	65	3025	4225	3575
22	PZN	35	60	1225	3600	2100
23	PA	45	60	2025	3600	2700
24	RJA	45	70	2025	4900	3150
25	RS	60	65	3600	4225	3900
26	RS	55	65	3025	4225	3575
27	RA	55	55	3025	3025	3025
28	RA	35	60	1225	3600	2100
29	RIP	45	55	2025	3025	2475
30	RY	40	40	1600	1600	1600
31	RAUS	60	70	3600	4900	4200
32	SA	55	55	3025	3025	3025
33	WS	40	65	1600	4225	2600
34	YA	45	50	2025	2500	2250
35	ZNN	60	60	3600	3600	3600
Total		$\Sigma X =$ 1685	$\Sigma Y =$ 2005	$\Sigma X^2 =$ 84725	$\Sigma Y^2 =$ 117075	$\Sigma XY =$ 98325

From the data above, it shown that the highest and the lowest score in the pre-test, in addition, the data could be presented at the chart below.

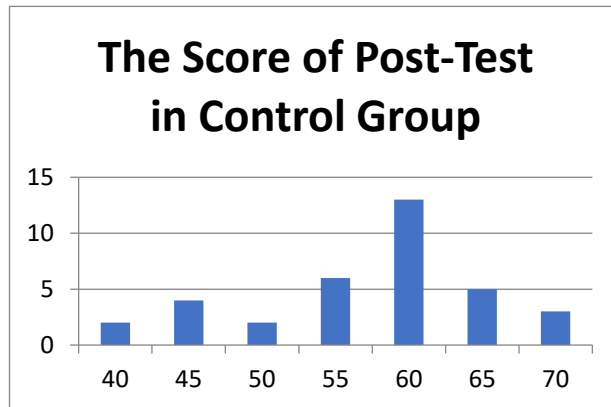
Figure 1. The score of pre-tests in control group



From the figure above, the data indicated that many students it could be illustrated the lower score in each indicator. From the figure above there was one student who got 70 score, there was one student who got 65 score, there were five students who got 60 score, there were eight students who got 55 score, there was one student who got 50 score, there were eight students who got 45 score, there were five students who got 40 score, there were four students who got 35 score, there were two students who got 30 score.

From the data above, it shown that the highest and the lowest score in the post-test, in addition, the data could be presented at the chart below.

Figure 2. The score of post-tests in control group



From the figure above, the data indicated that many students it could be illustrated the lower score in each indicator. From the figure above, there were three students who got 70 score, there were five students who got 65 score, there were thirteen students who got 60 score, there were six students who got 55 score, there were two student who got 50 score, there were four students who got 45 score, there were two students who got 40 score.

From the data above, it showed that student's score in pre-test was lower than post-test in the control class. The mean of student's score in pre-test was 48,1 and after giving the material by conventional learning the mean of student's score in post-test was being 57,2, it increased 9,1%.

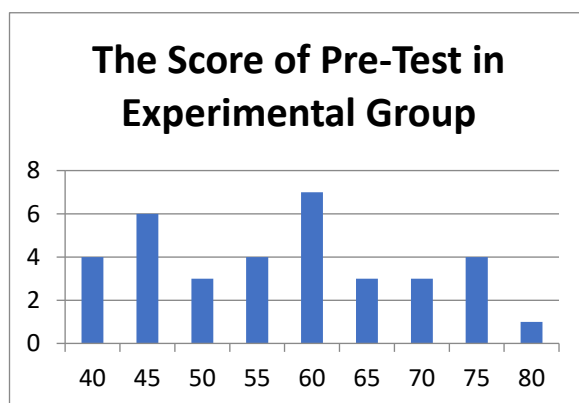
Table 5. The Sore of Pre-test and Post-test in Experimental Group

No	Initial Name	Score of Pre-test (X)	Score of Post-test (Y)	X ²	Y ²	XY
1	AT	60	65	3600	4225	3900
2	AKF	50	70	2500	4900	3500
3	ALD	60	75	3600	5625	4500
4	ATD	65	80	4225	6400	5200
5	ADA	55	80	3025	6400	4400
6	ADG	40	65	1600	4225	2600
7	AL	45	60	2025	3600	2700
8	BS	80	85	6400	7225	6800
9	BCL	60	65	3600	4225	3900
10	CYA	40	55	1600	3025	2200
11	CAP	75	90	5625	8100	6750
12	DIA	45	60	2025	3600	2700

13	DTA	45	75	2025	5625	3375
14	DNK	65	80	4225	6400	5200
15	EDPA	50	55	2500	3025	2750
16	FWS	55	70	3025	4900	3850
17	GS	45	50	2025	2500	2250
18	HW	40	55	1600	3025	2200
19	KP	40	55	1600	3025	2200
20	KAU	60	60	3600	3600	3600
21	KMP	75	85	5625	7225	6375
22	KCP	45	75	2025	5625	3375
23	MFAR	75	85	5625	7225	6375
24	MFR	60	65	3600	4225	3900
25	MFR	60	85	3600	7225	5100
26	MNA	70	80	4900	6400	5600
27	MFAG	75	90	5625	8100	6750
28	NA	45	75	2025	5625	3375
29	PCK	55	85	3025	7225	4675
30	RS	65	80	4225	6400	5200
31	SS	60	75	3600	5625	4500
32	SN	50	80	2500	6400	4000
33	SR	70	90	4900	8100	6300
34	STA	70	80	4900	6400	5600
35	TAP	55	75	3025	5625	4125
Total		$\Sigma X =$ 2005	$\Sigma Y =$ 2555	$\Sigma X^2 =$ 119625	$\Sigma Y^2 =$ 191075	$\Sigma XY =$ 149825

From the data above, it shown that the highest and the lowest score in the pre-test, in addition, the data could be presented at the chart below.

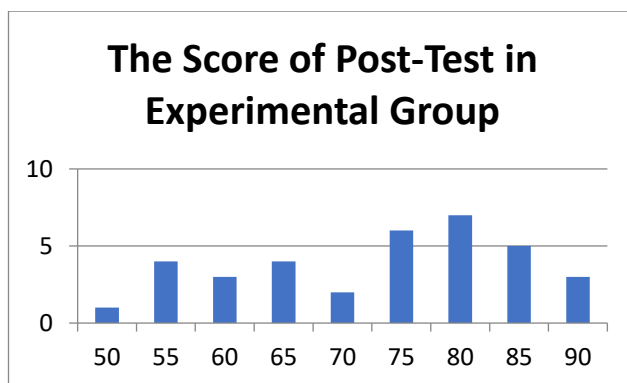
Figure 3. The score of pre-tests in experimental group



From the figure above, the data indicated that many students it could be illustrated the lower score in each indicator. From the figure above, there was one student who got 80 score, there were four students who got 75 score, there were three students who got 70 score, there were three students who got 65 score, there were seven students who got 60 score, there were four students who got 55 score, there were three students who got 50 score, there were six students who got 45 score, there were four students who got 40 score.

From the data above, it shown that the highest dan the lowest score in the post-test, in addition, the data could be presented at the chart below.

Figure 4. The score of post-tests in experimental group



From the figure above, the data indicated that many students it could be illustrated the lower score in each indicator. From the figure above there were three students who got 90 score, there were five students who got 85 score, there were seven students who got 80 score, there were six students who got 75 score, there were two students who got 70 score, there were four students who got 65 score, there were three students who got 60 score, there were four students who got 55 score, there was one student who got 50 score.

From the data above, it showed that student's score in pre-test was lower than post-test in the experimental class. The mean of student's score in pre-test was 57,2 and after giving the material by using Problem Based Learning Model the mean of student's score in post-test was being 73, it increased 15,8%.

CONCLUSION

This research uses quantitative methods with random sampling techniques to determine the sample, namely class XI students of SMA Swasta Nasional Petatal in 2024/2025 academic year. The data in this study was collected in three stages, namely pre-test, treatment and post-test. The instrument used is a reading comprehension test, which is designed to measure the extent to which students understand narrative texts. In the reading process, students show active involvement and do not get bored easily, because the Problem Based Learning (PBL) model is able to motivate them to be more enthusiastic and involved in learning. Based on

the data analysis presented in the previous chapter, the results show that the alternative hypothesis (H_a) is accepted and the null hypothesis (H_0) is rejected. This proves that the application of the PBL model has a significant influence on increasing students' reading comprehension abilities in narrative texts. Thus, students' background knowledge becomes an important factor in supporting the development of their reading skills. The application of this learning model also makes the learning process more interesting and interactive, so that students are more motivated and actively participate in learning activities.

THANK-YOU NOTE

I would like to express my gratitude to the presence of Allah SWT the Almighty for all His blessings, gifts, opportunities, health, and mercy so that I can complete this thesis. My prayers and greetings to the Great Prophet Muhammad SAW who has brought the light of truth to mankind. The preparation of this thesis cannot be separated from the support of many parties. I would like to express my deepest gratitude to my advisor Hamidah Sidabalok, for her guidance, direction, and time in helping me complete this thesis. I would also like to thank my family, friends, and colleagues who always provide support, prayers, and encouragement. Hopefully all the help and kindness given will be rewarded manifold by Allah SWT. I hope this thesis will be useful for me and the development of science.

BIBLIOGRAPHY

Aulia, H. R., Laeli, A. F., & Ulwiyah, S. (2023). Problem Based Learning As a Method To Improve Senior High School Student'S Reading Comprehension in English. *ELTR Journal*, 7(2), 77–85. <https://doi.org/10.37147/eltr.v7i2.171>

Berenji, S., Saeidi, M., & Ghafoori, N. (2020). Problem-based Learning and its Impact on EFL Learn-ers' Engagement and Reading Comprehension 150- Problem-based Learning and its Impact on EFL Learn-ers' Engagement and Reading Comprehension. *Journal of Language Horizons*, 4(1), 149. <https://doi.org/10.22051/lghor.2020.29172.1218>

Chaidam, O., & Poonputta, A. (2022). Learning Achievement Improvement of 1st Grade Students by Using Problem-Based Learning (PBL) on TPACK MODEL. *Journal of Education and Learning*, 11(2), 43. <https://doi.org/10.5539/jel.v11n2p43>

Endi Hidayanto, O., Wiyanto, W., Purwanti, E., Wonosari, S., Raya Randugarut, J., Ngaliyan, K., & Semarang, K. (2021). Problem Based Learning (Pbl) By Scaffolding and Reading Guide Model Strategies Toward the Quality of Learning. *Journal of Primary Education*, 10(3), 264–270. <https://journal.unnes.ac.id/sju/index.php/jpe>

Indriyani, V., Fendi, H., & Rahmayani, R. D. (2024). *Jurnal Pendidikan Progresif Comparing Problem-Based Learning (PBL) and Active Learning in*. 14(1), 74–88. <https://doi.org/10.23960/jpp.v14.i1.20240>

Ismail, H., & Edi, E. (2022). Judgment of the Problem-Based Learning Model with

Blended Learning in EFL Academic Reading. *International Journal of Multicultural and Multireligious Understanding*, 9(12), 288.
<https://doi.org/10.18415/ijmmu.v9i12.4253>

Kaganang, G. (2019). The Use of Problem-Based Learning to Improve Students' Reading Comprehension at the First Grade Students of Senior High School 1 of Middle Halmahera. *Langua: Journal of Linguistics, Literature, and Language Education*, 2(1), 45–53.
<https://doi.org/http://doi.org/10.5281/zenodo.2588119>

Muriyah, M., Wahyuni, S., & Saleh, M. (2023). The Effectiveness of Online Problem-Based Learning in Improving Students' Reading Comprehension with Different Learning Styles. *English Education Journal*, 13(1), 93–104.
<https://doi.org/10.15294/eej.v13i1.71110>

Mustofa, R. F., & Hidayah, Y. R. (2020). The effect of problem-based learning on lateral thinking skills. *International Journal of Instruction*, 13(1), 463–474.
<https://doi.org/10.29333/iji.2020.13130a>

Nurul Huda, D. (2023). Model Problem Based Learning Sebagai Upaya Peningkatan Kemampuan Membaca Pemahaman Siswa SD di Majalengka. *Buletin Ilmiah Pendidikan*, 2(2), 179–189.
<https://doi.org/10.56916/bip.v2i2.515>

Nurul Iskandar, Mustaji, Miftakhul Jannah, & Soetam Rizky Wicaksono. (2021). The Problem Based Learning in Enhancing Students' Critical Thinking for Reading Skills in English Teaching at Vocational School. *IJORER: International Journal of Recent Educational Research*, 2(2), 237–249.
<https://doi.org/10.46245/ijorer.v2i2.93>

Ramadhani. (2019). Metode Penerapan Model Problem Based Learning (PBL). *Lantanida Journal*, 7(1), 75–86.

Rianti, R., Yuniati, M., Tandiana, S. T., Muzdalipah, I., & Supriyono, Y. (2024). Improving Students' Reading Comprehension of Narrative Text Through Problem Based Learning. *Ideguru: Jurnal Karya Ilmiah Guru*, 9(1), 444–448.
<https://doi.org/10.51169/ideguru.v9i1.730>

Syahfutra, W. (2019). Improving Students' Reading Comprehension by Using Problem-based Learning Strategy. *Journal of Education Informatic Technology and Science (JeITS)*, 1(1), 125–136.