
Comparison of Problem-Based Learning and Discovery Learning Models in Improving Students' Reading Comprehension at SMPN 2 Lampasio

Nur Suci Annisa^{1a}, Hidayati^{2b*}, Indah Indrawati^{3c}

Universitas Madako, Tolitoli, Indonesia¹²³

annisaचारif13@gmail.com^a, kindinglampe@gmail.com^b, annisaचारif13@gmail.com^c

Abstrak: Penelitian ini bertujuan untuk menentukan apakah ada perbedaan signifikan antara model Problem-Based Learning dan model Discovery Learning dalam meningkatkan pemahaman membaca siswa pada siswa kelas delapan di SMPN 2 Lampasio. Penelitian ini merupakan jenis penelitian kuantitatif. Metode yang digunakan dalam penelitian ini adalah eksperimen dengan pendekatan komparatif. Teknik pengambilan sampel yang digunakan dalam penelitian ini adalah "Total Sampling", yang melibatkan seluruh siswa kelas delapan di SMPN 2 Lampasio. Data diperoleh dari tes. Peneliti menggunakan IBM SPSS untuk menganalisis data. Hasil penelitian menunjukkan bahwa rata-rata pre-test siswa dalam kelas Problem-Based Learning adalah 45,15, dan hasil post-test menunjukkan skor rata-rata 78,85. Sementara itu, siswa dalam kelas Discovery Learning memiliki rata-rata skor pre-test 39,80 dan skor post-test 73,55. Berdasarkan rata-rata skor pre-test dan post-test, terdapat peningkatan hasil belajar siswa dalam membaca teks deskriptif setelah diberikan perlakuan menggunakan model Problem-Based Learning dan Discovery Learning. Uji hipotesis menggunakan SPSS yang dilakukan pada hasil post-test kelas Problem-Based Learning dan Discovery Learning menunjukkan nilai signifikansi sebesar $0,004 < 0,05$ ($\text{sig.} < \alpha$), sehingga dinyatakan bahwa hipotesis H_0 ditolak dan H_a diterima. Dapat disimpulkan bahwa ada perbedaan signifikan dalam peningkatan pemahaman membaca siswa antara menggunakan model Problem-Based Learning dan model Discovery Learning pada siswa kelas delapan di SMPN 2 Lampasio.

Kata Kunci: Pemahaman membaca, problem-based learning, discovery learning.

Abstract: *This research aimed to determine whether there is a significant difference between Problem-Based Learning and Discovery Learning models in improving students reading comprehension at the eighth-grade students of SMPN 2 Lampasio. This research is a type of quantitative research. The method used in this research is experiments with a comparative approach. The sampling technique employed in this research is "Total Sampling", which involves including all eighth-grade students at SMPN 2 Lampasio. The data obtained from a test. The researcher used the IBM SPSS to analyze the data. The results showed that the average pre-test of the students in the Problem-Based Learning was 45.15, and the post-test results showed an average score of 78.85. Meanwhile, the students in the Discovery Learning class had an average pre-test score of 39.80 and a post-test score of 73.55. Based on the average pre-test and post-test scores, there is an improvement in the students' learning outcomes in reading descriptive texts after being given the treatment using the Problem-Based Learning and Discovery Learning models. The hypothesis test by using SPSS conducted on the post-test results of the Problem-Based Learning and Discovery Learning classes showed a significance value of $0.004 < 0.05$ ($\text{sig.} < \alpha$), so it is stated that the H_0 hypothesis is rejected and H_a is accepted. It could be concluded that there is a significant difference in improving the students' reading comprehension between using the Problem-Based Learning model and the Discovery Learning model in the eighth-grade student of SMPN 2 Lampasio.*

Keywords: Reading comprehension, problem-based learning, discovery learning.

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INTRODUCTION

Education is one of the keys to achieving success in the national development of Indonesia. Law of the Republic of Indonesia Number 20, 2003 chapter 1 Article 1 Paragraph 1 states that education involves a deliberate endeavour to conscious effort to equip learners for their future responsibilities through guidance, teaching, and training. In the educational journey, teacher is not only required to effectively deliver the material but also comprehend students' individual traits to successfully attain learning objectives.

At SMP Negeri 2 Lampasio, reading is the main activity. Most of the topics revolve around discourse or texts. Students need to learn to read effectively to extract information from the texts. However, they often struggle to answer questions based on the text because they do not know how to easily obtain information from the text, requiring a lot of time to properly understand a text. This indicates that students do not have good reading comprehension of the text. Improving reading comprehension is influenced by the learning model given by the teacher. To help students improve their reading comprehension, teachers must be able to master various learning models that suit their needs. In this case, the researcher is interested in using Problem-Based Learning and Discovery Learning models to help students improve their reading comprehension.

The theory proposed by Bruner in Sundari and Fauziati (2021) posits that learning is an endeavor wherein students actively participate in problem-solving, interacting with principles and concepts, while the teacher serves as a motivator. Students strive to independently seek solutions and accompanying knowledge, resulting in meaningful learning.

Problem-Based Learning (PBL) is a learner-focused instructional approach that initiates the learning process by introducing students to a real-life problem. It stands out as an effective, inventive, and dynamic learning model, fostering an active learning environment for students in the learning process. By employing the Problem-Based Learning model, there will be an augmentation in cognitive learning outcomes, including heightened capacities for recognition, comprehension, evaluation, and interpretation of specific objects through the senses. (Jumadi, 2018).

In addition, The Discovery Learning Model promotes students to explore independently, utilizing intuition, imagination, creativity, and actively seeking information to discover facts (Rajagukguk, 2021). Direct experience and the learning process are the main benchmarks in its implementation.

Based in the explanation above, Researcher is interested in conducting research that aims to compare Discovery Learning and Problem Based Learning models in improving students' reading comprehension. In this case, the researcher wanted to present this study on the basis of the following question " Comparison of Problem-Based Learning and Discovery Learning in Improving Students' Reading Comprehension at SMPN 2 Lampasio".

METHOD

The method used in this research was experiments with a comparative approach. Researcher applied it to find out there is a significant difference between the use of Problem-Based Learning and Discovery Learning in Improving students reading comprehension in descriptive text. To measure students' reading comprehension ability in this study, the researcher used a test, included the initial test (Pre-test) and the final test (Post-test). The sample for this

research consisted of all eighth-grade students of SMPN Lampasio, comprising 2 classes: Class VII A with 20 students and Class VII B with 20 students.

FINDINGS AND DISCUSSION

Table 1. Pre-test of Problem-Based Learning

No	Name	Score	Standard Score
1	WS	45	70
2	WAMJ	33	
3	WPY	37	
4	IDS	43	
5	MAS	40	
6	AL	55	
7	MS	43	
8	AI	34	
9	MJ	62	
10	PSA	33	
11	AR	40	
12	NJS	52	
13	SU	43	
14	AS	40	
15	SN	43	
16	AA	58	
17	NA	40	
18	RP	52	
19	NAA	46	
20	RPCA	64	
Mean			45.15
Std. Deviation			9.195
Minimum			33
Maximum			64

The table above shows that the lowest score obtained by students in the Problem-Based Learning class was 33, and the highest score was 64, with an average score of 45.15

Table 2. Post-Test of Problem-Based Learning

No	Name	Score	Standard Score
1	WS	78	70
2	WAMJ	71	
3	WPY	80	
4	IDS	81	
5	MAS	73	
6	AL	84	
7	MS	77	
8	AI	72	

9	MJ	77
10	PSA	70
11	AR	74
12	NJS	81
13	SU	78
14	AS	74
15	SN	86
16	AA	89
17	NA	77
18	RP	86
19	NAA	83
20	RPCA	86
Mean		78.85
Std. Deviation		5.575
Minimum		70
Maximum		89

Table 2 reveals that after implementing the Problem-Based Learning model class, students' lowest score increased to 70, the highest score reached 89, and the average improved to 78.85.

Table 3. Pre-Test of Discovery Learning

No	Name	Score	Standard Score
1	FWL	28	70
2	AP	28	
3	B	34	
4	D	46	
5	A	42	
6	NR	40	
7	KF	42	
8	MSA	43	
9	IKSW	37	
10	IPI	36	
11	YST	45	
12	MWF	19	
13	F	49	
14	NCA	37	
15	AT	36	
16	MF	40	
17	PDN	42	
18	DS	56	
19	JTC	44	
20	NKCTM	52	
Mean			39.8

Std. Dev.	8.563
Minimum	19
Maximum	56

The table above indicates that before the treatment, students in the Discovery Learning had a lowest score of 19, a highest score of 56, and an average score of 39.80.

Table 4. Post-test of Discovery Learning

No	Name	Score	Standard Score
1	FWL	70	70
2	AP	67	
3	B	70	
4	D	74	
5	A	78	
6	NR	73	
7	KF	77	
8	MSA	74	
9	IKSW	70	
10	IPI	71	
11	YST	78	
12	MWF	59	
13	F	78	
14	NCA	68	
15	AT	71	
16	MF	74	
17	PDN	81	
18	DS	81	
19	JTC	77	
20	NKCTM	80	
Mean		73.55	
Std. Dev.		5.491	
Minimum		59	
Maximum		81	

Table 4. shows that, after applying the Discovery Learning model in the experimental class 2, the lowest score obtained was 59, the highest was 81, and the average score was 73.55.

Table 5. Independent Samples Test

		Levene's Test for Equality of Variances		t-test for Equality of Means						
POST TEST		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	95% Confidence Interval of the Difference	
									Lower	Upper
POST TEST	Equal variances assumed	.120	.731	3.029	38	.004	5.300	1.750	1.758	8.842
	Equal variances not assumed			3.029	37.991	.004	5.300	1.750	1.758	8.842

In the table, the hypothesis test results for student learning outcomes in the Problem-Based Learning and Discovery Learning classes showed a significance value of $0.004 < 0.05$ (sig. $< \alpha$). Thus, H_0 was rejected and H_a was accepted. It can be concluded that there was a significant difference in the learning outcomes of VIII grade students at SMPN 2 Lampasio after being taught using the Problem-Based Learning and Discovery Learning models.

Discussion

Based on the average pre-test and post-test scores, there was an improvement in the students' learning outcomes in reading Descriptive texts after being given the treatment using the Problem-Based Learning and Discovery Learning models in class VIII of SMPN 2 Lampasio. This is consistent with the findings of a study conducted by Astuti in 2018 titled "The Influence of Using Problem-Based Learning Strategy on the Students' Reading Comprehension in Descriptive Text", which concluded that there was a positive influence of using the Problem-Based Learning model on students' reading comprehension. The research showed that the Problem-Based Learning model could improve students' reading comprehension. Similarly, the research conducted by Naziah, titled "The Effectiveness of Discovery Learning Method Towards Students' Reading Comprehension", concluded that Discovery Learning was significantly effective in improving students' reading comprehension.

After obtaining the post-test results for each group, the researcher used hypothesis testing to compare the results of experimental class 1 (Problem-Based Learning) and experimental class 2 (Discovery Learning). The hypothesis testing conducted on the post-test results of experimental class 1 and experimental class 2 yielded a significant value of 0.004 with a significance level of $\alpha = 0.05$. Since the sig. value $> \alpha$, that is, $0.004 > 0.05$, it indicated that the sig. value was within the acceptance region of H_a , leading to the rejection of H_0 and the acceptance of H_a . Therefore, it could be concluded that there was a significant difference in the students' reading comprehension outcomes between those taught using the Problem-Based Learning model and those taught using the Discovery Learning model in class VIII of SMPN 2 Lampasio.

CONCLUSION

Based on the research finding, the use of Problem-Based Learning and Discovery Learning can improve students reading comprehension of the eleventh grade at SMPN 2 Lampasio. There was a significant difference in reading comprehension outcomes between students taught using the Problem-Based Learning model and those taught using the Discovery Learning. It can be seen from the result of hypothesis testing indicated that significant value of 0.004 with a significance level of $\alpha = 0.05$. Since the sig. value $> \alpha$, that is, $0.004 > 0.05$, it indicated that the sig. value was within the acceptance region of H_a , leading to the rejection of H_0 and the acceptance of H_a .

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