Eduscape : Journal of Education Insight
E-ISSN : 3026-5231
Volume. 2 Issue 3 July 2024
Page No: 150-171

Problem Based Learning's Effect in Understanding of Idioms Found on Agatha Christine's Novel at SMAN 1 Onanrunggu

Jelita Pakpahan[1], Yessy Octavianna[2], Usman Sidabutar[3]
Universitas HKBP Nommensen, Indonesia[1,2,3]
Correspondent: yessypasaribu@uhn.ac.id [2]

Received : April 28, 2024
Accepted : Juni 09, 2024
Published : July 27, 2024

Citation: Pakpahan, J., Octavianna, Y., & Sidabutar, U. (2024). Problem Based Learning's Effect in Understanding of Idioms Found on Agatha Christine's Novel at SMAN 1 Onanrunggua. Eduscape : Journal of Education Insight, 2(3), 50-71. https://doi.org/10.61978/eduscape.v2i3

ABSTRACT: The aims of this study are to assess student achievement in reading comprehension through the implementation of the problem-based learning (PBL) method and to determine whether this method has a significant impact on students' achievements in understanding of idioms founds on Agatha Christine's novel for 11th grade in SMA N 1 Onanrunggu. The research used experimental-quantitative design with the population is 11th grade students at SMA N 1 Onanrunggu, with has five parallel classes and total the students are 145. Two classes were selected as samples, namely XI MIPA 1 and XII MIPA 2, where XI MIPA 2 became a group of experiments taught using the problem based learning method, while XI Mipa 1 became a control group taught by the conventional method. The data collection used a double-choice test and data analysis used the t-test. The results of the study showed that there was an increase in student values from pre-test to post-test in the experimental group. Statistical analysis shows that t-observed values are greater than t-table values (2.5 > 2,000) at the significance level of 0.05. This indicates that the zero hypothesis (Ho) is rejected and the alternative hypotheses (Ha) are accepted. Thus, it can be concluded that the use of problem-based learning methods has a significant influence on student performance in reading comprehension. This conclusion confirms the positive and significant impact of the use of problem-based learning methods in the context of the reading comprehension of eleventh grade of SMA N 1 Onanrunggu.

Keywords: Problem Based Learning, Reading Comprehension, Idioms

INTRODUCTION

In linguistics, idioms, or idiomatic expressions, are part of any language. An idiom is a sentence that has a different meaning than the meaning of the word forming it(Titone & Connine, 2020a). The use of idioms can be intended to mock or advise someone. Therefore, idiom expressions are found in both oral and written language(Cooper, 1999). They make language richer and colourier. But there are still many students who do not understand the meaning of the idiom. Meryem (2010:4) stated that students who studied idioms had difficulty recognizing the true meaning of idiomatic expressions(Titone & Connine, 2020b).

An idiom is a multi-word phrase whose overall meaning is very special and highly unpredictable, which reflects the meaning of the speaker that cannot be derived by combining the literal sense of each word in each phrase according to the rules of semantic language. (Huford, et.al, 2007: 328). Idioms are one of the features of language that has given a nuance of uniqueness in language and also has a different meaning content of the word composition.

The use of idioms is often ignored by students, the application is still considered too low among teenagers, and teachers on the other hand do not give enough emphasis in learning, while the use of Idioms is very important because it is often used in the everyday life of the language(Caro, 2009). Idiom mastery indicates a person's ability in language(Asri, 2017).

According to Djajasudarma (2009:20) states that idiomatic meanings are found in expressions and proverbs. Idiomatic meanings are lexical meanings formed from a few words(Sekarsari & Haryanti, 2021; Seran, 2020). The combination of these words can form different meanings that are not the same as the meaning of each word that composes them. Idioms are also exocentric, meaning there are no core elements and no explanatory elements in them(Wisnaya, 2015). The idiom functions in communication, among other things, to: (1) express feelings, (2) enlighten language, (3) soften language in conversation, and (4) compare or impress something with another.

Idioms, while adding color and depth to language, present a unique hurdle for learners. These expressions, whose meanings are not deducible from the literal interpretation of their words, require a nuanced understanding that goes beyond mere translation. Many students struggle with idioms, finding them elusive and difficult to grasp in everyday conversations and written texts. This difficulty can significantly impact their ability to communicate effectively, leading to misunderstandings and limitations in expressing ideas.

In the context of language education, particularly in Indonesia, where English is predominantly taught as a foreign language, the need to address idiom comprehension becomes increasingly apparent. Novels, such as Agatha Christie's "The Listerdale Mystery," offer a rich source of idiomatic expressions for analysis(Avelina, 2022; Sanusi, 2021). By delving into such literary works, educators can provide students with a contextual understanding of idioms, enhancing their language proficiency and cultural awareness.

An idiom was chosen as an object in this study because it is a unique part of English where the meaning of an idiom can change from time to time. Since an idiom is always unique in a language, it plays a role as a distinctive feature that distinguishes one language from another. Idiomatic expressions have become one of the unique aspects of English, and can present a unique challenge for students studying English vocabulary(Langi, 2016; Lestari, 2019; Rabiah, 2018).

Concerning the ongoing research at SMA N 1 Onanrunggu, it is noted that many MIPA class students, totaling 145 students, are not familiar with idioms in everyday conversation. Most teachers in the school do not really focus on teaching idioms because they usually only use grammar and vocabulary in the teaching and learning process, and teachers do not encourage students to practice using idioms in daily conversations.

One promising approach to tackle these challenges is Problem-Based Learning (PBL). PBL encourages active engagement and collaborative problem-solving among students. By integrating PBL into language education, teachers can create meaningful learning experiences that not only improve students' grasp of idioms but also foster critical thinking, communication skills, and self-directed learning. Through systematic analysis, such as in the proposed research focusing on Agatha Christie's novel, educators can tailor instructional strategies to better support students in navigating the intricacies of idiomatic expressions and ultimately enhance their overall language proficiency(Etfita, 2020; Global, 2020).

One method that teachers can use to solve such problems is the problem-based learning (PBL) method. (Yew & Goh, 2016)explain that PBL is a pedagogical approach that allows students to learn while actively engaging in solving problems. Students are given the opportunity to solve problems in collaborative settings among students, create models for learning, and form habits of self-learning through practice and reflection. Students are actively engaged in intra-learning so that they can proceed well. With this method, students can improve their understanding by searching, digging for information, identifying and recognizing problems, finding a way out, and drawing conclusions based on what they have analyzed.

Based on the explanation above, the researcher wants to research the effect of PBL for students' understanding idioms. The research aims to identify the difficulties encountered for 11th grade students of MIPA SMAN 1 Onanrunggu, in understanding the idioms founds on the novel "The Listerdale Mystery" by Agatha Christie, as well as how the effect of PBL in improving students' reading understanding of idioms. In this study, the problem is formulated as follows Does problem-based learning significantly affect the students' reading comprehension for 11th grade of SMAN 1 Onanrunggu?(Wang & Wang, 2015). The objective of the study is to find out whether the Problem Based Learning (PBL) significantly affects the students' reading comprehension for 11th grade of SMA N 1 Onanrunggu(Kalali & Pishkar, 2015).

METHOD

This research is conducted using experimental quantitative research without using the application SPSS(Sugiyono, 2018). experimental research is a research activity intended to find out the influence of an educational action on student behavior, or to test the hypothesis of whether or not a treatment or action is influenced when compared with other actions. An action in experimental research is called a treatment, that is, any action or whole variation that will be known to influence. (Danuri, 2019). This method is beneficial for identifying the cause and effect between different variables. In experimental research, independent variables are easily manipulated. The sample was divided into two groups: an experimental group and a control group. The experimental group was the group that would receive the treatment by using the blended learning method, while the control group was the group that received treatment by using the conventional method. Both of the groups would get the pre-test and post-test with the same items.

Table 1. Experimental Research Methods and Design

Group	Pre-test	Treatment	Post-test
Experimental	X1	√	X2
Control	Y1	-	Y2

Where: X1 = Pre-test of experimental group

Y1 = Pre-test of control group

X2 = Post- test of experimental group

Y2 = Post-test of control group

√ = Teaching reading by using Problem Based Learning

- = Teaching reading by using conventional method

Population and Sample

The population of this study consists of 11th grade high school students at SMAN 1 Onanrunggu. There are three classes; XI-MIPA1, XI-MIPA2, and XI-MIPA3. Each class averages 32 students and totaling 96 students. The sample for this research was selected from two classes, employing random sampling techniques. Simple random sampling can be executed through lotteries, random number tables, or systematic random sample-taking. Additionally, the total number of samples was 64 students. These students were divided into two classes: a control class of 32 students and an experimental class of 32.

The Procedure of Collecting Data

The procedure in this research consist of two groups: experimental groups taught using problem-based learning and control groups left without problem- based learning. Data is obtained through the provision of pre-test, treatment, and post-test for students. Before conducting the treatment, the pre-test was administered to both the control and experimental groups. The purpose of this pre-test was to assess the homogeneity of the sample and evaluate the students' reading comprehension achievement. Subsequently, the results of this pre-test were compared with those of the post-test to determine the impact of the blended learning method on students' reading comprehension(Grant & Bauer, 2004; Syahfutra & Niah, 2019).

The researcher conducted a pre-test to assess the student's initial understanding of the idiom before the intervention began. Students were then divided into two groups: the control group and the experimental group. The control group followed idiom learning with conventional methods

without applying the Problem-Based Learning (PBL) method, whereas the experimental group underwent treatment using the PBL method led by the researcher.

Treatment for experimental groups begins with providing case studies or real problems that require understanding and application of idioms(Sinaga et al., 2023). The PBL method applied by researcher is used as the primary basis of learning in experimental group. Students in this group work together to analyze problems, identify relevant idioms, and develop solutions based on their understanding of the idioms. After the treatment is completed, both groups, the control group and the experimental group, undergo post-test to evaluate their improved understanding of the idiom. The post-test was also used to compare the results with the pre-test to measure the effectiveness of the PBL method in improving students' understanding of reading idioms led by the researcher.

Post-test was carried out after treatment to obtain the average score between the experimental and control groups. Apart from that, the aim is to find out whether the problem-based learning method has a significant influence on student achievement in reading comprehension or not(Snow, 2002).

Data Analysis Techniques

In this study, data were collected from both the experimental group and the control group by calculating the raw scores of students in each group using the application of SPSS. The data were then analyzed using a test formula, specifically the t-test formula, which is described as follows:

$$t = \frac{Mx - My}{\sqrt{\left(\frac{dx^2 + dy^2}{Nx + Ny - 2}\right)\left(\frac{1}{Nx} + \frac{1}{Ny}\right)}}$$

Where:

t = t-test

Mx = mean score of experimental group

My =mean score of control group

dx = the deviation square of experimental group

dy =the deviation square of control group

Nx = the sample of experimental group

Ny =the sample of the control group

To find out whether applying the numbered head together method significantly affects students' reading comprehension, the t-test can be used as the formula(Astiantih, 2022; Qalby, 2014). The t-test was calculated as follows:

$$t = \frac{Mx - My}{\sqrt{\left(\frac{dx^2 + dy^2}{Nx + Ny - 2}\right)\left(\frac{1}{Nx} + \frac{1}{Ny}\right)}}$$

RESULT AND DISCUSSION

The Data and Data Analysis

The data from this study was taken by giving the test, divided into pre-test and post-test, to two groups of students: the experimental group and the control group. The experimental groups consisted of 25 students, while the control groups also consisted of 25, so there were a total of 50 students in the 11th grade in SMA N 1 Onanrunggu. The results of the pre-test in the experimental group showed the lowest score of 20 and the highest score of 70.

The total post-test score of the experimental group ranged from 70 to 90. The total pre-test score for the experimental group was 1275, with an average score of 51. The lowest value on the pre-test was used as the basis for giving the test before intervention. After intervention with a problem-based learning method, the student score in the experiment group increased to 2005, with an increase ratio of 80.2 points.The pre-test process begins with mature planning, in which the objectives of the evaluation and the material to be tested are clearly defined. Evaluation instruments suitable for the purposes and materials are developed to ensure their validity and reliability. Representative samples are selected to follow the pre-test, covering variations in the population being evaluated. During the execution of the pre-test, detailed instructions are given to the participants to ensure a proper understanding of the objectives and procedures of the pre-test. Strict monitoring is carried out to ensure the integrity and quality of the evaluation results. The evaluation results of the pre-test are then thoroughly analyzed to measure the understanding of the subject being evaluated.

The results of such pre-tests are then systematically presented in evaluation reports, including data analysis, findings, and recommendations based on the evaluation results. Constructive feedback is given to pre-test participants to help them understand the evaluation results and improve their understanding in the future. Thus, the pre-test process is not only an initial step in evaluation but also an important foundation in decision-making and improvement in the learning or research context.The following table presents the pre-test and post-test results of a study conducted on students of Class XI MIPA 2 and XI Mipa 1 in High School N 1 Onanrunggu. This data describes the scores of each student who participated in the study.The study aims to evaluate the impact of problem-based learning (PBL) methods on understanding idioms among students. From the data collected, there is a significant difference in scores between the pre-test and the post-test. This gives a strong indication of the effectiveness of PBL methods in improving students's understanding of idioms. A detailed analysis of this data will be presented in more detail in the next chapters of this study.

This research has significant relevance in the context of the development of learning methods that can improve the understanding and application of idioms in literature among students. Furthermore, the results of this research are expected to make a meaningful contribution to the evolution of curricula and more effective teaching strategies for presenting idiom material to students.

Table 2. The Score of Pre-test and Post-test in Experimental Group

No	Students'Intial Name	Pre Test (X1)	Post Test (X2)
1.	MSOS	20	85
2.	EH	35	75
3.	EHR	50	70
4.	KS	70	90
5.	IL	65	85
6.	RBP	60	90
7.	BS	55	85
8.	DS	50	85
9.	MVP	55	75
10.	ALMB	60	70
11.	LLV	65	90
12.	RM	50	80
13.	RAL	70	85
14.	GH	40	70
15.	MAH	60	80
16.	CAO	65	75
17.	NC	45	90
18.	MKS	35	80

19.	PSS	45	75
20.	AAM	45	85
21.	DS	45	80
22.	JNP	20	70
23.	RS	55	70
24.	EDP	60	90
25.	APR	55	75
	TOTAL	1275	2005
	MEAN	51	80,2

The reseacher gave the pre-test and post-test to the control group, and then the reseacher examined the student's test. From the data obtained, in the controlling group, the lowest pre-test score was 20, while the highest rating was 55. The lowest post-tester value was 25, while the maximum post-test value was 75. In the control groups, the total pre-test score was 860, with a mean of 34,4. It is considered to be the same as in the experimental group. This is because the teacher gives the test before giving the treatment, but in this case, the teacher provides the conventional way without applying the treatment using the method of problem-based learning. The results of the study show that in the post-test, the control group obtained a total score of 1415 with an average of 56,6. The results of the control group can be seen in the table below.

Table 3. The Score of Pre-test and post test in the Control Group

No	Students'Intial Name	Pre Test (X1)	Post Test (X2)
1.	RHL	40	55
2.	NS	40	60
3.	FD	25	45
4.	LS	30	60
5.	RS	20	35
6.	BCS	25	50
7.	LM	35	60
8.	FSS	35	55

9.	RES	40	50
10.	VP	40	75
11.	JM	35	50
12.	DLS	45	55
13.	DS	30	40
14.	MVV	50	70
15.	SN	30	60
16.	RN	20	60
17.	PL	35	55
18.	MGA	30	65
19.	AMS	20	40
20.	EVS	35	75
21.	SN	35	70
22.	GR	55	60
23.	TMT	30	40
24.	JP	40	65
25.	DSRN	40	65
	TOTAL	860	1415
	MEAN	34,4	56.6

Based on table 2, it can be seen that there is a significant difference between teaching reading comprehension by applying the problem-based learning method and without applying the problem-based learning method(Rombot, 2020). The difference between the pre-test scores of the experimental and control groups is 16,6, and the difference between the post-test and experimental control group scores is 23,6.

This study was conducted to measure the effectiveness of Problem Based Learning (PBL) methods towards understanding idioms among students of class XI MIPA 2 in SMA N 1 Onanrunggu(Rosyidi, 2018; Savin-Baden, 2003; Yew & Goh, 2016). The data analysed came from the experimental group that received the PBL method and the control group that did not. The table below shows the results of data analysis from the experimental group, which includes pre-test

scores (X1), post-test score (X2), the difference between post- test scores and pre-tests (X2-X1), and the square value of the difference (X^2) for each student:

Table 4. The Calculation of Experimental Group

No	Students'Intial Name	Pre Test	Post Test	X	X^2
		(X1)	(X2)	(X2-X1)	
1.	MSOS	20	85	65	4225
2.	EH	35	75	40	1600
3.	EHR	50	70	20	400
4.	KS	70	90	20	400
5.	IL	65	85	20	400
6.	RBP	60	90	30	900
7.	BS	55	85	30	900
8.	DS	50	85	35	1225
9.	MVP	55	75	20	400
10.	ALMB	60	70	10	100
11.	LLV	65	90	25	625
12.	RM	50	80	30	900
13.	RAL	70	85	15	225
14.	GH	40	70	30	900
15.	MAH	60	80	20	400
16.	CAO	65	75	10	100
17.	NC	45	90	45	2025
18.	MKS	35	80	45	2025
19.	PSS	45	75	30	900

20.	AAM	45	85	40	1600
21.	DS	45	80	35	1225
22.	JNP	20	70	50	2500
23.	RS	55	70	15	225
24.	EDP	60	90	30	900
25.	APR	55	75	20	400
	TOTAL	**1275**	**2005**	**730**	**25500**
	MEAN	**51**	**80,2**	**29,2**	

This table is an analysis of pre-test and post-test scores from a group of students who were part of a study on the effectiveness of problem-based learning (PBL) methods in improving understanding of idioms. The data presented included pre-test scores (X1), post-test scores (X2), differences between post-test scores and pre-tests (X2-X1), and square values of such differences (X^2) for each student in the experimental group.

This table gives a clear overview of the changes in student scores before and after the application of the PBL method. The X value indicates the magnitude of the change in scores, while the X^2 value reflects the variability or difference between pre-test and post-test scores at the individual student level. Further analysis of this data will help in drawing conclusions about the effectiveness of PBL methods in improving the understanding of idioms among students of class XI MIPA 2 in High School N 1 Onanrunggu.The results of an in-depth analysis of these tables will be the primary basis for describing objectively how effective PBL methods are in achieving research goals.

Table 4, below details the results of the calculation of scores from the control group before and after the learning method intervention. This control group became an important part of the research to compare the effectiveness of problem-based learning (PBL) methods to the understanding of idioms among students of class XI MIPA 2 in High School N 1 Onanrunggu.

Table 5. The Calculation of Control Group

No	**Students'Intial Name**	**Pre-Test**	**Post-Test**	**Y**	Y^2
		Y1	**Y2**	**(Y2-Y1)**	
1.	RHL	40	55	15	225

2.	NS	40	60	20	400
3.	FD	25	45	20	400
4.	LS	30	60	30	900
5.	RS	20	35	15	225
6.	BCS	25	50	25	625
7.	LM	35	60	25	625
8.	FSS	35	55	20	400
9.	RES	40	50	10	100
10.	VP	40	75	35	1225
11.	JM	35	50	15	225
12.	DLS	45	55	10	100
13.	DS	30	40	10	100
14.	MVV	50	70	20	400
15.	SN	30	60	30	900
16.	RN	20	60	40	1600
17.	PL	35	55	20	400
18.	MGA	30	65	35	1225
19.	AMS	20	40	20	400
20.	EVS	35	75	40	1600
21.	SN	35	70	35	1225
22.	GR	55	60	5	25
23.	TMT	30	40	10	100
24.	JP	40	65	25	625
25.	DSRN	40	65	25	625

	TOTAL	860	1415	555	14675
	MEAN	34,4	56,6	22,2	

This table provides a detailed and clear overview of the change in scores from pre-test to post-test in the control group. The mean values of pre- and post-test scores are used as the main indicators for evaluating differences in understanding of idioms before and after the intervention of the PBL method. Further analysis of this table will be used to compare the effectiveness of PBL between experimental and control groups, as well as draw conclusions about the impact of learning methods on improving student understanding of the idioms(Telaumbanua, 2022; Tumbel, 2021). Thus, this table is an important part of describing the impact of PBL methods in the context of this research.

Testing the Validity of the Text

Validity of content in the context of a measurement refers to the extent to which a test is able to measure a sample representing the substance or behavioral change being considered. This indicates a match between the tested material and the measuring set. Meanwhile, content validity is measured on the basis of the generic structure of the content and characteristics of the test, which guarantees that the test actually covers the aspects that are intended for measurement without distortion. From the data obtained, it appears that the average pre-test score in the experimental group was 51, while the average post-test rating increased significantly to 80.2. This indicates that the application of experimental methods had a significant positive impact on student understanding. On the other hand, the control group showed an average pre-test score of 34.4, which also increased in the post-test to 56.6. Although the increase in values occurred, this increase tended to be lower than in experimental groups, suggesting that the control method may not be as effective as the method of experimentation in improving student understanding in this context.

Thus, the data provides an overview that the validity of the content and content of the test have been met, along with a significant improvement in student understanding after the intervention of experimental methods. These results show that the test used has been effective in measuring student understanding according to the purpose of the determined measurement

Correlations

		X1	X2	Total
X1	Pearson Correlation	1	.982**	.983**
	Sig. (2-tailed)		.000	.000
	N	25	25	25
X2	Pearson Correlation	.982**	1	1.000**
	Sig. (2-tailed)	.000		.000
	N	25	25	25
Total	Pearson Correlation	.983**	1.000**	1
	Sig. (2-tailed)	.000	.000	
	N	25	25	25

**. Correlation is significant at the 0.01 level (2-tailed).

Testing the Reliability of the Test

In this study, the reliability of the test is a crucial factor for evaluating the consistency and quality of the measurements obtained. Prior to collecting the data, the researcher conducted a test on the students to assess how consistent the test is in measuring the intended variable. The reliability test aims to identify aspects related to testing hypotheses and addressing research problems effectively. Here are the detailed results of the reliability test:

Table 6 The Reliability of the Test

No	Students'Intial Name	Score	X^2
1.	MM	20	400
2.	ET	30	900
3.	EK	30	900
4.	UN	25	625
5.	IK	10	100
6.	MJ	20	400
7.	SS	25	625
8.	JK	20	400
9.	MP	25	625
10.	AMB	10	100
11.	ILV	20	400
12.	LRM	40	1600
13.	RY	20	400
14.	GL	15	225
15.	MH	20	400
16.	CO	30	900

17.	IC	40	1600
18.	KS	35	1225
19.	PG	15	225
20.	SM	40	1600
21.	US	40	1600
22.	JP	25	625
23.	IS	25	625
24.	DP	10	100
25.	PR	20	400
	Total(ε)	610	15.560
	Mean **(X^2)**	24.4	

From the table above, the mean score can be calculated as follows:

$$M=\frac{\sum x}{N}$$

$$M=\frac{610}{25}$$

$$M=24,4$$

The standart deviation can be calculated as the following:

$$S=\frac{\sum X^2-\frac{(\sum x)^2}{N}}{N}$$

$$S=\frac{15560-\frac{(610)^2}{25}}{25}$$

$$S=\frac{15560-\frac{372100}{25}}{25}$$

$$S=\frac{15560-14,884}{25}$$

$$S=\frac{15545,116}{25}$$

S=621,81

The reliability of the test is crucial in this research to assess the quality and consistency of the test. To determine the reliability, the writer utilized Kuder Richardson formula 21 as follows:

$$r11 = \left(\frac{n}{n-1}\right)(1 - \frac{M(n-M)}{nSt^2})$$

The reliability can be calculated as the following:

(KR21) $r11 = \left(\frac{n}{n-1}\right)(1 - \frac{M(n-M)}{nSt^2}$

$$r11 = \left(\frac{20}{20-1}\right)(1 - \frac{24{,}4(20-24{,}4)}{20(621{,}81)^2})$$

$$r11 = \left(\frac{20}{19}\right)(1 - \frac{24{,}4(-4{,}4)}{20(386{,}647)})$$

$$r11 = \left(\frac{20}{19}\right)(1 - \frac{24{,}4(-4{,}4)}{20(386{,}647)})$$

$$r11 = (1{,}05)(1 - \frac{-107.36}{7.732{,}94})$$

$r11$=(1,05)(1- (-13,88)
$r11$=(1,05)(14,88)
$r11$=15.62

Case Processing Summary

		N	%
Cases	Valid	25	100.0
	Excluded[a]	0	.0
	Total	25	100.0

a. Listwise deletion based on all variables in the procedure.

Reliability Statistics

Cronbach's Alpha	N of Items
.072	2

From the data above, it is found that the mean score is 24.4, the square of the standard deviation of the test scores is 621.81, and the test reliability is 15.62. The correlation coefficient value will be categorized into the following ranges of reliability based on Arikunto's statement.

Where:

00-0,20=the reliability is very low

0,21-0,40 = the reliability is low

0,41-0,60 = the reliability is fair

0.61 - 0.80 = the reliability is high

0,81-above = the reliability is very high

So, it means that the test reliability of 15.62 indicates a very high level of reliability. Therefore, the test used in this research is considered reliable.

Testing the Hypothesis

The basic theory in testing hypotheses is that the alternative hypothesis (Ha) is accepted if the calculated t-value is higher than the critical t-value (t-calculated > t-table). The purpose of hypothesis testing is to determine whether the Problem-Based Learning (PBL) method is accepted or not. The mean score of the experimental group is calculated as follows:

$$Mx = \frac{\sum x}{N}$$

$$Mx = \frac{730}{25}$$

$$Mx = 29{,}2$$

The deviation square of experimental group is calculated as follows:

$$dx^2 = \sum x^2 - \frac{(\sum x)^2}{N}$$

$$dx^2 = 25500 - \frac{(730)^2}{25}$$

$$dx^2 = 25500 - \frac{523900}{25}$$

$$dx^2 = 25500 - 21{,}316$$

$$dx^2 = 2547{,}86$$

The mean score of experimental group calculated as the following:

$$My = \frac{\sum y}{N}$$

$$My = \frac{555}{25}$$

$My = 22{,}2$

The deviation square of experimental group is calculated as follows:

$dy^2 = \sum y^2 - \frac{(\sum y)^2}{N}$

$dy^2 = 14675 - \frac{(555)^2}{25}$

$dy^2 = 14675 - \frac{308025}{25}$

$dy^2 = 14675 - 12{,}321$

$dy^2 = 14{,}662$

To find out whether applying the numbered head together method significantly affects students' reading comprehension, the t-test can be used as the formula(Etfita, 2020). The t-test was calculated as follows:

$$t = \frac{Mx - My}{\sqrt{(\frac{dx^2 + dy^2}{Nx + Ny - 2})(\frac{1}{Nx} + \frac{1}{Ny})}}$$

Mx:29,2	dy^2:14,662
My:22,2	Nx:25
dx^2:2547,86	Ny:25

The result of t-test calculated as the following:

$$t = \frac{Mx - My}{\sqrt{(\frac{dx^2 + dy^2}{Nx + Ny - 2})(\frac{1}{Nx} + \frac{1}{Ny})}}$$

$$t = \frac{29{,}2 - 22{,}2}{\sqrt{(\frac{2547{,}86 + 14{,}662}{25 + 25 - 2})(\frac{1}{25} + \frac{1}{25})}}$$

$$t = \frac{7}{\sqrt{(\frac{2562{,}522}{48})(\frac{2}{25})}}$$

$$t = \frac{7}{\sqrt{(102{,}50)}\ (0{,}08)}$$

$$t = \frac{7}{\sqrt{8{,}2}}$$

$$t = \frac{7}{2{,}8}$$

$$t = 2{,}5$$

Based on the calculation of the t-test, it was found that the calculated (2,5) was higher than t-table (2,000) for degree of freedom (df) = Nx + Ny- 2=25+25-2=48 at the level significant p=0,05. It can be seen as follows:

t-calculated >t-table
2,5 >2,0000
(p=0,05) with df=48
(p=0,05) with df=48

Thus, it can be concluded that Ha is accepted, and Ho is rejected. In other words, it can be concluded that Problem-Based Learning significantly affects students' achievement in reading comprehension.

Discussion of the Research' Result

The objective of this study is to evaluate the impact of the problem-based learning (PBL) method on student performance in reading comprehension in the eleventh grade in SMA N 1 Onanrunggu. The results of the study showed a significant difference between teaching reading comprehension using the PBL method and without using PBL. The application of PBL is more effective in improving student reading understanding, which is reflected in the difference in average post-test values between the experimental group (80,2) and the control group (56,6). Statistical analysis shows that t-counting (2.5) is higher than t-table at the significance level of 0.05 (2,5 > 2,000), indicating a significant influence of the pBL method on students' performance in understanding reading. Thus, it can be concluded that the application of PBL methods is effective in improving the learning process and student performance in reading comprehension for 11th grade SMA N 1 Onanrunggu.

According to Huang & Foreign (2012:122), problem-based learning (PBL) is considered a student-centered teaching approach that inspires students to apply critical thinking through simulated problems to study complex and practical problems, possibly having or not having standard answers.In conducting research, the author has two classes of samples, namely the experimental group and the control group. The procedure is divided into three parts: pre-test, treatment, and post-test. Treatment is done after pre-testing. Teachers teach the same material for discussion to the experimental and control groups. An experimental class is a class where learning uses problem-based learning methods, whereas a control class is a class in which learning uses conventional

methods. Both groups were given the same test. The researcher gains a student's score in the experimental class and controls from the pre-test and post-test. Pre-tests are given to both classes before learning begins to see students' abilities, and after learning is completed to see the difference. The total number of test questions was 20, with the highest score being 920, because every correctly answered question was given a score and tested on 50 students (25 for the experimental class and 25 for the control class) in the eleventh grade of SMA N 1 Onanrunggu. The researcher compared the achievements of pre-test and post-test classes of experimentation and control to see if the use of problem-based learning methods affected student reading understanding. After the research, the researcher obtained pre-test and post-test grades in experimental and control classes. The researcher analyzed the data by giving the students a reading test to determine their reading skills. This was calculated using the reading test scores in both groups. The goal of data analysis is to find out whether the problem-based learning method is effective in teaching reading comprehension. Based on the data analysis, the researchers concluded that there is a significant influence of the application of the problem-based learning method on the student's understanding of reading.

CONCLUSION

After analyzing the data, it was found that the problem-based learning method significantly improves student reading comprehension. The problem-based learning method is one of the teaching methods used by teachers to help solve students' problems in teaching and learning. It can also improve student performance in reading comprehension and is a method that enhances ideas by inviting students to participate and think creatively. Students can produce ideas in a short time. Based on the calculation, there is a significant difference in the average value obtained from the average post-test of the experimental group (80,2), and its storage (25,47) is higher than the average after-test of the control group (56,6) and its deviation. (14,66). The t test result (t count) is also higher compared to the t table at a significant scale of $p = 0.05$ (2,5 >2,000). This means that the alternative hypothesis (Ha) is accepted and the zero hypotheses (Ho) are rejected. Thus, it can be concluded that the use of the problem-based learning method has a significant influence on the student's achievement in understanding reading in the eleventh grade at SMA N1 Onanrunggu. Students who were taught reading comprehension using the problem-based learning method gained higher grades than students who were not taught using conventional methods (control group).

The writer would like to extend her sincere and special thanks to **Dr. Yessy Octaviana, S.S., M.Pd** as the first consultant for the guidance, input, advice, correction, and generosity that have been given during the process of completing this paper. The writer also thanks to **Manatar Samosir, S.Pd.,** as the head of the school; **Busmin Panjaitan, SH.**, as the heads of the curriculum; the teachers; and the staff of N1 Onanrunggu High School, and then, for 11th grade students (XI-1 and XI-2), thank you for your valuable participation as the object of this research.

REFERENCE

Asri, A. N. (2017). Innovative Teaching of English Idiomatic Expressions for EFL Learners. *Www.Google.Com*.

Astiantih, S. (2022). Improving Reading Comprehension by Using Experience Text Relationship (ETR. *ELS Journal on Interdisciplinary Studies in Humanities*, *5*(2, 15 June), 271–276. https://doi.org/10.34050/elsjish.v5i2.21150

Avelina, N. S. (2022). the Use of Idiom In English Textbook For Senior High School Students. *Pathaway English*.

Caro, E. E. (2009). The Advantages and Importance of Learning and Using Idioms in English. *Cuadernos de Lingüística Hispánica*, *14*, 121–136.

Cooper, T. (1999). Processing of Idioms by L2 Learners of English. *TESOL Quarterly*, *33*(1), 233–234.

Etfita, F. (2020). Improving Students' Reading Comprehension of Descriptive Texts through Cognitive Strategy At Grade Vii-2 Of SMPN 1 Indra Praja, Tembilahan. *Lingua Didactics: Journal of Language and Language Learning*, *7*(2), 75. https://doi.org/10.24036/ld.v7i2.10347.

Global, E. T. S. (2020). *The Important of Learning English. A Subsidiary of ETS*.

Grant, L., & Bauer, L. (2004). Criteria for Re-defining Idioms: Are We Barking up the Wrong Tree? *Applied Linguistics*, *25*(1), 40–41.

Kalali, N. N., & Pishkar, K. (2015). *The Effect of Genre- Based Teaching on Iranian EFL Learners ' L2 Reading Comprehension* (Vol. 2, Issue 7, pp. 123–137).

Langi, I. (2016). *Idiom In The Movie The Godfather*.

Lestari, A. R. E. (2019). Translation of English Idiomatic Expression in Zootopia into Indonesian Context. *Journal.Binadarma.Ac.Id*.

Qalby, N. (2014). Improving The Students' Reading Comprehension through Explicit Teaching Strategy. *Exposure: jurnal pendidikan bahasa inggris*, *3*(2), 155–165, 834. https://doi.org/10.26618/exposure.v3i2.834.

Rabiah, S. (2018). Language as a Tool for Communication and Cultural Reality Discloser. *ResearchGate*.

Rombot, O. (2020). Improving Reading Comprehension Skills of International Elementary School Students through Blended Learning. *Al Ibtida: Jurnal Pendidikan Guru*, *7*(1), 56. https://doi.org/10.24235/al.ibtida.snj.v7i1.6045.

Rosyidi, A. Z. (2018). The Effectiveness of Problem Based Learning (PBL) Method in Teaching Reading. *IJECA (International Journal of Education and Curriculum Application*, *17*. https://doi.org/10.31764/ijeca.v0i0.1972

Sanusi, S. (2021). *Character Education in the Acehnese Idioms of Kuala Batee Community Southwest Aceh* (p. 8715).

Savin-Baden, M. (2003). *Facilitating Problem Based Learning*. University Press.

Sekarsari, A., & Haryanti, D. (2021). *Translation of English Idioms in the Novel the Lion the Witch and the Wardrobe and Its Translation*.

Seran, Y. (2020). The Ability In Using Idiomatic Expression By Students Of Nusa Cendana University. *Jurnal Pendidikan Bahasa Inggris Undiksha*, *8*(2), 84–91. https://doi.org/10.23887/jpbi.v8i2.30968.

Sinaga, Y. I., Octaviana, Y., Lestari, F. D., & Sinurat, H. (2023). The Effectiveness Of Wattpad Online Reading Application Into Students. In *English Reading Skill By Using Structure - Proposition- Evaluation (SPE) Method To 8 th Students In SMP HKBP SIDORAME* (Vol. 3, pp. 6908–6917).

Snow, C. (2002). *Reading for understanding: Toward an R&D program in reading comprehension*. RAND Corporation.

Sugiyono. (2018). *Metode Penelitian Kuantitatif* (1st ed.). Alfabeta).

Syahfutra, W., & Niah, S. (2019). Improving Students' Reading Comprehension by Using Problem-based Learning.. Improving Students' Reading Comprehension by Using Problem-based Learning Strategy. *Journal of Education Informatic Technology and Science (JeITS*, *1*(1), 125– 136. https://doi.org/https://ejurnal.umri.ac.id/index.php/JeITS/article/view/12

Telaumbanua, T. (2022). Meaning Of Idiomatic. *Research on English Language Education*, *4*(2), 7–12, 382 315. https://doi.org/10.57094/relation.v4i2.382.

Titone, D. A., & Connine, C. M. (2020a). Comprehension of Idiomatic Expressions: Effects of Predictability and Literality. *Journal of Experimental Psychology: Learning, Memory, and Cognition*, *20*(5), 1126.

Titone, D. A., & Connine, C. M. (2020b). Comprehension of Idiomatic Expressions: Effects of Predictability and Literality. *Journal of Experimental Psychology: Learning, Memory, and Cognition*, *20*(5), 1126.

Tumbel, R. C. (2021). Idioms in English and Tombulu Language, a Contrastive Analysis. *UNSRAT E-Journal*, 34510 32390.

Wang, J., & Wang, Y. (2015). Practice of PBL in the Reading Teaching Strategies. *SHS Web of Conferences*, *14*, 1012.

Wisnaya, I. G. B. O. (2015). The Identification Of Idioms in the Native English Speakers' Articles Of The Jakarta Post Dated Friday. *Ejournal.Undiksha.Ac.Id*, 6139.

Yew, E. H. J., & Goh, K. (2016). Problem-Based Learning: An Overview of its Process and Impact on Learning. *Health Professions Education*, *2*(2), 75–79. https://doi.org/10.1016/j.hpe.2016.01.004