

THE IMPLEMENTATION OF PROJECT BASED LEARNING IN IMPROVING READING COMPREHENSION OF THE ELEVENTH GRADE STUDENTS OF SMA NEGERI 2 SIGI

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ABSTRACT

The objective of this research is to prove whether the implementation of Project Based Learning (PjBL) can improve reading comprehension of the eleventh-grade students of SMA Negeri 2 Sigi. This research used a quasi-experimental research design that consisted of two groups: an experimental and control groups. The sample was selected using a purposive sampling technique. The sample of this research was 58 eleventh-grade students of SMA Negeri 2 Sigi, 28 students from class XI IPA 2 as the experimental group, and 30 students from class XI IPA 1 as the control group. The data were collected through pre-test and post-test. Data were analyzed using a t-test to compare the experimental and control groups' pre-test and post-test mean scores. The mean score pre-test for the experimental group was 63.93 and the control group was 66.58. Then, the mean score of the students' post-test score for the experimental group was 74.73, and the control group was 71.33. By applying 0.05, level of significance, it is found that the t-counted value (4.56) is higher than the t-table value (1.673). Therefore, the research hypothesis is accepted. This result indicates that the implementation of PjBL in this study effectively improved the students' reading comprehension. The implication of these findings is that in teaching reading, teachers can apply the PjBL method during the teaching and learning process as one of the effective methods to improve students' reading comprehension.

Keywords: Improve; Reading Comprehension; Project Based Learning

INTRODUCTION

Reading is one of those skills considered the most important activity to get knowledge and information in human life, especially for students learning English. In schools, reading is one of the basic competencies that are included in the English subject that the students should study. Reading comprehension is part of reading understanding, that is, understanding the content of the target reading. In other words, reading comprehension is designed as an act of capturing the reading content in the mind.

Through reading, students can improve their knowledge, ensuring continued personal growth and adaptation to the changes in the world. Harmer (1991) argues that for any student who wants to read English texts, either for their careers, study purposes or simply for pleasure, anything that they can do to make reading easier must be a good idea.

The Curriculum 2013 for senior high schools in Indonesia places considerable emphasis on the development of reading comprehension skills within narrative texts. This curriculum aims to enable students to delve into the intricacies of storytelling, exploring elements like characters, settings, plots, and themes present in various narrative forms such as stories, novels, poetry, and personal anecdotes (Kemdikbud, 2013). It encourages students to analyze, interpret, and derive meaning from these texts, fostering not only their understanding of the narratives but also their critical thinking abilities. By engaging with narrative texts across subjects, the curriculum aims to instill an appreciation for literature, encouraging students to comprehend, interpret, and derive insights from diverse narratives while honing their analytical skills and enhancing their overall literacy.

One of the issues with students' reading skills is that reading remains a teacher-dominated process in the learning environment. This teacher-centered approach often fails to engage students, leading to a lack of participation in the learning process. English teachers typically rely on the lecture method and have not fully incorporated interactive learning models. Some educators mistakenly assume that using models is unnecessary or that it does not align with the curriculum. To improve reading skills, the learning environment must transition from a teacher-centered to a student-centered approach, where students are actively involved in the learning process. Nuttal (1983) identifies five common challenges that students encounter when reading non-native languages, especially in understanding text. These challenges include grappling with an unfamiliar alphabet or symbols, navigating complex vocabulary and sentence structures, deciphering cohesive devices and discourse markers, confronting issues that go beyond literal meaning, and grappling with unfamiliar concepts.

The implementation of PjBL has proven the effectiveness use of it in enhancing reading comprehension within learning activities. This is substantiated by findings from several previous studies. The first study by Mislana et al. (2021) found that students' positive responses implied that PjBL was effective for improving students' reading achievement. Similarly, Wiratmo et al. (2022) found that the PjBL method can contribute to improving students' achievement in reading notice text. In addition, by Assiddiq and Sasmayunita (2022) found that the implementation of PjBL in a hybrid classroom was effective in improving participants' reading comprehension achievement.

Based on the background described and some of the previous studies above, PjBL has shown effectiveness in improving reading comprehension. The method used to promote student learning is PjBL (PjBL), which places students at the center of the learning process, provides a learning environment that emphasizes learning through experience, develops student thinking, creates original problem-solving and authenticity, enhances collaborative work, and makes learning possible. This learning method involves finding resources, discovering knowledge, and evaluating the results. In this way, the creation of project tasks, put together directly by students, requires students to learn independently and enables them to acquire new experiences and knowledge from a variety of sources.

Therefore, the researcher conducted research related to PjBL to improve students' reading comprehension at SMA Negeri 2 Sigi. In order to know if the result of the research was the same or different from the previous study. The researcher conducted the research by applying PjBL in teaching reading through narrative text of the eleventh grade students of SMA Negeri 2 Sigi.

METHOD

This research used a quasi-experimental research design. With this research design, it attempted to see the causal impact of the proposed intervention on the target population. The type of quasi-experiment used in this research was a non-equivalent control group design, defined as the assignment of a non-randomized control group. A quasi-experimental design generally consisted of two large groups, namely the experimental group and the control group.

This research chose two classes as the sample using a purposive sampling technique. The technique was chosen because the samples provided purpose and made it simple for researcher to gather data. Additionally, the English teacher at SMA Negeri 2 Sigi recommended the researcher to conduct research in those 2 classes because most of the students of those 2 classes still had problems in reading comprehension. They were XI IPA 2 as the experimental group and XI IPA 1 as the control group.

The instrument for data collection was a reading test. It was in the form of 25 multiple-choice and 5 essay questions with narrative types of texts. Each correct answer on the multiple-choice test

was scored one; therefore, the maximum score was 25. In contrast, the students' scores on the essay test varied, ranging from 1-3.

The researchers analyzed the data using several formulas. Arikunto (2013, p. 308) conveyed all these formulas.

$$\sum = \frac{x}{N} \times 100$$

Where:

\sum : Standard score
 X : Obtained score
 N : Maximum score

Then, the students' mean score for each class was calculated using the formula proposed by Arikunto (2013, p. 315) as follows:

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

Where:

M : Mean score
 \sum : symbol of summation
 x : Standard score of students
 N : total number of students

The individual deviation values for the pretest and posttest was calculated using the formulas proposed by Arikunto (2013) as follows:

$$Md = \frac{\sum d}{N}$$

where:

Md : Mean deviation of pre-test and post-test
 $\sum d$: sum of deviation
 N : total number of students

Then, the sum of the square deviation was determined using Arikunto's (2013, p. 355) formula as follows:

a) Formula for the experimental group

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

b) Formula for the control group

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

Where:

$\sum x^2$: The square deviation of experimental group
 $\sum y^2$: The square deviation of control group
 N : Number of students in each group

After calculating all the above formulas, the researcher applied them to the test formula to determine the effectiveness of PjBL for the experimental group in improving students' reading comprehension. The test formula that was used is the one suggested by Arikunto (2013, p. 354).

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

Where:

- T : t-counted
- Mx : Mean score of the experimental group
- My : Mean score of the control group
- $\sum x^2$: Sum of square deviation of the experimental group
- $\sum y^2$: Sum of square deviation of the control group
- Nx : Number of students in the experimental group
- Ny : Number of students in the control group

RESULT AND DISCUSSION

In this finding, the researcher presents the findings from the research and data analysis. The data taken were results of a reading test and they were presented in the form of numerical data. The reading test was divided into pre-test and post-test. The pre-test was given at the first meeting and the post-test was given at the last meeting for both classes (XI IPA 2 as the experimental and XI IPA 1 as the control groups).

The Result of the Pre-Test

The pre-test was given to the control group on Apr 19, 2024 and given to the experimental group on Apr 22, 2024. The results of pre-test of the two classes are presented in Table 1 and 2.

Table 1
The Result of Students' Pre-Test From Experimental Group

| No | Initial | Type of text | | Raw Score | Max Score | Standard Score | Category |
|----|---------|-----------------|-------|-----------|-----------|----------------|----------|
| | | Multiple Choice | Essay | | | | |
| 1 | AIS | 15 | 8 | 23 | 40 | 57.5 | poor |
| 2 | AS | 15 | 8 | 23 | 40 | 57.5 | poor |
| 3 | AW | 19 | 9 | 28 | 40 | 70 | fair |
| 4 | BA | 18 | 8 | 26 | 40 | 65 | fair |
| 5 | DK | 17 | 8 | 25 | 40 | 62.5 | fair |
| 6 | FAD | 16 | 9 | 25 | 40 | 62.5 | fair |
| 7 | IL | 17 | 9 | 26 | 40 | 65 | fair |
| 8 | KP | 15 | 5 | 20 | 40 | 50 | poor |
| 9 | LES | 21 | 6 | 27 | 40 | 67.5 | fair |
| 10 | LAR | 20 | 9 | 29 | 40 | 72.5 | good |
| 11 | MAG | 17 | 8 | 25 | 40 | 62.5 | fair |
| 12 | MHS | 15 | 5 | 20 | 40 | 50 | poor |

| | | | | | | | |
|--------------|-----|----|----|----|----|--------------|------|
| 13 | MI | 18 | 8 | 26 | 40 | 65 | fair |
| 14 | MP | 16 | 9 | 25 | 40 | 62.5 | fair |
| 15 | MR | 18 | 9 | 27 | 40 | 67.5 | fair |
| 16 | MR | 20 | 9 | 29 | 40 | 72.5 | good |
| 17 | MRC | 17 | 12 | 29 | 40 | 72.5 | good |
| 18 | MSW | 17 | 12 | 29 | 40 | 72.5 | good |
| 19 | MZP | 17 | 8 | 25 | 40 | 62.5 | fair |
| 20 | NAD | 17 | 8 | 25 | 40 | 62.5 | fair |
| 21 | REN | 17 | 8 | 25 | 40 | 62.5 | fair |
| 22 | RA | 18 | 8 | 26 | 40 | 65 | fair |
| 23 | RM | 17 | 8 | 25 | 40 | 62.5 | fair |
| 24 | RR | 18 | 8 | 26 | 40 | 65 | fair |
| 25 | SR | 19 | 8 | 27 | 40 | 67.5 | fair |
| 26 | WAN | 20 | 8 | 28 | 40 | 70 | fair |
| 27 | YA | 10 | 8 | 18 | 40 | 45 | poor |
| 28 | YS | 19 | 10 | 29 | 40 | 72.5 | good |
| TOTAL | | | | | | 1790 | |
| MEAN | | | | | | 63.93 | |

Based on Table 1, the highest score of the students in the experimental group is 72.5, while the lowest score is 45, and the total student score in the pre-test is 1790. This study uses a standard of 70. To determine students' graduation according to the minimum standard grade of proficiency used in Sigi 2 State High School.

Table 2
The Result of Students' Pre-Test From Control Group

| No | Initial | Type Of Text | | Raw Score | Max Score | Standard Score | Category |
|----|---------|-----------------|-------|-----------|-----------|----------------|-----------|
| | | Multiple Choice | Essay | | | | |
| 1 | AND | 15 | 8 | 23 | 40 | 57.5 | poor |
| 2 | AMDA | 17 | 10 | 27 | 40 | 67.5 | fair |
| 3 | AN | 17 | 11 | 28 | 40 | 70 | good |
| 4 | AN | 17 | 0 | 17 | 40 | 42.5 | poor |
| 5 | AR | 11 | 10 | 21 | 40 | 52.5 | poor |
| 6 | AR | 17 | 12 | 29 | 40 | 72.5 | good |
| 7 | ARI | 18 | 12 | 30 | 40 | 75 | good |
| 8 | AS | 15 | 10 | 25 | 40 | 62.5 | fair |
| 9 | DAM | 17 | 12 | 29 | 40 | 72.5 | good |
| 10 | DSA | 21 | 12 | 33 | 40 | 82.5 | excellent |
| 11 | III | 19 | 10 | 29 | 40 | 72.5 | good |
| 12 | IN | 18 | 11 | 29 | 40 | 72.5 | good |
| 13 | IS | 18 | 11 | 29 | 40 | 72.5 | good |
| 14 | KK | 21 | 12 | 33 | 40 | 82.5 | excellent |

| | | | | | | | |
|--------------|-----|----|----|----|----|---------------|-----------|
| 15 | MAG | 17 | 10 | 27 | 40 | 67.5 | fair |
| 16 | MA | 14 | 8 | 22 | 40 | 55 | poor |
| 17 | MR | 19 | 8 | 27 | 40 | 67.5 | fair |
| 18 | MS | 18 | 10 | 28 | 40 | 70 | good |
| 19 | MZ | 18 | 11 | 29 | 40 | 72.5 | good |
| 20 | NO | 21 | 12 | 33 | 40 | 82.5 | excellent |
| 21 | NS | 19 | 11 | 30 | 40 | 75 | good |
| 22 | NSH | 20 | 0 | 20 | 40 | 50 | poor |
| 23 | OLI | 15 | 10 | 25 | 40 | 62.5 | fair |
| 24 | RA | 19 | 12 | 31 | 40 | 77.5 | good |
| 25 | UN | 20 | 10 | 30 | 40 | 75 | good |
| 26 | VAR | 15 | 0 | 15 | 40 | 37.5 | poor |
| 27 | WI | 17 | 12 | 29 | 40 | 72.5 | good |
| 28 | WPW | 17 | 12 | 29 | 40 | 72.5 | good |
| 29 | ZAL | 16 | 0 | 16 | 40 | 40 | poor |
| 30 | ZA | 15 | 11 | 26 | 40 | 65 | fair |
| TOTAL | | | | | | 1997.5 | |
| MEAN | | | | | | 66.58 | |

Based on the table, it can be seen that the highest score is 82.5, and the lowest score is 37.5. Referring to the passing grade of the school, 17 students passed the pre-test, and 13 students failed it.

The Result of the Post-Test

After the treatment, the researcher conducted a post-test to the experimental group and the control group. This test was given to the control group on May 15, 2024, and given to the experimental group on May 16, 2025. The post-test results of both groups can be seen in Tables 3 and 4 which are:

Table 3
The Result of Students' Post-Test From Experimental Group

| No | Initial | Type of Text | | Raw Score | Max Score | Standard Score | Category |
|----|---------|-----------------|-------|-----------|-----------|----------------|-----------|
| | | Multiple Choice | Essay | | | | |
| 1 | AIS | 20 | 12 | 32 | 40 | 80 | good |
| 2 | AS | 19 | 10 | 29 | 40 | 72.5 | good |
| 3 | AW | 20 | 12 | 32 | 40 | 80 | good |
| 4 | BA | 18 | 12 | 30 | 40 | 75 | good |
| 5 | DK | 18 | 10 | 28 | 40 | 70 | fair |
| 6 | FAD | 16 | 11 | 27 | 40 | 67.5 | fair |
| 7 | IL | 18 | 12 | 30 | 40 | 75 | good |
| 8 | KP | 19 | 10 | 29 | 40 | 72.5 | good |
| 9 | LES | 20 | 12 | 32 | 40 | 80 | good |
| 10 | LAR | 22 | 12 | 34 | 40 | 85 | excellent |
| 11 | MAG | 19 | 12 | 31 | 40 | 77.5 | good |

| | | | | | | | |
|--------------|-----|----|----|----|----|---------------|-----------|
| 12 | MHS | 15 | 10 | 25 | 40 | 62.5 | fair |
| 13 | MI | 19 | 10 | 29 | 40 | 72.5 | good |
| 14 | MP | 17 | 12 | 29 | 40 | 72.5 | good |
| 15 | MR | 18 | 12 | 30 | 40 | 75 | good |
| 16 | MR | 22 | 11 | 33 | 40 | 82.5 | excellent |
| 17 | MRC | 19 | 12 | 31 | 40 | 77.5 | good |
| 18 | MSW | 18 | 12 | 30 | 40 | 75 | good |
| 19 | MZP | 18 | 10 | 28 | 40 | 70 | fair |
| 20 | NAD | 19 | 12 | 31 | 40 | 77.5 | good |
| 21 | REN | 15 | 12 | 27 | 40 | 67.5 | fair |
| 22 | RA | 17 | 10 | 27 | 40 | 67.5 | fair |
| 23 | RM | 18 | 10 | 28 | 40 | 70 | fair |
| 24 | RR | 19 | 12 | 31 | 40 | 77.5 | good |
| 25 | SR | 18 | 11 | 29 | 40 | 72.5 | good |
| 26 | WAN | 21 | 14 | 35 | 40 | 87.5 | excellent |
| 27 | YA | 18 | 10 | 28 | 40 | 70 | fair |
| 28 | YS | 20 | 12 | 32 | 40 | 80 | good |
| TOTAL | | | | | | 2092.5 | |
| MEAN | | | | | | 74.73 | |

Based on the table, it can be seen that the highest score is 87.5 and the lowest score is 62.5. Referring to the passing grade of the school, 24 students passed the post-test and four students failed it.

Table 4
The Result of Students' Post-Test From Control Group

| No | Initial | Type of Text | | Raw Score | Max Score | Standard Score | Category |
|----|---------|-----------------|-----------|-----------|-----------|----------------|-----------|
| | | Multiple Choice | Essa y | | | | |
| 1 | AND | 15 | 8 | 23 | 40 | 57.5 | poor |
| 2 | AMDA | 18 | 11 | 29 | 40 | 72.5 | good |
| 3 | AN | 20 | 10 | 30 | 40 | 75 | good |
| 4 | AN | 19 | 0 | 19 | 40 | 47.5 | poor |
| 5 | AR | 14 | 8 | 22 | 40 | 55 | poor |
| 6 | AR | 19 | 12 | 31 | 40 | 77.5 | good |
| 7 | ARI | 19 | 12 | 31 | 40 | 77.5 | good |
| 8 | AS | 15 | 10 | 25 | 40 | 62.5 | fair |
| 9 | DAM | 20 | 10 | 30 | 40 | 75 | good |
| 10 | DSA | 21 | 12 | 33 | 40 | 82.5 | excellent |
| 11 | III | 17 | 12 | 29 | 40 | 72.5 | good |
| 12 | IN | 20 | 10 | 30 | 40 | 75 | good |
| 13 | IS | 19 | 11 | 30 | 40 | 75 | good |
| 14 | KK | 21 | 12 | 33 | 40 | 82.5 | excellent |
| 15 | MAG | 18 | 10 | 28 | 40 | 70 | fair |

| | | | | | | | |
|--------------|-----|----|----|----|----|--------------|-----------|
| 16 | MA | 16 | 10 | 26 | 40 | 65 | fair |
| 17 | MR | 20 | 12 | 32 | 40 | 80 | good |
| 18 | MS | 20 | 11 | 31 | 40 | 77.5 | good |
| 19 | MZ | 19 | 12 | 31 | 40 | 77.5 | good |
| 20 | NO | 22 | 12 | 34 | 40 | 85 | excellent |
| 21 | NS | 20 | 12 | 32 | 40 | 80 | good |
| 22 | NSH | 18 | 9 | 27 | 40 | 67.5 | fair |
| 23 | OLI | 17 | 12 | 29 | 40 | 72.5 | good |
| 24 | RA | 20 | 12 | 32 | 40 | 80 | good |
| 25 | UN | 20 | 12 | 32 | 40 | 80 | good |
| 26 | VAR | 17 | 0 | 17 | 40 | 42.5 | poor |
| 27 | WI | 18 | 12 | 30 | 40 | 75 | good |
| 28 | WPW | 19 | 12 | 31 | 40 | 77.5 | good |
| 29 | ZAL | 19 | 0 | 19 | 40 | 47.5 | poor |
| 30 | ZA | 18 | 12 | 30 | 40 | 75 | good |
| TOTAL | | | | | | 2140 | |
| MEAN | | | | | | 71.33 | |

Based on the table, it can be seen that the highest score is 85 and the lowest score is 42.5. Referring to the passing grade of the school, 22 students passed the post-test and eight students failed it.

Deviation and Square Deviation

After getting the mean score of the pre-test and post-test, the researcher continued to count the mean deviation and square deviation to determine if there was a significant difference between the results of the pre-test and post-test of the experimental and control group. The results are presented in the following table:

Table 5
Students' Score Deviation of Experimental Group

| No | Initial | Students Score | | DEVIATIO N ($X_2 - X_1$) | X^2 |
|----|---------|--------------------|---------------------|-------------------------------|--------|
| | | Pre-Test (X_1) | Post-Test (X_2) | | |
| 1 | AIS | 57.5 | 80 | 22.5 | 506.25 |
| 2 | AS | 57.5 | 72.5 | 15 | 225.00 |
| 3 | AW | 70 | 80 | 10 | 100.00 |
| 4 | BA | 65 | 75 | 10 | 100.00 |
| 5 | DK | 62.5 | 70 | 7.5 | 56.25 |
| 6 | FAD | 62.5 | 67.5 | 5 | 25.00 |
| 7 | IL | 65 | 75 | 10 | 100.00 |
| 8 | KP | 50 | 72.5 | 22.5 | 506.25 |
| 9 | LES | 67.5 | 80 | 12.5 | 156.25 |
| 10 | LAR | 72.5 | 85 | 12.5 | 156.25 |
| 11 | MAG | 62.5 | 77.5 | 15 | 225.00 |

| | | | | | |
|--------------|-----|------|------|--------------|----------------|
| 12 | MHS | 50 | 62.5 | 12.5 | 156.25 |
| 13 | MI | 65 | 72.5 | 7.5 | 56.25 |
| 14 | MP | 62.5 | 72.5 | 10 | 100.00 |
| 15 | MR | 67.5 | 75 | 7.5 | 56.25 |
| 16 | MR | 72.5 | 82.5 | 10 | 100.00 |
| 17 | MRC | 72.5 | 77.5 | 5 | 25.00 |
| 18 | MSW | 72.5 | 75 | 2.5 | 6.25 |
| 19 | MZP | 62.5 | 70 | 7.5 | 56.25 |
| 20 | NAD | 62.5 | 77.5 | 15 | 225.00 |
| 21 | REN | 62.5 | 67.5 | 5 | 25.00 |
| 22 | RA | 65 | 67.5 | 2.5 | 6.25 |
| 23 | RM | 62.5 | 70 | 7.5 | 56.25 |
| 24 | RR | 65 | 77.5 | 12.5 | 156.25 |
| 25 | SR | 67.5 | 72.5 | 5 | 25.00 |
| 26 | WAN | 70 | 87.5 | 17.5 | 306.25 |
| 27 | YA | 45 | 70 | 25 | 625.00 |
| 28 | YS | 72.5 | 80 | 7.5 | 56.25 |
| TOTAL | | | | 302.5 | 4193.75 |

The table shows that the maximum deviation (D) recorded is 22.5, while the minimum deviation stands at 2.5. Similarly, the highest square deviation (D²) noted is 506.25, with the lowest square deviation at 6.25.

Table 6
Students' Score Deviation of Control Group

| No | Initial | Students Score | | DEVIATIO N (X ₂ -X ₁) | X ² |
|----|------------|-------------------------------|--------------------------------|--|----------------|
| | | Pre- Test(X ₁) | Post- Test(X ₂) | | |
| 1 | AND AMD | 57.5 | 57.5 | 0 | 0.00 |
| 2 | A | 67.50 | 72.5 | 5 | 25 |
| 3 | AN | 70 | 75 | 5 | 25.00 |
| 4 | AN | 42.5 | 47.5 | 5 | 25 |
| 5 | AR | 52.5 | 55 | 2.5 | 6.25 |
| 6 | AR | 72.5 | 77.5 | 5 | 25.00 |
| 7 | ARI | 75 | 77.5 | 2.5 | 6.25 |
| 8 | AS | 62.5 | 62.5 | 0 | 0 |
| 9 | DAM | 72.5 | 75 | 2.5 | 6.25 |
| 10 | DSA | 82.5 | 82.5 | 0 | 0 |
| 11 | III | 72.5 | 72.5 | 0 | 0.00 |
| 12 | IN | 72.5 | 75 | 2.5 | 6.25 |
| 13 | IS | 72.5 | 75 | 2.5 | 6.25 |
| 14 | KK | 82.5 | 82.5 | 0 | 0 |
| 15 | MAG | 67.5 | 70 | 2.5 | 6.25 |

| | | | | | |
|--------------|-----|------|------|--------------|---------------|
| 16 | MA | 55 | 65 | 10 | 100 |
| 17 | MR | 67.5 | 80 | 12.5 | 156.25 |
| 18 | MS | 70 | 77.5 | 7.5 | 56.25 |
| 19 | MZ | 72.5 | 77.5 | 5 | 25 |
| 20 | NO | 82.5 | 85 | 2.5 | 6.25 |
| 21 | NS | 75 | 80 | 5 | 25.00 |
| 22 | NSH | 50 | 67.5 | 17.5 | 306.25 |
| 23 | OLI | 62.5 | 72.5 | 10 | 100.00 |
| 24 | RA | 77.5 | 80 | 2.5 | 6.25 |
| 25 | UN | 75 | 80 | 5 | 25.00 |
| 26 | VAR | 37.5 | 42.5 | 5 | 25 |
| 27 | WI | 72.5 | 75 | 2.5 | 6.25 |
| 28 | WPW | 72.5 | 77.5 | 5 | 25 |
| 29 | ZAL | 40 | 47.5 | 7.5 | 56.25 |
| 30 | ZA | 65 | 75 | 10 | 100.00 |
| TOTAL | | | | | 1156.2 |
| | | | | 142.5 | 5 |

By looking at the table above, it can be seen that the highest score for deviation (D) is 17.5 and the lowest score for deviation is 0. Furthermore, the highest score for square deviation (D²) is 306.25 and the weakest for square deviation is 0.

The results of the data analysis show that the t-count is 4.56. Then, by using the 0.05 level of significance with the degree of freedom (df = 56), the researcher finds that the t-count (4.56) is higher than the t-table (1.673). This shows that the hypothesis in this study is successful or accepted. It can be concluded that the implementation of PjBL can improve students' reading comprehension of SMA Negeri 2 Sigi.

Discussion

The implementation of Project-Based Learning (PjBL) in teaching reading to eleventh-grade students at SMA Negeri 2 Sigi demonstrated a significant improvement in student performance. Initially, the control group outperformed the experimental group in achieving a passing grade. However, the post-test results showed a substantial change, with the experimental group exhibiting a marked increase in students passing and achieving higher criteria. Specifically, the experimental group had 24 students passing and four failing, with three achieving excellent criteria, 17 good criteria, and eight fair criteria. This suggests that PjBL is an effective method for improving student reading performance and achieving better learning outcomes.

The researcher implemented Project-Based Learning (PjBL) to address reading comprehension issues in students. Initially, students struggled to understand texts, identify social

functions, generic structures, and language features, and provide answers to questions. They also found it difficult to locate implicit information and define unfamiliar words. However, after implementing PjBL from the third to sixth meetings, students showed significant improvements in their ability to comprehend texts and extract important information. The results of their worksheet (LKPD) assessments demonstrated that they successfully identified social functions, generic structures, and language features in narrative texts. This indicates that the PjBL treatment was effective in enhancing students' reading comprehension abilities, suggesting that the treatment successfully improved their understanding of texts and ability to answer comprehension questions.

The implementation of PjBL in improving reading comprehension of eleventh-grade students has significant benefits, including enhanced student engagement, improved reading comprehension, and development of critical thinking and problem-solving skills. However, challenges and limitations must be addressed through teacher training, time allocation, and effective assessment strategies. According to Lestari et al. (2023), PjBL enables students to read more comprehensively, it is advised that English teachers use it to teach reading skills for other genres of texts and to other language skills.

Furthermore, implementing PjBL in the experimental group showed that students' reading comprehension improved compared to the control group who did not apply the PjBL. This is because the implementation of PjBL is centered on students where they are more active in the learning process. Students can become more creative and engaged through PjBL, which applies teaching and learning techniques. because, as a requirement for their study, they had to create or produce a product. According to Imbaquingo and Cárdenas (2023), Implementing PBL can positively impact students' English language reading skills. Then, according to Assidiq and Sasmayunita (2022), the implementation of project-based learning benefited the EFL teacher candidates in terms of improving their achievement in reading comprehension.

Dealing with the researcher's finding is supported by previous studies; Wiratmo et al. (2021) revealed that the PjBL method improves students' achievement in reading notice text at VIII F Grade Of SMPN 43 Surabaya. Furthermore, Hambali et al. (2019) also expose that the use of project-based learning in teaching reading improves the student's reading comprehension of the second year at SMK Muhammadiyah 4 Tallo Makassar. The researcher took a different research sample, namely the eleventh grade students at SMA Negeri 2 Sigi. Using various learning topics, namely Narrative text, and different research designs, a quasi-experimental design. Therefore, with different levels of research, the results remain the same. In this treatment, the researcher applied different learning steps with the previous research where the steps were arranged according to the step of the PjBL method. After comparing with the results of previous research, Those clarify that the implementation of PjBL is effective in improving reading comprehension at levels of education, namely SMP, SMA,

and SMK. Then, these findings imply that in teaching reading, teachers can apply the PjBL method during the teaching and learning process as one of the effective methods to improve students' reading comprehension.

CONCLUSION

Based on the research conducted on eleventh-grade students of SMA Negeri 2 Sigi, it can be concluded that the implementation of PjBL can improve students' reading comprehension. The data analysis results show that the mean score of the post-test for the experimental group (74.73) is higher than the mean score for the control group (71.33). The mean score of the post-test for the experimental group also had a significant change from the mean score of the pre-test (63.93). In addition, it can also be proven by looking at the t-count value (4.56), which is higher than the t-table value (1.673). It means that hypothesis in this study is accepted.

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