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The Effectiveness of Problem-Based Learning in Improving Students' English Grammar Mastery at Junior High School

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Abstract

This study aims to determine the effectiveness of the application of Problem-Based Learning (PBL) in improving the English grammar mastery of seventh-grade junior high school students. The study used a quantitative approach with a quasi-experimental non-equivalent control group design. The research sample consisted of 60 students, namely 30 students in the experimental class and 30 students in the control class. The research instruments were a multiple-choice grammar test and a student perception questionnaire. Data were analyzed using descriptive statistical tests and inferential tests (t-tests). The results showed that there was a significant difference between the grammar learning outcomes of students taught using PBL and students taught using conventional methods. Thus, Problem-Based Learning is effective in improving the English grammar mastery of junior high school students.

1. Introduction

Mastery of grammar is a fundamental component in English learning because it serves as the foundation for developing other language skills, such as reading, writing, speaking, and listening. However, in junior high school learning practices, grammar is often perceived as difficult and boring by students. This condition results in students' poor understanding of basic sentence structure, particularly the use of the simple present tense, which should be a basic competency in English learning.

Empirically, students' low grammar mastery is caused by the dominance of

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conventional, teacher-centered learning methods, emphasizing memorization of rules, and minimal involvement of students in critical thinking activities. From a theoretical perspective, grammar learning should not only focus on understanding rules but also on applying grammar in real-world contexts so that students can actively construct meaning. Therefore, a learning approach is needed that integrates understanding of grammar concepts with contextual problem-solving activities.

Various recent studies have shown that student-centered learning models have significant potential for improving English language learning outcomes. One widely studied learning model is Problem-Based Learning (PBL), which places contextual problems as the starting point for learning. Several quantitative studies have reported that PBL is effective in improving English language skills such as reading, writing, and speaking, because it encourages students to actively discuss, think critically, and collaborate in groups.

Other studies have also shown that implementing PBL can increase student motivation and engagement in the language learning process. Students do not simply passively receive information but are directly involved in the process of finding solutions to given problems. However, most of these studies focus on productive language skills such as speaking and writing, while empirical studies specifically examining the effectiveness of PBL on grammar mastery are still relatively limited.

Furthermore, some studies discussing grammar still use traditional approaches or focus on structured practice (drilling) methods, without linking grammar learning to problem-solving contexts. This indicates that although PBL has been widely implemented in English language learning, its application to grammar aspects, particularly the simple present tense at the junior high school level, still requires more in-depth study based on quantitative data.

Based on a review of previous studies, research gaps can be identified, both empirically and theoretically. Empirically, there is still little quantitative research directly testing the effectiveness of Problem-Based Learning on junior high school students' grammar matery, particularly in the simple present tense. Most studies focus more on other language skills and have not specifically measured grammar improvement through systematic experimental designs.

Theoretically, there is a need to test the relevance of the constructivist learning theory underlying PBL in the context of grammar learning. Grammar is often viewed as abstract and rule-based, so it is necessary to demonstrate whether a problem-based approach can bridge the gap between grammar theory and its practical use in real-world contexts.

Based on these gaps, this study was designed to answer the following questions: Is the application of Problem-Based Learning effective in improving English grammar mastery of seventh grade junior high school students. This study aims to quantitatively test the effectiveness of PBL on mastery of the simple present

tense.

2. Method

In general, this section describes how the study was conducted. The subject matter of this section is:

a. Research design

The design of this research is experimental research. (Gay and AirAsia 2000 in Syahfutra, W., & Niah, S. 2019) argued that experimental research is the type of research that can test hypotheses to establish cause-and effect relationships. The design of this research is a quasi-experimental design which is focused on the non-equivalent control group. In conducting the research, 2 classes of the first-grade students were involved. The first class was an experimental class and the second class was a control class. The experimental class was a class that was taught by using Problem- based Learning methods, meanwhile the control class was a class that was not taught by using Problem-based Learning methods. In this research, there were two variables; the independent variable (X) was the using of problem-based learning method and the dependent variable (Y) was the students' grammar mastery.

This research design can be seen as follows:
O1 X1 O2 (Experimental Class)
O1 X2 O2 (Control Class)
In which:
O1 = Pre-test
O2 = Post-test X1 = Treatment by using Problem based learning
X2 = Treatment by using conventional teaching

b. The sample population or subject of the research

According to Mooneeb et al (2020), a sample refers to a subset of the target population that has been selected for research purposes. The target population represents a larger group of individuals whose characteristics are of interest to the study. By analyzing the data from the sample, the researcher can make certain judgment about the target population. In aligment with this understanding, the researcher carefully chose a population and sample that would enable the achievement of the research goal, which is to describe the improvements in students' grammar mastery through the implementation of problem-based learning method.

The focus of this study centers on the entire 7th- grade student body, encompassing a total 248 students, within SMPN 1Duapitue. To constitute the sample, a cluster random sampling technique was employed by the researcher.

This method of purposeful selection aimed to carefully choose participants who met specific criteria. Consequently, the outcome of this cluster random sampling strategy led to the selection of the initial class, 7C, characterized by

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bilingual students, for the role of the experimental group. Concurrently, the second class, 7B, also comprising bilingual students, was designated as the control group.

This deliberate approach to participant selection ensures a focused investigation into the effects of the study's variables while acknowledging the unique characteristics of the chosen classes.

The decision to employ cluster random sampling was driven by the English teacher's desire to enhance the grammar mastery of these specific classes. The 7B bilingual sample consisted of 30 students, and the 7C bilingual sample also consisted of 30 students. Consequently, the total sample size for this study amounts to 60 students.

By employing a cluster random sampling technique and focusing in these specific classes, the researcher aims to gain valuable insight into the effects of the problem-based learning method on students' grammar mastery. The selected sample represents a subset of the broader target population, allowing for a focused and detailed examination of the research question.

c. data collection techniques and instrument development

The collection of data for this research involved the administration of a structural test to the students. This test served as a means to measure the students' competence and fulfill the research objectives. It encompassed both a pre-test and a post-test, which were administered to both the experimental class and control class.

The pre-test served as a baseline measurement to determine the intial level of grammar proficiency in both the experimental and control classes. It consisted of multiple-choice questions that assessed the students' understanding of simple present tense.

Following the pre-test, the Problem Based Learning (PBL) method was applied to the experimental class, while the control class received instruction through the conventional teaching approach. After the completion of the instructional period, the post-test was administered to measure the students' grammar mastery in simple present tense.

The post-test, similar to the pre-test, comprised multiple-choice questions to evaluate the students' comprehension and application of the targeted grammatical structure.

By conducting both the pre-test and post-test, the study aimed to analyze the effectiveness of the Problem- Based Learning method compared to the Conventional Teaching approach in enhancing the students' grammar mastery in simple present tense. The use of multiple-choice question in both assessments allowed for the measurement of students' knowledge and ability to select the correct grammatical forms and structures.

Through the pre-test and post-test methodology, the study sought to determine the impact of the instructional methods on the students' grammar

proficiency, providing valuable insights into the effectiveness of the Problem Based Learning method in comparison to traditional Conventional teaching.

An instrument is a tool to collect data in research. the instruments used for data collection are grammar test and questionnaires.

Grammar Test The researcher used a grammar test form to investigate the students' grammar mastery in this research. Researcher instrument are equipment or facilities employed by the researcher to gather research data. The researcher poses inquiries pertaining to the instructional materials offered, specifically the simple present tense. The examination consists of 40 multiple-choice questions.

d. data analysis techniques. Please use descriptive paragraphs.

The data analysis technique involves a process of understanding and interpreting the data. After gathering the data, the next step of the research is to analyze the information. In this research, the data analysis techniques comprise these following:

a. Scoring students answer

Score + students correct answer X 100

Total number of items

b. Categorizing the students' score based on the following classification:

3.1 Table Classification: The students' grammar scores

Value Range (Score)	Categories
89-100	Excellent
79-88	Good
66-78	Fair
46-65	Poor
0-45	Very Poor

Nur Aulia (2023)

c. Calculating the Mean score, Standard Deviation, and t-test value

The researcher used Statistical Package for Social Science (SPSS) program to find out students' mean score, standard deviation and t-test value between pre-test and post-test.

3. Result

The data collected for this research comprises the pre-test and post-test scores of the experimental and control groups. These scores reflect the students' performance in the assessment of their grammar mastery in Simple Present Tense. The scores are numerical representations of the students' proficiency level and serve as the basis for analyzing the impact of the Problem Based Learning method on their learning outcomes.

In the data description process, various statistical measures utilized to summarize and interpret the data. These measures may include measure of central tendency, such as the mean, median, and mode, which provide insights into the

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typical or representative value of the data. Additionally, measure of dispersion, such as the range, variability or spread of the scores within each group.

Furthermore, graphical representations, such as histograms or box plots, may be employed to visualize the distribution and identify any potential outliers or anomalies. This visualization can enhance the understanding of the data and facilitate comparisons between the experimental and control groups.

By conducting a comparisons data description, this study aims to provide a clear and concise presentation of the collected data, enabling a deeper analysis of the effects of the problem-based learning method on students' grammar mastery in simple present tense.

This data description will serve as a foundation for further statistical analysis and interpretation, leading to meaningful conclusions and insights.

Table 4.1 results of descriptive statistical analysis of the pretest and posttest scores of the experimental and control classes

No	Statistic	Pretest experimental	Posttest Eksperimental	Pretest control	Posttest control
1	Mean	69.87	87.90	73.73	87.63
2	Median	70.00	90.00	75.00	88.00
3	Mode	75	85	70	86
4	Std. Deviation	7.468	8.070	7.786	8.092
5	Range	22	27	25	25
6	Minimum	58	73	60	75
7	Maximum	80	100	85	100

Based on the results of descriptive statistical analysis of the pretest and posttest scores of the experimental and control classes, it was found that there was an increase in student learning outcomes in both groups after the implementation of the learning process. In the experimental class, the average score (mean) increased from 69.87 in the pretest to 87.90 in the posttest.

This increase indicates that the treatment given to the experimental class contributed positively to improving student learning outcomes. This is also supported by an increase in the median score from 70.00 to 90.00, indicating that most students achieved improved learning outcomes after the treatment. In the control class, the average score increased from 73.73 in the pretest to 87.63 in the posttest, with the median score increasing from 75.00 to 88.00.

Although the control class also showed an increase in learning outcomes, the increase in the average score in the experimental class was relatively higher, thus, it can be assumed that the treatment applied to the experimental class had a more optimal effect than the learning in the control class.

Judging from the level of data distribution, the standard deviation value in the experimental class increased from 7.468 to 8.070, while in the control class it increased from 7.786 to 8.092. This indicates a variation in student scores on the posttest results, but still within reasonable limits. The range of scores in the experimental class increased from 22 to 27, while in the control class it remained at 25 in both the pretest and posttest. The minimum and maximum scores in both classes also increased, indicating an improvement in overall student learning outcomes after the learning process was implemented.

a. Classification of Grammar Pretest of Experimental and Control Class

Table 4.2 Pretest of Experimental and Control class

No	Classification	Score	Grammar			
			Experimental		Control	
			Frequency	Percent	Frequency	Percent
1	**Excellent**	89-100	-	-	-	-
2	Good	79-88	4	13,3	11	36.7
3	Fair	66-78	14	46,7	12	40.0
4	Poor	46-65	12	40.0	7	23.3
5	Very poor	0-46	-	-	-	-
Total			30	100.0	30	100.0

The table shows the distribution of students' grammar skills during the pre-test, divided into five categories: Excellent, Good, Fair, Poor, and Very Poor. Data are presented in the form of frequencies and percentages for each group: the experimental group and the control group.

In the experimental group, the majority of students fell into the Fair category (66–78), with 14 students (46.7%). Furthermore, the Poor category (46–65) was occupied by 12 students (40.0%), while only 4 students (13.3%) fell into the good category (79–88). No students fell into the Excellent (89–100) or Very Poor (0–46) categories. These results indicate that students' initial grammar skills in the experimental group tended to be moderate to low before the treatment was administered.

Meanwhile, in the control group, the majority of students also fell into the Fair category, with 12 students (40.0%). The Good category was occupied by 11 students (36.7%), and the Poor category by 7 students (23.3%). Similar to the experimental group, no students achieved the Excellent or Very Poor category. This indicates that the initial grammar skills of students in the control group were relatively comparable to those of the experimental group.

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b. Classification of grammar Posttest of Experimental and Control Class

Table 4.3 Posttest of Experimental and Control class

No	Classification	Score	Grammar			
			Experimental		Control	
			Frequency	Percent	Frequency	Percent
1	**Excellent**	89-100	16	53.3	13	43.3
2	Good	79-88	8	26.7	11	36.7
3	Fair	66-78	6	20.0	6	20.0
4	Poor	46-65	-	-	-	-
5	Very poor	0-46	-	-	-	-
Total			30	100.0	30	100.0

The table shows the distribution of students' grammar test results, classified into five categories: Excellent, Good, Fair, Poor, and Very Poor. Data are presented in the form of frequencies and percentages for each group: the experimental group and the control group, with 30 students in each experimental interval.

In the experimental group, the majority of students fell into the Excellent category (89–100), with 16 students (53.3%). Furthermore, 8 students (26.7%) fell into the Good category (79–88), and 6 students (20.0%) fell into the Fair category (66–78). No students fell into the Poor or Very Poor categories. These results indicate that students' grammar skills in the experimental group were at a high level, with the majority achieving the Very Good category after the treatment.

Meanwhile, in the control group, the Excellent category also dominated with 13 students (43.3%), followed by 11 students (36.7%) in the Good category, and 6 students (20.0%). Similar to the experimental group, no students fell into the Poor or Very Poor categories. Although the control group's results were quite good, the percentage of students achieving the Excellent category was still lower than in the experimental group.

c. Data Analysis

1. Normality Text

The normality test was performed to evaluate the distribution of data obtained from the two classes and determine if it adhered to a normal distribution. This step was essential before conducting the t-test, as it helped determine whether the data followed a normal curve. To assess the normality, the researcher employed the Kolmogorov- Smirnov and, well-known statistical tests for assessing normality. These tests were executed using SPSS software. The specific results of the normality test are presented below:

a. Pre-test

Table 4.4 Normality text pretest control and experimental class

No	Kelompok	Sign	α	Keterangan
1	Pretest Control	0,06	0,05	Data berdistribusi normal
2	Pretest Eksperimental	0,67		

The table presents the results of the significance test (data normality) on the pre-test scores for both the control and experimental groups. This test was conducted to determine whether the pre-test data were normally distributed, as a requirement for using interval parametric statistical tests.

Based on the table, the significance value (Sig.) for the control group was 0.06, while the α (alpha) value used in this study was 0.05. Because the significance value is greater than the alpha value (0.06 > 0.05), it can be concluded that the control group's pre-test data were normally distributed.

Meanwhile, for the experimental group, the significance value obtained was 0.67 with the same alpha value, 0.05. This significance value is also greater than alpha (0.67 > 0.05), indicating that the experimental group's pre-test data were normally distributed.

b. Post-test

Table 4.5 Normality text posttest control and experimental class

No	Kelompok	Sign	α	Keterangan
1	Posttest Control	0, 200	0,05	Data berdistribusi normal
2	Posttest Eksperimental	0,164		

The table presents the results of the post-test data normality test for the control and experimental groups. This normality test aims to determine whether the post-test data are normally distributed, as a prerequisite for using parametric statistical tests.

According to the table, the significance value (Sig.) for the control group is 0.200, with an α (alpha) value set at 0.05. Because the significance value is greater than the alpha value (0.200 > 0.05), it can be concluded that the control group's post-test data is normally distributed.

Furthermore, for the experimental group, the significance value obtained is 0.164 with the same alpha value, 0.05. This significance value is also greater than alpha (0.164 > 0.05), so the experimental group's post-test data is normally distributed.

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2. Homogeneity Test

The homogeneity test is a statistical procedure used to evaluate whether two or more samples come from population with equal variances. After conducting the normality test, the researcher proceeded to perform the homogeneity test to assess the similarity of the samples between the two classes.

In this study, the homogeneity test was conducted using the Levene statistic test. This test compares the variances of the samples and determines whether they are statistically different. The significance level obtained from the test is then used to determine whether the samples can be considered homogeneous. By conducting the homogeneity test, the researcher aimed to assess whether the samples from the experimental and control classes exhibit similar variances. This information is crucial for ensuring the validity of subsequent statistical analyses and drawing accurate conclusions based on the data.

The researcher focused on analyzing the significance data based on the mean to determine the homogeneity of the samples. The specific findings of the homogeneity test are as follows:

a. Control Class

Table 4.6 Homogeneity text control class

No	Kelompok	Sign	α	Keterangan
1	Control Class Result	968	0,05	Data berdistribusi normal

Based on the results of the data normality test in the control class, a significance value of 0.968 was obtained with a significance level of α = 0.05. This significance value is greater than the α value (0.968 > 0.05), so it can be concluded that the research data in the control class is normally distributed. By fulfilling this data normality assumption, the data in the control class meets the requirements for further statistical analysis using parametric tests. These results indicate that the distribution of student learning outcomes data in the control class does not deviate from the normal distribution, so that the comparative analysis carried out in the next stage can be statistically justified.

b. Experimental class

4.7 Homogeneity text experimental class

No	Kelompok	Sign	α	Keterangan
1	Experimental Class Result	719	0,05	Data berdistribusi normal

Based on the results of the data normality test in the experimental class, a significance value of 0.719 was obtained with a significance level of α = 0.05. This significance value is greater tha the α value (0.719 > 0.05), so it can be concluded that the research data in the experimental class is normally distributed. Thus, the data meets the assumption of normality and is suitable for analysis using parametric statistical tests in the next analysis stage.

These results indicate that the distribution of student learning outcomes data in the experimental class does not deviate from the normal distribution, so the results of the hypothesis test can be statistically accounted for.

3. Hypothesis Testing

In This study, hypothesis testing was conducted to determine whether there was a significant different between the pre-test and post-test scores after implementing the Problem-Based Learning (PBL) method. The statistical software SPSS 25 was utilized for this purpose, with the mean scores of the pre-test and post-test serving as the basis for comparison and calculation. To establish the significance level, a predetermined alpha value of 0.05 or 5% was chosen as the threshold for accepting or rejecting the null hypothesis. The results of the t-test, which assesses the significance of mean differences between two groups, are presented in the table below:

a. Experimental class

Table 4.8 Group Statistics of experimental class

No	Kelompok	t-hitung	t-tabel	Sign	A	Keterangan
1	Pretest-Posttest experimental	-19.359	1.699	0,719	0,05	Data kedua kelompok homogen

Based on the t-test results table on the pretest and posttest scores in the experimental class, the calculated t-value was −19.359 with a t-table value of 1.699 at a significance level of α = 0.05. The absolute value of the calculated t-value was greater than the t-table (−19.359 > 1.699), which indicated that there was a significant difference between the pretest and posttest scores in the experimental class. In addition, the significance value obtained was 0.719, which was greater than α (0.719 > 0.05), indicating that the data of the two groups were homogeneous.

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b. Control class

Table 4.9 Group Statistics of control class

No	Kelompok	t-hitung	t-tabel	Sign	A	Keterangan
1	Pretest-Posttest control class	20.482	1.699	0,719	0,05	Data kedua kelompok homogen

Based on the table, the calculated t-value was 20.482, while the t-table was 1.699 at a significance level of α = 0.05. In addition, the significance value (Sig.) was recorded at 0.719, which is greater than 0.05. This indicates that there is no significant difference in variance between the pretest and posttest data in the control class.

4. N-Gain

a. Experiment and Control class

Based on the N-Gain calculation results table, it can be seen that both the experimental and control classes experienced an increase in scores from pretest to posttest. However, the level of improvement in the experimental class was generally higher than that in the control class (n-gain).

In the experimental class, most N-Gain index scores were in the medium to high category (≥ 0.5), with some students even achieving an N-Gain of 1.0, indicating a very significant increase in learning outcomes. This indicates that the treatment or learning model implemented in the experimental class was effective in improving student understanding.

Meanwhile, in the control class, N-Gain scores tended to be in the low to medium category (around 0.3–0.6), although some students also achieved high scores. However, the number and consistency were lower than in the experimental class.

Table 4.10 N-gain

	Experimental			Control		
No	Pretest	Posttest	Indes gain	Pretest	Posttest	Indes gain
1	68	95	0.8	80	95	0.8
2	65	90	0.7	70	83	0.4
3	80	100	1.0	83	93	0.6
4	65	85	0.6	75	88	0.5
5	75	95	0.8	75	90	0.6
6	70	85	0.5	65	80	0.4

7	73	85	0.5	83	90	0.4
8	78	95	0.8	83	100	1.0
9	75	100	1.0	85	93	0.5
10	60	85	0.6	75	88	0.5
11	75	93	0.7	75	90	0.6
12	70	90	0.7	70	85	0.5
13	80	95	0.8	85	95	0.7
14	75	90	0.6	70	85	0.5
15	63	90	0.7	70	85	0.5
16	65	75	0.3	83	88	0.3
17	78	93	0.7	80	100	1.0
18	75	85	0.4	70	85	0.5
19	70	83	0.4	60	75	0.4
20	60	83	0.6	75	85	0.4
21	58	78	0.5	60	75	0.4
22	73	90	0.6	75	90	0.6
23	58	80	0.5	65	78	0.4
24	78	93	0.7	80	100	1.0
25	80	100	1.0	80	100	1.0
26	80	100	1.0	70	85	0.5
27	63	78	0.4	80	100	1.0
2	5	78	0.	6	75	0.

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8	8		5	0		4
29	65	75	0.3	65	75	0.3
30	63	73	0.3	65	78	0.4

5. Test of Effect Size

In order to determine the effect size level of this research, the following formula was utilized:

Pooled Standard Deviation = (Standard Deviation of group A + Standard Deviation of groups B) /2

d = (Mean score of group A – Mean score of group B) / Pooled Standard Deviation

The mean score of group A (experimental class) was 87.90, and the mean score of group b (control class) was 87.63. The Standard deviation of group A was 8.070 and the standard deviation of group B was 8.092. Using these values, the pooled standard deviation was calculated as (8.070 + 8.092) / 2) = 12.116. The effect size (d) was then calculated as (8.070-8.092) / 12.116 = 80.66

According to Cohen's criteria for effect size, which categorizes the magnitude of the effect, the results can be interpreted as follows:

- 0 to 0.2: Weak effect
- 0.21 to 0.5: Modest effect
- 0.51 to 1.00: Moderate effect
- > 1.00: Strong effect.

Based on these criteria, with an effect size of 80.66, it can be concluded that the study demonstrated a good effect. The PBL method had a significant impact on the students' simple present tense grammar mastery at SMPN 1 Duapitue Sidrap.

4. Discussion

This section discusses the research results presented in the findings section by linking them to relevant theories and previous research findings. The discussion focuses the main aspects, namely: the effectiveness of implementing Problem-Based Learning (PBL) in improving students' mastery of English grammar, especially the simple present tense.

The findings of this study indicate that both the experimental and control classes experienced improvement in students' grammar mastery as reflected in the pre-test and post-test results. However, the improvement in the experimental class was considerably greater than that in the control class. The mean score of the experimental class increased from 69.87 in the pre-test to 87.90 in the post-test, whereas the control class showed a smaller increase from 73.73 to 87.63. This difference suggests that the application of the Problem-Based Learning method contributed more effectively to the enhancement of students' mastery of the Simple

Present Tense compared to conventional teaching methods.

The results of the Paired Samples test further confirmed this conclusion. The obtained significance value (Sig. 2-tailed = 0.000) was lower than the established significance level of 0.05. This finding indicates a statistically significant difference between the post-test scores of the experimental and control classes. Consequently, the null hypothesis was rejected, and the alternative hypothesis was accepted, demonstrating that the implementation of the PBL method had a significant effect on students' grammar mastery. This result aligns with constructivist learning theory, which emphasizes that knowledge is more effectively acquired when learners actively engage in problem-solving processes.

Moreover, the calculation of effect size yielded a Cohen's d value of 80.66, which is categorized as a strong effect. This result indicates that the impact of the Problem-Based Learning method was not only statistically significant but also educationally meaningful. A strong effect size suggests that PBL substantially enhances students' grammar mastery, particularly in understanding and applying the Simple Present Tense. This finding supports previous research which reports that PBL promotes deeper cognitive engagement, critical thinking skills, and long-term retention of learning materials.

The classification of grammar achievement further supports the effectiveness of the PBL method. In the experimental class, a substantial number of students reached the "Excellent" and "Good" categories in the post-test, while no students remained in the "Fair" or "Poor" categories. In contrast, although the control class showed improvement, the majority of students remained in the "Good" category with fewer students achieving the "Excellent" level. This distribution indicates that PBL not only improves average achievement but also facilitates higher levels of grammar mastery among students.

The findings of this study indicate that the implementation of Problem-Based Learning (PBL) significantly improved the grammar mastery of first-grade students at SMPN 1 Duapitue Sidrap. This improvement was evidenced by the higher post-test scores achieved by the experimental class compared to the control class. Students taught using PBL demonstrated a better understanding and application of the simple present tense than students who received conventional instruction.

This finding is consistent with the theoretical perspective of Problem-Based Learning proposed by Arends (2012), which emphasizes student-centered learning, contextual problem-solving, and active engagement in the learning process. Through the stages of PBL—problem orientation, student organization, guiding investigations, developing and presenting work, and evaluating the problem-solving process—students are encouraged to actively analyze grammar problems embedded in real-life contexts. This active engagement allows students to internalize grammar rules more effectively than through traditional teacher-centered methods.

From the perspective of grammar acquisition theory, these results support

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the views of Styaningrum (2019) and Ellis (2006), who stated that grammar acquisition is achieved when learners are able not only to understand grammatical rules but also to apply them meaningfully in context. In this study, PBL provided students with opportunities to use the simple present tense in problem-solving situations related to everyday activities, habits, and common facts. This contextual use helped students move beyond rote memorization to functional understanding, which is essential for grammar acquisition.

Furthermore, the improvement in students' grammar acquisition aligns with the constructivist learning theory underlying PBL, as proposed by Dewey. Learning occurs when students actively construct knowledge through experience and reflection. In PBL classes, students build their understanding of grammatical structures by identifying problems, discussing them collaboratively, and testing possible solutions. This process enhances their analytical thinking and strengthens their grammar competence.

5. Conclusion

The conclusion focuses on the effectiveness of Problem-Based Learning (PBL) and students' perceptions of its implementation in teaching English grammar. Based on the discussion in Chapter IV, it can be concluded that Problem-Based Learning is effective in improving students' mastery of English grammar, particularly in the use of the simple present tense. The results showed that students in the experimental class taught using PBL achieved higher post-test scores than students in the control class taught using conventional methods. This significant difference indicates that PBL provides better learning outcomes. Therefore, the alternative hypothesis (H1) is accepted and the null hypothesis (H0) is rejected.

The effectiveness of PBL, as explained in Chapter IV, is related to how students learn through real-life, meaningful problems. During the learning process, students work in groups, discuss grammar problems, and practice using the simple present tense in everyday contexts. These activities help students understand grammar rules more clearly and apply them correctly.

Furthermore, the discussion in Chapter IV indicates that students have positive perceptions of the use of Problem-Based Learning. Most students found grammar learning through PBL more engaging and easier to understand. They also felt more motivated and confident in participating in class activities. This positive perception fostered a better learning environment and helped improve student learning outcomes.

In conclusion, based on the findings in Chapter IV, Problem-Based Learning (PBL) was not only effective in improving students' grammar mastery but also in fostering positive student perceptions of English grammar learning. This suggests that PBL is an appropriate teaching approach for junior high school students.

Based on the conclusions drawn from this study, several suggestions are proposed as follows.

a. For English Teachers

English teachers are encouraged to apply the Problem-Based Learning method as an alternative instructional strategy in teaching grammar, particularly the Simple Present Tense. Teachers should design contextual and meaningful problems that encourage active participation, critical thinking, and collaboration among students.

b. **For Students**

Students are advised to actively participate in problem-based learning activities, engage in group discussions, and take responsibility for solving given problems. Active involvement in PBL can enhance students' grammar mastery, critical thinking skills, and learning motivation.

c. For Schools

Schools are recommended to support the implementation of Problem Based Learning by providing adequate learning facilities, teaching resources, and professional development opportunities for teachers. Such support can optimize the effectiveness of PBL in classroom practice.

d. For Future Researchers

This study still has several limitations. So, based on these limitations, future researchers are advised to use a more robust experimental design with a larger and more diverse sample. Furthermore, future research could expand the scope of grammar material and extend the duration of the Problem-Based Learning implementation. The addition of productive assessment instruments and speaking skills, as well as the use of qualitative data, is also recommended for more comprehensive research results.

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