

THE EFFECTIVENESS OF PWIM IN TEACHING VOCABULARY TO SIXTH-GRADE STUDENTS AT SDN 4 BALANGNIPA

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Abstract

This study aims to test the effectiveness of the Picture Word Inductive Model (PWIM) in improving the English vocabulary mastery of sixth-grade A students at SD Negeri No. 4 Balangnipa. The research was motivated by the lack of vocabulary mastery among students due to the use of conventional learning models. A quantitative approach with a quasi-experimental design using a one-group pretest-posttest model was employed. The research sample consisted of 21 students. Data collection techniques included vocabulary tests, observation, questionnaires, and documentation. The data were analyzed using a paired sample t-test. The results showed a significant improvement in vocabulary mastery, as indicated by the increase in students' average scores from pre-test to post-test. Statistical analysis revealed a significance value of 0.000 ($p < 0.05$), indicating that the PWIM method was effective. Observational data also showed active student participation and positive responses toward the learning model. The PWIM approach, which integrates visual imagery and contextual learning, was proven to enhance students' engagement and retention of vocabulary. Based on these findings, it can be concluded that PWIM is an effective teaching model for improving English vocabulary mastery in elementary school students.

Keywords: *Picture Word Inductive Model (PWIM), vocabulary mastery, English language teaching*

Introduction

The shift from the 2013 Curriculum to the kurikulum merdeka (Independent Curriculum) creates new possibilities for English language learning in elementary schools that were not available before (Kinasih & Wijayanti, 2024). This requires teachers to adapt to the mandate of the Basic Law regarding English language learning, which will become a compulsory subject in elementary schools starting from the 2027/2028 academic year. This is in line with Article 33 of Permendikbudristek number 12 of 2024 which states that English language subjects at primary schools, madrasah ibtidaiyah, or other equivalent forms become optional subjects that can be organized based on the readiness of the Education Unit until the 2026/2027 school year and switch to compulsory subjects in the 2027/2028 school year (Menteri Pendidikan, Kebudayaan, 2024). This makes the implements of article 33 above require that teachers who teach in primary schools must at least master all English language skills.

English language skills at the primary school level can be divided into four categories, namely listening, speaking, reading, and writing. These four skills are supported by linguistic components such as vocabulary, grammar, and pronunciation, which are adapted to the theme to achieve learning objectives (Rofikoh et al., 2020). But it should be underlined that what should be a crucial concern as a foundation for mastering English skills to the fullest is the mastery of vocabulary from an early age. (Lightfoot, Cole, and Colle in Hijrahhyanti et al., 2023) argue that early English language education is crucial because children's brains exhibit high plasticity and flexibility at a young age. This period is marked by exceptional memory capacity, enabling children to efficiently absorb new information. Children's superior memory skills, compared to adults, make early English instruction an ideal starting point for foreign language acquisition. Vocabulary teaching is the most fundamental component of early English language learning. So the above can

be interpreted that children have better memory ability than adults, especially in terms of vocabulary. Therefore, English education in primary school is very important to help students' early acquisition of foreign language vocabulary.

Unfortunately, sixth-grade students at SD Negeri No. 4 Balangnipa are still lacking in English vocabulary knowledge. Based on the observation, this happens because the learning methods used still apply conventional models that are less effective in language teaching. Students were only directed to memorize English vocabulary without a meaningful learning context and also without understanding how to apply it in real situations. The conventional learning approach creates a learning atmosphere that does not support students' enthusiasm. As a consequence, students' mastery of English vocabulary is often limited to memorization, which is easily forgotten. Without a deep understanding, many students struggle to expand their vocabulary knowledge, so their learning potential cannot be optimized.

From these problems, researchers offer solutions to minimize the obstacles that occur in learning English vocabulary of sixth-grade students of SD Negeri No. 4 Balangnipa, especially in using models in teaching English. One of the models that can be applied to prevent these problems is using PWIM (Picture Word Inductive Model) vocabulary learning model because according to Marlin in (Marpaung, 2022), the Picture Word Inductive Model (PWIM) is more effective than conventional teaching methods in improving students' vocabulary knowledge. Similar research has been conducted by (Puspitasari et al., 2024) that this Picture Word Inductive Model (PWIM) teaching approach effectively enhances learners' lexical development through structured integration of imagery and language processing.

Learning can be considered effective if at least three out of four observed indicators are met (Cristiani, Pertiwi in Ardhana & Hanik, 2024). These indicators include: good implementation of learning through effective teaching methods and conducive learning environments; active student engagement during the learning process through participation in discussions and practical activities; achievement of student learning outcomes that meet academic standards; and positive responses from students reflecting satisfaction and learning success.

The Picture Word Inductive Model (PWIM) is an inquiry-based instructional strategy developed by Emily F. Calhoun in 1999 that utilizes pictures containing familiar objects and actions to help students acquire words from their listening and speaking vocabulary while developing reading and writing skills (Apriliana et al., 2024). This model combines visual aids with vocabulary instruction to create meaningful learning contexts, addressing the limitations of conventional memorization-based approaches.

Based on the effectiveness indicators above, the research in this case the use of PWIM will be aligned with these indicators, as it emphasizes active learning and student engagement which is essential for effective language acquisition. The model's focus on visual aids and contextualized learning helps fulfill these criteria, ultimately leading to improved vocabulary acquisition and student satisfaction in the learning process.

Previous research has demonstrated the effectiveness of PWIM in various contexts. Marpaung (2022) found that students taught using PWIM showed significant improvement in vocabulary mastery, with post-test scores increasing from 51.73 to 78.63 compared to conventional methods (51.63 to 60.83). Similarly, Cahyani et al., (2023) reported that PWIM had a significant positive impact on students' writing abilities, with the experimental group achieving higher mean scores (76.09) than the control group (72.25).

However, despite these promising results, a significant research gap exists in the application of PWIM specifically for vocabulary mastery among primary school students in the Indonesian context. The shift from the 2013 Curriculum to the Kurikulum Merdeka, which mandates English as a compulsory subject in elementary schools by the 2027/2028 academic year, underscores the

urgency for effective teaching strategies that enhance students' vocabulary acquisition from an early age. Existing studies on PWIM have predominantly focused on secondary education levels or writing skills, leaving a gap in its application for improving vocabulary mastery among primary school students, particularly in local contexts like SD Negeri No. 4 Balangnipa. The continued use of conventional memorization-based methods in such schools has proven ineffective, often failing to provide meaningful context or long-term retention for students. Given the cognitive advantages of young learners and the national policy shift, it becomes crucial to investigate and validate innovative, visually engaging approaches like PWIM that align with effective learning indicators and support the development of foundational language skills critical for future academic success. This research aims to address this gap by examining the effectiveness of PWIM in improving English vocabulary mastery among sixth-grade students, contributing novel insights into primary-level English language pedagogy in the Indonesian educational context.

Method

This study used a quantitative approach with a quasi-experimental method and a one-group pretest-posttest research design. The research subjects were all students of sixth-grade A of SD Negeri No. 4 Balangnipa as many as 21 people. Data collection techniques include tests, observations, questionnaires, and documentation.

Tests were given before and after the application of the PWIM model to measure the improvement of students' mastery of English vocabulary. The research instrument was an English vocabulary test question that included five assessment indicators: defining, reading, pronouncing, writing, and using vocabulary. The data were analyzed by paired sample t-test to determine the significance of the improvement in learning outcomes.

Observation was used to observe teachers' and students' involvement in the learning process, while a questionnaire was used to find out students' response to the use of PWIM. To find out how students felt about the use of the PWIM model in learning, the researchers used a questionnaire consisting of 10 simple statements. These statements were made to understand how engaged the students felt, how well they understood the vocabulary, how motivated they were, and whether they enjoyed the learning process. Each statement used a 4-point Likert scale, where students could choose from "strongly disagree" to "strongly agree." This approach helped the researchers see how students personally responded to the learning experience in a way that was easy for them to express.

The treatment procedure was conducted in four meetings with the implementation stages of the PWIM model which included picture presentation, object identification, word association, pronunciation, and writing.

In this study, the effectiveness of the PWIM model was evaluated through several indicators, including students' test results, observations of learning activities, and student responses. Effectiveness is a measure that indicates the extent to which predetermined goals or objectives have been achieved (Salam, 2022). It emphasizes the alignment between expected results and actual outcomes while considering the quality, quantity, and time dimensions (Hidayat in Setiawan & Casmiwati, 2024).

According to Setiawan and Maghfirah (2021), effectiveness refers to the comparison between the results that are expected and the actual results that are obtained. It reflects how far the learning objectives are achieved in accordance with what was planned.

Meanwhile, Ikhsan (2022) explains that effectiveness is a measure of the success or failure of an activity or process carried out. It focuses on how well a certain process or implementation achieves its intended outcomes and whether the desired goals are met through appropriate procedures.

Findings and Discussions

Findings

The findings of the effectiveness of the Picture Word Inductive Model (PWIM) in teaching vocabulary to sixth-grade A Students at SD Negeri No. 4 Balangnipa were analyzed based on four indicators of learning effectiveness namely: (1) learning implementation through observation of teacher teaching activities, (2) student learning activities, (3) student responses, and (4) achievement of student learning outcomes through tests.

Observation of Teacher Teaching Activities

Based on observations conducted during the implementation of the PWIM method, the teacher successfully executed all learning stages effectively. The teacher prepared familiar pictures for students, including classroom objects, fruits, animals, body parts, and family trees, which were displayed through a projector with clear and attractive presentations.

Throughout the learning process, the teacher provided English vocabulary lists along with pronunciation guides for each displayed image. The teacher began by asking students to identify the pictures in Indonesian first, then helped students connect objects in the pictures with appropriate English vocabulary.

The teacher also guided students to pronounce vocabulary correctly and spell the letters properly. As a closing activity, the teacher provided writing exercises for the vocabulary that had been learned in students' notebooks. Overall, the use of picture media was well implemented in the learning process.

Observation of Student Learning Activities

In terms of student participation, the majority of students showed good attention to the displayed pictures and appeared enthusiastic when the teacher introduced new images. Students actively took notes and repeated new vocabulary introduced by the teacher.

Most students could identify pictures correctly, although some students still required additional assistance. In connecting objects with English vocabulary, the majority of students were able to do so accurately, though a small number still needed further guidance.

During spelling and reading activities, students actively participated in group activities, however, some students still needed improvement in pronunciation. For writing ability, most students were able to write vocabulary with correct spelling, although some still made writing errors.

Generally, students actively participated in English vocabulary learning using picture media. However, additional guidance is still needed for some students, particularly in aspects of picture identification, connecting objects with vocabulary, and writing memorized words.

Student Response Questionnaire

To find out students' responses to learning with the PWIM method, a questionnaire was used which was given to students after the entire series of learning was completed. The questionnaire contains 10 statements using a 1-4 Likert scale (1 (strongly disagree), 2 (disagree), 3 (agree), 4 (strongly agree)). The following presents the results of the student response questionnaire:

Questionnaire Data

The following is the response data from 21 students to learning with the PWIM method with a Likert scale of 1-4:

Tabel 1. Questionnaire Data

No	Responden	P1	P2	P3	P4	P5	P6	P7	P8	P9	P10	Total
1	HA	4	3	4	4	3	4	3	4	3	4	36
2	MA	3	3	3	4	4	3	4	3	4	3	34
3	ANFU	4	4	3	3	4	3	3	4	3	4	35
4	AFI	3	4	4	3	3	4	4	3	4	3	35
5	MFR	4	3	3	4	3	3	4	3	3	4	34
6	MH	3	3	4	3	4	3	3	4	4	3	34
7	R	4	4	3	4	3	4	3	3	3	4	35
8	MAG	3	3	3	3	4	3	4	4	3	3	33
9	MRA	4	3	4	3	3	4	3	3	4	4	35
10	AAIA	3	4	3	4	3	3	4	3	3	3	33
11	AO	4	3	4	3	4	3	3	4	4	3	35
12	AAA	3	4	3	4	3	4	3	3	3	4	34
13	FDS	4	3	3	3	4	3	4	4	3	3	34
14	HZA	3	3	4	4	3	4	3	3	4	4	35
15	MK	4	4	3	3	4	3	4	3	3	3	34
16	NM	3	3	4	4	3	4	3	4	4	3	35
17	RF	4	4	3	3	4	3	4	3	3	4	35
18	SR	3	3	4	4	3	4	3	4	4	3	35
19	SNAA	4	4	3	3	4	3	4	3	3	4	35
20	SM	3	3	4	4	3	4	3	3	4	3	34
21	SA	4	4	3	3	4	3	4	4	3	4	36

Based on the table above, overall, students' responses to learning using the PWIM method fall into the “strongly agree” category with a scale of 4. No student gave a rating of “strongly disagree (1)” or “disagree (2)” on any of the question items.

Descriptive Statistical Analysis

Descriptive statistical analysis functions to describe or summarize data in an easily understandable form. The results of the questionnaire data processing using descriptive statistical analysis in this study are as follows:

Tabel 2. Descriptive Statistics

	N	Range	Minimum	Maximum	Sum	Mean		Std. Deviation	Varian
	Statistic	Statistic	Statistic	Statistic	Statistic	Statistic	Std. Error	Statistic	Statistic
Student response	21	3	33	36	726	34.57	.177	.811	.657

Valid N (listwise)	21								
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Source: SPSS version 25

Based on the table above, it can be concluded that the student responses show a high level of consistency, with a relatively tight clustering around the mean of 34.57. The small standard deviation (0.811) indicates that most responses fall close to the average score. With a minimum score of 33 and maximum of 36, the narrow range suggests that students generally provided similar answers. The low variance (0.657) further confirms the homogeneity of responses among the 21 participants. These statistics suggest that there is strong agreement or consistency in the student responses being measured in this study.

Student Learning Outcomes: Comparison of Pre-test and Post-test

To measure students' mastery of English vocabulary, a pre-test was conducted before the implementation of the PWIM method and a post-test after the implementation of the PWIM method. The following presents the data of the pre-test and post-test results.

Pre-test and Post-test Results

To assess the improvement in students' English vocabulary mastery, a pretest was conducted before the implementation of the PWIM model and a posttest afterward. The results showed that most students experienced an increase in their scores. The average pretest score was 7.81, while the average posttest score rose to 11.86. This indicates an average improvement of 4.05 points after the PWIM-based learning was applied. These results suggest that the PWIM model had a positive impact on the vocabulary mastery of sixth-grade A students at SD Negeri No. 4 Balangnipa.

To analyze further, it is necessary to perform statistical calculations such as to determine whether the improvement is statistically significant through the normality and homogeneity prerequisite tests and then hypothesis testing.

Normality Test

Normality test is a statistical method used to determine whether a sample of data comes from a population that has a normal distribution. Shapiro-Wilk test: More effective for small samples ($n < 50$). This test calculates a W statistic that indicates how close the data distribution is to a normal distribution.

Decision Basis for Normality Test:

- 1) If the significance value (Sig.) > 0.05 then the research data is normally distributed
- 2) If the significance value (Sig.) < 0.05 then the research data is not normally distributed.

Tabel 3. Tests of Normality

	Kolmogorov-Smirnov ^a			Shapiro-Wilk		
	Statistic	df	Sig.	Statistic	df	Sig.
Pretest	.152	21	.200*	.925	21	.110
Posttest	.162	21	.153	.946	21	.283

*. This is a lower bound of the true significance.

a. Lilliefors Significance Correction

Source: SPSS version 25

Based on the table above, it can be concluded that:

- 1) Based on the Shapiro-Wilk normality test, the sig value. Pretest $0.110 > 0.05$, then the Pretest data is normally distributed.
- 2) Based on the Shapiro-Wilk normality test the sig value. Posttest $0.283 > 0.05$, then the Posttest data is normally distributed.

Homogeneity Test

Homogeneity test is conducted to determine whether the data is homogeneous. In this study, the homogeneity test was used to evaluate whether the variance of the pretest and posttest data was homogeneous. The following presents the results of the homogeneity test in this study.

Decision Making Basis for Homogeneity Test:

- 1) If the significance value (Sig.) > 0.05 , it is said to be homogeneous
- 2) If the significance value (Sig.) < 0.05 , it is said not to be homogeneous.

Tabel 4. Test of Homogeneity of Variances

		Levene Statistic	df1	df2	Sig.
Hasil_Belajar	Based on Mean	.066	1	40	.798
	Based on Median	.038	1	40	.846
	Based on Median and with adjusted df	.038	1	39.412	.846
	Based on trimmed mean	.043	1	40	.837

Source: SPSS version 25

Based on the table above, it can be concluded that the Sig value. $0.837 > 0.05$, it can be concluded that the variance of the pretest and post-test data is homogeneously distributed.

Hypothesis Test (Paired Sample T-Test)

Hypothesis testing with paired sample t-test is a statistical method used to compare two paired sets of data, usually to determine the effectiveness of a treatment. This test is often used in studies that involve measurements before and after treatment, such as pretests and posttests. Generally, the significance level used is 0.05 (5%). If the p-value of the test is less than 0.05, the null hypothesis is rejected.

The hypothesis is a statement that contains two possibilities. The hypotheses of this study are:

- 1) H_0 : The use of Picture Word Inductive Model (PWIM) is not effective in improving the mastery of English vocabulary of sixth-grade students at SD Negeri No. 4 Balangnipa.
- 2) H_a : The use of Picture Word Inductive Model (PWIM) is effective in improving the mastery of English vocabulary of sixth-grade students at SD Negeri No. 4 Balangnipa.

Tabel 5. Paired Samples Test

		Paired Differences							
		Mea n	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference		t	df	Sig. (2- tailed)
					Lower	Upper			
Pair 1	Pretest – Posttest	- 3.952	.669	.146	-4.257	-3.648	- 27.07 2	2 0	.000

Source: SPSS version 25

Ho testing criteria: Reject Ho if Sig. < 0,05. Based on the output table of the t test results, the sig value = 0.000 is obtained, which means it is smaller than 0.05. Thus, Ho is rejected and Ha is accepted. So it can be concluded that the use of Picture Word Inductive Model (PWIM) is effective in improving the mastery of English vocabulary of sixth-grade students at SD Negeri No. 4 Balangnipa.

Discussions

The findings of this study reveal that the Picture Word Inductive Model (PWIM) had a significant effect on the English vocabulary mastery of sixth-grade students at SD Negeri No. 4 Balangnipa. This effectiveness is reflected in several aspects. First, the average score of students increased considerably from the pre-test (7.81) to the post-test (11.86), indicating a meaningful improvement in vocabulary acquisition. This improvement was further supported by the results of the paired sample t-test, which showed a significance value of 0.000 ($p < 0.05$). This statistically confirms that the application of PWIM contributed positively to student learning outcomes.

Beyond numerical scores, classroom observations also support the model's success. Teachers were able to implement each stage of the PWIM approach effectively, from introducing images, guiding pronunciation, to encouraging vocabulary writing. The use of familiar, context-rich pictures helped build students' understanding and made learning more engaging. In response, students actively participated, showed enthusiasm, and displayed increased confidence in identifying and using vocabulary. Although a few students still needed extra guidance, most were able to follow the lessons and complete the tasks with increased independence.

The student questionnaire results also provide strong support for the model's success. With an average score of 34.57 out of a possible 40 and a very small standard deviation (0.811), the data shows that students generally agreed or strongly agreed that PWIM made learning vocabulary easier, more enjoyable, and more motivating. The consistency of student responses strengthens the argument that the model had a broad and positive impact across the class.

These results align with the theoretical foundation of PWIM as an inquiry-based model that enhances vocabulary learning through visual and contextual engagement. It echoes the view of Calhoun (1999) and is in line with Bruner's learning theory, which highlights the importance of structured experiences and discovery learning in supporting memory and understanding. Furthermore, this study supports findings from previous research, such as Marpaung (2022), which similarly showed that PWIM leads to better outcomes than conventional methods. In this way, the findings not only reinforce the model's effectiveness in general but also contribute new insights about its applicability at the primary school level, especially in the context of the new Kurikulum Merdeka policy.

Conclusion

Based on the findings and the discussion, it can be concluded that the Picture Word Inductive Model (PWIM) is effective in enhancing the English vocabulary mastery of sixth-grade A students at SD Negeri No. 4 Balangnipa. The improvement in test scores, the high level of student engagement, and the positive responses all demonstrate that PWIM creates an effective and enjoyable learning environment.

This study confirms that using visuals and contextualized language learning, as offered by PWIM, can help overcome the limitations of traditional memorization-based teaching. In addition, it supports the readiness of students and teachers to adapt to the upcoming compulsory English subject in elementary schools as mandated by the Kurikulum Merdeka. Therefore, the PWIM model is highly recommended as an effective strategy for vocabulary instruction, especially at the elementary level where visual and participatory methods are essential to support language acquisition.

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