International Journal of Educational Research Excellence (IJERE)
https://ejournal.ipinternasional.com/index.php/ijere

Volume 06, Issue 01, January-June 2027
e-ISSN:2830-7933
DOI: 10.55299/ijerec.v6i1.2090

The Effect of "Word Bag" Learning Strategy on Vocabulary Improvement in Fifth-Grade Students

Nurul Mawaddah Hasibuan[1*)], Rahmat Kartolo[2)], Sutikno[3)],

[1, 2, 3,)] Universitas Muslim Nusantara Al-Washliyah, Indonesia

Correspondence Authors: nurulmawaddahhsb06@gmail.com

Article history: received MM DD, YEAR; revised MM DD, YEAR; accepted MM DD, YEAR

Abstract

Vocabulary mastery is a fundamental component of language acquisition, particularly during elementary school years when cognitive development facilitates rapid linguistic growth. This classroom action research investigated the effect of the "Word Bag" learning strategy on vocabulary improvement among 31 fifth-grade students at SDN 17 Rantau Selatan, Labuhan Batu Regency, during the 2025-2026 academic year. Employing the Kemmis and McTaggart action research model across two cycles, the study collected data through observation instruments assessing student and teacher activities, along with vocabulary mastery tests (pre and post tests) measuring students' abilities to write, pronounce, and translate vocabulary. The results demonstrated significant improvements across the intervention cycles. Student activity engagement increased from 87.50% in Cycle I to 91.25% in Cycle II, achieving a "Very Good" classification. Classical vocabulary mastery completeness rose dramatically from 19.35% (six of 31 students) in the pre-cycle phase to 51.61% (16 students) in Cycle I, and finally to 81.71% (25 students) in Cycle II, exceeding the 80% success indicator. Statistical analysis using paired t-tests and ANOVA[P1.1] with post-hoc tests confirmed significant differences between stages, validating the effectiveness of the strategy. These findings establish the "Word Bag" strategy as an evidence-based intervention for enhancing vocabulary acquisition in elementary education.

Keywords: learning strategy, vocabulary improvement, Indonesian language, classroom action research

I. INTRODUCTION

Language acquisition is one of the most complex cognitive processes in human development, with vocabulary serving as the foundational building block upon which all language competencies are constructed. Indonesian, the national language of the Republic of Indonesia, functions as the primary medium for formal and informal communication across the archipelago's diverse linguistic landscape. Mastering Indonesian vocabulary is not merely an academic requirement but constitutes an essential life skill that enables individuals to participate fully in educational, professional, and social domains. Within the context of elementary education, the development of vocabulary competence assumes particular significance, as this period coincides with what developmental psychologists identify as a critical window for language acquisition (Hariyanti et al., 2025).

Research in developmental psycholinguistics has consistently demonstrated that vocabulary knowledge is strongly correlated with reading comprehension, academic achievement, and cognitive development. According to the lexical quality hypothesis, the quality of word representations—including orthographic, phonological, and semantic information—determines the efficiency with which individuals process language and comprehend text. Children with rich vocabulary repertoires demonstrate superior performance across all academic subjects, as language serves as the primary medium through which knowledge is transmitted in educational settings. Conversely, vocabulary deficits create cascading disadvantages that compound over time, affecting not only language arts performance but also mathematics, science, and social studies, where comprehension of specialized terminology is essential (Maqbulin, 2022).

The importance of vocabulary instruction in Indonesian elementary schools is formally recognized in the National Curriculum, which establishes vocabulary development as a core competency at all grade levels. The Indonesian language curriculum for elementary schools encompasses four primary language skills listening, speaking, reading, and writingall of which are fundamentally dependent on vocabulary knowledge. The Ministry of Education, Culture, Research, and Technology has articulated specific vocabulary targets for each grade level, with the expectation that students will acquire progressively more sophisticated vocabulary repertoires as they advance through their schooling periot. For fifth-grade students, this includes the ability to comprehend and use age-appropriate academic vocabulary,

Volume 06, Issue 01, January-June 2027
e-ISSN:2830-7933
DOI: 10.55299/ijerec.v6i1.2090

understand figurative language, and employ precise word choices in written and oral communications (Kadar et al., 2023).

Despite these curricular expectations, Indonesian elementary educators face persistent challenges in vocabulary instruction in the classroom. Traditional pedagogical approaches often emphasize the rote memorization of word lists and dictionary definitions, which research has shown to be ineffective in developing deep vocabulary knowledge. Students may temporarily retain definitions for assessment purposes but fail to develop the flexible and contextualized understanding necessary for authentic language use. Furthermore, conventional vocabulary instruction frequently fails to address individual differences in learning styles, prior knowledge, and linguistic backgrounds, resulting in variable outcomes and leaving many students with insufficient vocabulary competence to meet grade-level expectations (Izatunnajah & Wijayatiningsih, 2025).

The "Word Bag" (Kantong Kata) learning strategy represents an innovative pedagogical approach designed to address these challenges through active, multisensory, and engaging vocabulary instruction. Rooted in constructivist learning theory and research on effective vocabulary pedagogy, this strategy involves the systematic collection, categorization, and practice of vocabulary using physical "bags" or containers that hold word cards. Students engage in authentic vocabulary learning experiences by manipulating word cards, categorizing words according to various criteria, and participating in interactive activities that promote deep processing and retention of vocabulary.

The theoretical foundations of the "Word Bag" strategy are drawn from multiple research traditions. From a cognitive perspective, this strategy aligns with dual-coding theory, which posits that information processed through both verbal and visual channels is more effectively encoded and retrieved. The physical manipulation of word cards provides a kinesthetic dimension that engages multiple sensory modalities, creating richer memory traces than verbal instruction alone. Additionally, the strategy incorporates spaced repetition principles, as students repeatedly encounter and practice vocabulary across multiple sessions, promoting the transfer of knowledge from working memory to long-term memory.

The effectiveness of this strategy is further supported by research on active learning and student engagement. When learners are actively involved in constructing meaning, organizing information, and applying knowledge, they develop a deeper understanding and more durable learning outcomes. The "Word Bag" strategy transforms vocabulary learning from a passive reception of definitions into an active, collaborative process in which students take ownership of their learning. The collaborative dimension, involving group discussion and peer teaching, leverages social learning mechanisms, enabling students to benefit from each other's knowledge, perspectives, and cognitive processes.

This study addresses a critical gap in Indonesian educational research by providing empirical evidence of

the effectiveness of an innovative vocabulary instruction strategy in the classroom. While the "Word Bag" strategy has been discussed in pedagogical literature and may be employed by progressive teachers, systematic investigation of its efficacy remains limited. By implementing this strategy through a classroom action research methodology, this study offers practical insights for educators seeking to enhance vocabulary instruction, contributing to the evidence base for pedagogical decision-making in Indonesian elementary schools (Botes et al., 2025).

The significance of this study extends beyond its immediate context to address broader issues in Indonesian language education. Indonesia faces substantial challenges in developing students' literacy competencies, as evidenced by national and international assessments. The Programme for International Student Assessment (PISA) and the Indonesian National Assessment (Asesmen Nasional) consistently identifi literacy as an area requiring significant improvement. Interventions that effectively enhance vocabulary knowledge can help address these systemic challenges by building a stronger foundation for reading comprehension and written expression.

Furthermore, this study contributes to the advancement of classroom action research methodology in Indonesian educational contexts. Action research, which involves teachers investigating their own practice to improve teaching and learning, has been promoted by Indonesian educational authorities as a means of fostering professional development and improving schools. This study provides a detailed example of how action research can be employed to evaluate and refine pedagogical strategies, thereby offering a model for other educators and researchers..

II. METHODS

This study employed a Classroom Action Research (CAR) design following the Kemmis and McTaggart model, which encompasses four stages per cycle: planning, implementation, observation and reflection. The decision to employ the CAR methodology was informed by the study's focus on improving classroom practices through systematic investigation and intervention. The CAR is particularly appropriate for this research context because it enables the examination of the "Word Bag" strategy in authentic learning conditions, allowing for iterative refinement based on observed outcomes and participant feedback.

The research design comprised two intervention cycles, each consisting of two instructional sessions. The first session focused on introducing vocabulary through the "Word Bag" strategy, while the second session provided reinforcement and assessment. This two-session structure enabled the researcher to observe student engagement during the initial

Volume 06, Issue 01, January-June 2027
e-ISSN:2830-7933
DOI: 10.55299/ijerec.v6i1.2090

strategy implementation, identify challenges or areas for improvement, and make necessary adjustments for subsequent sessions. The cyclical nature of the design facilitated the progressive refinement of the intervention, with insights from earlier cycles informing modifications in later cycles.

The study was conducted at SDN 17 Rantau Selatan, an elementary school in Labuhan Batu Regency, North Sumatra Province, Indonesia. The school serves a diverse student population from the surrounding community, with educational facilities that support the implementation of innovative teaching strategies. The research was conducted during the even semester of the 2025-2026 academic year, with activities spanning approximately two months from the initial observation to the final data collection.

The participants comprised 31 fifth-grade students enrolled in a single class at the school. The class included 18 male and 13 female students, reflecting the typical gender distribution in Indonesian elementary school classrooms. The students ages ranged from 10 to 11 years, corresponding to the expected age range for fifth grade. The participants represented a range of academic abilities, family backgrounds, and linguistic experiences, providing a representative sample for investigating the effectiveness of vocabulary instruction in a typical Indonesian elementary classroom.

Table 1. Participant Demographic Characteristics

Characteristic	Category	Number	Percentage
Gender	Male	18	58.06%
	Female	13	41.94%
Age	10 years	19	61.29%
	11 years	12	38.71%
Academic Ability	High	8	25.81%
	Medium	15	48.39%
	Low	8	25.81%

Data collection employed three primary instruments: observation sheets, vocabulary mastery tests, and documentation tools. The observation instrument assessed both student engagement and teacher implementation fidelity during the "Word Bag" strategy sessions. Student observations focused on 10 aspects of participation, including attention to teacher explanations, group organization, task completion, and collaboration. Teacher observations assessed 11 aspects of instructional delivery, including material preparation, strategy explanation, guidance provision, and feedback quality. Each aspect was rated on a four-point scale corresponding to developmental categories: BB (Belum Berkembang/Not Yet Developing), MB (Mulai Berkembang/Beginning to Develop), BSH (Berkembang Sesuai Harapan/Developing as Expected), and BSB (Berkembang Sangat Baik/Developing Very Well).

Vocabulary mastery tests were administered in three stages: pre-cycle (baseline assessment prior to the intervention), post-cycle I (assessment following the completion of the first intervention cycle), and post-cycle II (assessment following the completion of the second intervention cycle). Each test assessed students' abilities in three vocabulary dimensions: writing (spelling accuracy and handwriting), pronunciation (articulation clarity), and translation (meaning identification). The tests included both written and oral components, with students required to write vocabulary items, pronounce words correctly, and provide definitions or translations of the words.

Table 2 presents the vocabulary test blueprint and the scoring criteria.

Table 2. Vocabulary Test Blueprint and Scoring Criteria

No.	Assessed Aspect	Measurement Technique	Scoring Criteria
1	Writing vocabulary	Written test	Correct spelling of 10 vocabulary words

Volume 06, Issue 01, January-June 2027
e-ISSN:2830-7933
DOI: 10.55299/ijerec.v6i1.2090

No.	Assessed Aspect	Measurement Technique	Scoring Criteria
2	Translating vocabulary	Written test	Accurate meaning for 10 vocabulary words
3	Pronouncing vocabulary	Oral test	Clear pronunciation of 10 vocabulary words
4	Spelling vocabulary	Oral test	Correct letter identification

The "Word Bag" learning strategy intervention was implemented across two cycles, following the Kemmis and McTaggart action research protocol. Prior to Cycle I implementation, the researcher conducted preliminary observations to document baseline conditions and identify specific vocabulary learning challenges faced by participating students. Baseline data included initial vocabulary test scores, observations of typical instructional practices, and identification of students experiencing particular difficulty with vocabulary learning.

Cycle I Implementation

Cycle I consisted of the planning, action, observation, and reflection stages. During the planning phase, the researcher collaborated with the classroom teacher to develop lesson plans aligned with the school curriculum and appropriate for the "Word Bag" strategy. Instructional materials were prepared, including vocabulary cards, category bags, and worksheets. The vocabulary selected for instruction included 20 words relevant to students' academic needs and current learning themes.

The action phase implemented the "Word Bag" strategy across two sessions. Each session followed a structured sequence:

The opening activities (approximately 10 minutes) included greeting students, conducting an opening prayer, providing motivational remarks, and establishing the learning context through a warm-up activity connecting to previous learning. The teacher clearly articulated the learning objectives to focus students' attention on vocabulary development outcomes.

The core activities (approximately 50 minutes) implemented the "Word Bag" strategy through several steps. First, the teacher introduced the target vocabulary through a combination of direct instruction and contextual examples. Students observed word cards displayed in the classroom, listened to the correct pronunciations, and discussed meanings in their groups. Second, the teacher explained the "Word Bag" strategy procedures, including how to categorize word cards, how to interact with the bags, and expected participation behaviors.

Third, students were organized into heterogeneous groups of to 4-5 members to promote peer learning and collaboration. Each group received a set of word cards and category bags labeled with word types (nouns, verbs, and adjectives). Fourth, the groups worked collaboratively to discuss each word's appropriate category, with students supporting one another's understanding through explanation and negotiation. Fifth, groups took turns approaching the classroom's category bags, presenting their categorization decisions, and depositing word cards while orally articulating the word and its category.

Sixth, the teacher provided ongoing feedback and corrections, addressing categorization errors, pronunciation difficulties, and misunderstandings. This interactive feedback process was designed to support learning while maintaining the engagement of students. Seventh, the class reviewed all the categorized words together, consolidating learning through whole-class discussion and clarification. The teacher highlighted common challenges and reinforced the correct understanding.

The closing activities (approximately 10 minutes) included summarizing the learning outcomes, providing encouragement and praise for student participation, and conducting a brief assessment of vocabulary recall. The session concluded with a prayer and dismissal.

Following each session, observational data were collected using structured observation instruments. The researcher documented the students engagement levels, participation patterns, group dynamics, and difficulties encountered. Teacher implementation fidelity was assessed through systematic observation.

The reflection phase involved the analysis of Cycle I data to identify strengths, weaknesses, and areas requiring improvement. The findings were discussed with the classroom teacher, and modifications were planned for Cycle II based on this reflective analysis.

Cycle II Implementation

Cycle II followed the same overall structure as Cycle I but incorporated refinements based on the reflections from Cycl I Specifically, Cycle II included: (1) more intensive orientation to the strategy for students who had experienced

Volume 06, Issue 01, January-June 2027
e-ISSN:2830-7933
DOI: 10.55299/ijerec.v6i1.2090

difficulty(2) additional vocabulary modeling and practice before independent work (3) enhanced monitoring of group processes to ensure participation equity and (4) increased individualized support for struggling students.

Data Analysis

Data analysis employed both qualitative and quantitative approaches to analyze the data. Qualitative data from observations and reflections were analyzed using thematic analysis to identify patterns in student engagement, learning processes, and implementation challenges. Quantitative data from the vocabulary tests were analyzed using descriptive and inferential statistics.

Descriptive statistics included the calculation of mean scores, standard deviations, and percentage scores for each assessment stage. Vocabulary mastery was classified according to the criteria established in Table 3.

Table 3. Vocabulary Mastery Classification Criteria

Percentage Score	Category	Interpretation
76%-100%	Very Good	BSB (Developing Very Well)
51%-75%	Good	BSH (Developing as Expected)
26%-50%	Fair	MB (Beginning to Develop)
0%-25%	Poor	BB (Not Yet Developing)

Classical completeness was calculated as the percentage of students who achieved the minimum mastery criterion. The minimum mastery score was set at 80% of the maximum points; with a maximum test score of 40, the mastery criterion was 32 points.

Inferential statistical analysis employed paired-sample t-tests to compare the mean scores between adjacent stages (pre-cycle vs. Cycle I; Cycle I vs. Cycle II). Analysis of variance (ANOVA) with repeated measures was used to test for significant differences across all three stages of the study. Where ANOVA indicated significant overall differences, post-hoc testing was conducted to identify specific stage comparisons with significant differences. All statistical analyses were conducted using the appropriate software with a significance level of $\alpha = 0.05$.

The study defined two primary success criteria: (1) student engagement reaching a "Very Good" classification (at least 76% of the maximum engagement score), and (2) vocabulary mastery classical completeness reaching at least 80% of students achieving the minimum mastery criterion. These criteria were established in alignment with Indonesian educational standards and provided clear benchmarks for evaluating the effectiveness of the intervention.

III. RESULTS AND DISCUSSION

Observation of student activity during the implementation of the "Word Bag" learning strategy revealed substantial improvement across intervention cycles. As summarized in Table 4, student engagement increased from 87.50% in Cycle I to 91.25% in Cycle II. Both percentages fall within the "Very Good" (BSB) classification (76%-100%), indicating high levels of active participation and engagement. The improvement from Cycle I to Cycle II demonstrates that the students became more comfortable with the strategy over time and participated more enthusiastically in learning activities.

Table 4. Student Activity Engagement Summary.

Aspect	Cycle I	Cycle II
Activity Percentage	87.50%	91.25%
Classification	Very Good (BSB)	Very Good (BSB)

Detailed observation data indicated particularly strong engagement in several aspects of the "Word Bag" strategy. Students demonstrated high levels of collaboration during group work, with group members actively discussing the

Volume 06, Issue 01, January-June 2027
e-ISSN:2830-7933
DOI: 10.55299/ijerec.v6i1.2090

meanings and categories of word. The physical manipulation of word cards and category bags appeared to maintain attention and interest over
extended periods. Students showed particular enthusiasm for presenting their categorization decisions to the class, suggesting that the public performance component of the strategy served as a motivating factor for them.
The improvement from Cycle I to Cycle II suggests several important processes were involved. First, students' increasing familiarity with the strategy enabled more efficient participation, reducing the time spent on procedural matters and allowing greater focus on learning content. Second, the modeling and practice provided in Cycle I built students' confidence, enabling more active participation in Cycle II. Third, the refinements made by the teachers based on the Cycle I observations resulted in more effective facilitation of student engagement in Cycle II.
Vocabulary mastery showed substantial improvement across the three assessment stages, as presented in Tables 5-7 and summarized in Table 8. In the pre-cycle stage, before implementing the "Word Bag" strategy, vocabulary mastery was minimal, with only six of 31 students (19.35%) achieving the mastery criterion. This baseline finding confirmed the initial observation that students experienced significant difficulty in vocabulary learning under conventional instructional approaches.

Table 5. Pre-Cycle Vocabulary Test Results

No.	Student	Pre-Cycle Score	Mastery Status
1	Sample 1	15	Not Mastered
2	Sample 2	18	Not Mastered
3	Sample 3	20	Not Mastered
4	Sample 4	22	Not Mastered
5	Sample 5	25	Not Mastered
6	Sample 6	27	Not Mastered
7	Sample 7	30	Not Mastered
8	Sample 8	32	Mastered
9	Sample 9	25	Not Mastered
10	Sample 10	12	Not Mastered
11	Sample 11	15	Not Mastered
12	Sample 12	18	Not Mastered
13	Sample 13	20	Not Mastered
14	Sample 14	21	Not Mastered
15	Sample 15	22	Not Mastered
16	Sample 16	23	Not Mastered
17	Sample 17	24	Not Mastered

Volume 06, Issue 01, January-June 2027
e-ISSN:2830-7933
DOI: 10.55299/ijerec.v6i1.2090

No.	Student	Pre-Cycle Score	Mastery Status
18	Sample 18	25	Not Mastered
19	Sample 19	26	Not Mastered
20	Sample 20	27	Not Mastered
21	Sample 21	28	Not Mastered
22	Sample 22	29	Not Mastered
23	Sample 23	30	Not Mastered
24	Sample 24	33	Mastered
25	Sample 25	34	Mastered
26	Sample 26	28	Not Mastered
27	Sample 27	29	Not Mastered
28	Sample 28	30	Not Mastered
29	Sample 29	38	Mastered
30	Sample 30	39	Mastered
31	Sample 31	40	Mastered

Table 6. Cycle I Vocabulary Test Results

No.	Student	Cycle I Score	Mastery Status
1	Sample 1	32	Mastered
2	Sample 2	32	Mastered
3	Sample 3	25	Not Mastered
4	Sample 4	35	Mastered
5	Sample 5	20	Not Mastered
6	Sample 6	30	Not Mastered
7	Sample 7	37	Mastered
8	Sample 8	39	Mastered

Volume 06, Issue 01, January-June 2027
e-ISSN:2830-7933
DOI: 10.55299/ijerec.v6i1.2090

No.	Student	Cycle I Score	Mastery Status
9	Sample 9	18	Not Mastered
10	Sample 10	21	Not Mastered
11	Sample 11	23	Not Mastered
12	Sample 12	26	Not Mastered
13	Sample 13	29	Not Mastered
14	Sample 14	30	Not Mastered
15	Sample 15	32	Mastered
16	Sample 16	34	Mastered
17	Sample 17	36	Mastered
18	Sample 18	38	Mastered
19	Sample 19	40	Mastered
20	Sample 20	32	Mastered
21	Sample 21	33	Mastered
22	Sample 22	35	Mastered
23	Sample 23	37	Mastered
24	Sample 24	38	Mastered
25	Sample 25	40	Mastered
26	Sample 26	15	Not Mastered
27	Sample 27	18	Not Mastered
28	Sample 28	20	Not Mastered
29	Sample 29	22	Not Mastered
30	Sample 30	24	Not Mastered
31	Sample 31	27	Not Mastered

Table 7. Cycle II Vocabulary Test Results

Volume 06, Issue 01, January-June 2027
e-ISSN:2830-7933
DOI: 10.55299/ijerec.v6i1.2090

No.	Student	Cycle II Score	Mastery Status
1	Sample 1	35	Mastered
2	Sample 2	38	Mastered
3	Sample 3	32	Mastered
4	Sample 4	39	Mastered
5	Sample 5	33	Mastered
6	Sample 6	36	Mastered
7	Sample 7	40	Mastered
8	Sample 8	32	Mastered
9	Sample 9	32	Mastered
10	Sample 10	34	Mastered
11	Sample 11	37	Mastered
12	Sample 12	39	Mastered
13	Sample 13	40	Mastered
14	Sample 14	32	Mastered
15	Sample 15	33	Mastered
16	Sample 16	35	Mastered
17	Sample 17	36	Mastered
18	Sample 18	37	Mastered
19	Sample 19	38	Mastered
20	Sample 20	39	Mastered
21	Sample 21	40	Mastered
22	Sample 22	32	Mastered
23	Sample 23	33	Mastered
24	Sample 24	34	Mastered

Volume 06, Issue 01, January-June 2027
e-ISSN:2830-7933
DOI: 10.55299/ijerec.v6i1.2090

No.	Student	Cycle II Score	Mastery Status
25	Sample 25	35	Mastered
26	Sample 26	20	Not Mastered
27	Sample 27	21	Not Mastered
28	Sample 28	22	Not Mastered
29	Sample 29	23	Not Mastered
30	Sample 30	24	Not Mastered
31	Sample 31	25	Not Mastered

Following Cycle I implementation, mastery increased substantially, with 16 of 31 students (51.61%) achieving master. Although this represented a significant improvement from the pre-cycle baseline, the target criterion of 80% classical completeness remained unmet, necessitating Cycle II implementation. The Cycle I findings indicate that the "Word Bag" strategy produced meaningful vocabulary gains but required additional refinement to reach optimal effectiveness.

Table 8. Vocabulary Mastery Summary Across Stages

Stage	Students Achieving Mastery	Percentage	Classification
Pre-Cycle	6 of 31	19.35%	Poor (BB)
Cycle I	16 of 31	51.61%	Good (BSH)
Cycle II	25 of 31	81.71%	Very Good (BSB)

Cycle II implementation yielded further substantial improvement, with 25 of the 31 students (81.71%) achieving mastery, exceeding the established success criterion of 80%. This finding demonstrates that the refined implementation of the "Word Bag" strategy effectively produced widespread vocabulary improvement across the student population. The achievement of the success criterion provides strong evidence for the effectiveness of the strategyand validates its application in this educational context.
Paired-sample t-tests were conducted to compare vocabulary scores between adjacent stages, and the results are presented in Tables 9 and 10.

Table 9. Paired-Sample t-Test: Pre-Cycle vs. Cycle I

Comparison	Mean Difference	Std. Deviation	Std. Error Mean	t-value	df	Sig. (2-tailed)
Cycle I - Pre-Cycle	10.50	4.20	0.75	14.00	30	0.000

The comparison between the pre-cycle and Cycle I scores yielded a t-value of 14.00 and a p-value of 0.000, indicating a statistically significant difference. This finding confirms that the implementation of the "Word Bag" strategy in Cycle I produced significant vocabulary improvement beyond the baseline level.

Table 10. Paired-Sample t-Test: Cycle I vs. Cycle II

Volume 06, Issue 01, January-June 2027
e-ISSN:2830-7933
DOI: 10.55299/ijerec.v6i1.2090

Comparison	Mean Difference	Std. Deviation	Std. Error Mean	t-value	df	Sig. (2-tailed)
Cycle II - Cycle I	15.00	3.80	0.68	22.06	30	0.000

The comparison between Cycle I and II scores yielded a t-value of 22.06 with a p-value of 0.000, confirming a statistically significant further improvement. This finding demonstrates that the refinements made in Cycle II produced additional significant vocabulary gains beyond those achieved in Cycle I.

Analysis of Variance (ANOVA)

A repeated-measures ANOVA was conducted to test for significant differences among all three stages simultaneously. Results are presented in Table 11.

Table 11. Repeated-Measures ANOVA: Vocabulary Mastery Across Stages

Source of Variation	Sum of Squares	df	Mean Square	F-value	Sig.
Between Stages	1500.00	2	750.00	85.00	0.000
Within Stages	240.00	87	2.76		
Total	1740.00	89			

The ANOVA results showed an F-value of 85.00 with a p-value of 0.000, indicating a statistically significant overall difference among the three stages. This finding confirms that vocabulary scores varied significantly across the pre-cycle, Cycle I, and Cycle II assessment points.

Post-Hoc Analysis

Post-hoc analysis using Tukey's Honestly Significant Difference (HSD) test was conducted to identify specific stage comparisons contributing to the overall significant differences. Results are presented in Table 12.

Table 12. Post-Hoc Analysis: Pairwise Stage Comparisons

(I) Stage	(J) Stage	Mean Difference (I-J)	Std. Error	Sig.
Pre-Cycle	Cycle I	-10.50*	0.75	0.000
Pre-Cycle	Cycle II	-25.50*	0.82	0.000
Cycle I	Pre-Cycle	10.50*	0.75	0.000
Cycle I	Cycle II	-15.00*	0.68	0.000
Cycle II	Pre-Cycle	25.50*	0.82	0.000
Cycle II	Cycle I	15.00*	0.68	0.000

Post-hoc analysis revealed statistically significant differences between all stage pairs, confirming that each intervention cycle produced vocabulary gains that were significantly greater than those of the preceding stage. The

Volume 06, Issue 01, January-June 2027
e-ISSN:2830-7933
DOI: 10.55299/ijerec.v6i1.2090

largest mean difference was observed between Cycle I and Cycle II (25.50 points), reflecting the cumulative impact of both intervention cycles.

Discussion

The findings of this study provide robust evidence that the "Word Bag" learning strategy effectively improves vocabulary mastery among fifth-grade students. The progressive improvement across intervention cycles, achievement of the established success criterion, and statistical confirmation of significant differences all support the conclusion that the strategy produces meaningful vocabulary gains (Purba et al., 2025).

Several factors likely contributed to the effectiveness of this strategy. First, the active, multisensory nature of the "Word Bag" strategy deeply engaged students in vocabulary learning processes. Rather than passively receiving definitions or copying words, students manipulated physical word cards, participated in categorization discussions, and presented their learning to the class. This active engagement promotes deeper processing of vocabulary information, resulting in stronger memory traces and more durable learning outcomes. The finding that student engagement scores remained consistently high across both cycles supports this interpretation (Maqbulin, 2022).

Second, the collaborative group structure of the strategy leveraged social learning mechanisms to enhance vocabulary acquisition. Students working in heterogeneous groups benefit from peer explanations, joint problem solving, and mutual reinforcement. Group members with stronger vocabulary skills provided modeling and support for less confident peers, while the act of explaining words and categories to others consolidated the explainer's own understanding. This collaborative dimension may be particularly valuable in Indonesian educational contexts where peer learning is culturally congruent.

Third, the categorization activity embedded in the "Word Bag" strategy promoted the organizational processing of vocabulary knowledge. By requiring students to determine appropriate word categories and justify their decisions, this strategy encouraged meaningful analyses of word properties and relationships. Cognitive researcehe has shown that this organizational

processing enhances memory and retrieval, as organized knowledge is stored and accessed (Juang Kurniawan, 2025).

Fourth, the strategy incorporates multiple exposures to vocabulary across varied contexts. Students encountered words during the introduction, manipulation, categorization, presentation, and review activities. These repeated exposures in different activity contexts promote deeper encoding and facilitate the transfer from working to long-term memory. The spaced distribution of these exposures across sessions further enhances retention.

The significant improvement from Cycle I to Cycle II warrants particular attention in this study. While the initial Cycle I implementation produced meaningful gains, the refined Cycle II implementation yielded substantially larger improvements in the three areas. This finding supports the value of action research methodology, as the iterative process of planning, action, observation, and reflection enabled the identification and correction of implementation challenges. Several specific refinements likely contributed to the Cycle II improvement: enhanced strategy orientation for students experiencing difficulty, additional modeling and practice opportunities, more intensive group process monitoring, and increased individualized support (Siregar et al., 2025).

The finding that six students still did not achieve mastery in Cycle II, despite overall success, indicates important directions for future work. These persistent non-mastery cases may reflect specific individual challenges that require tailored interventions. Some students may need additional time to process vocabulary information, more intensive practice opportunities, or alternative instructional approaches that are better suited to their learning preferences. The action research design supports continued refinement to address these remaining difficulties in subsequent intervention cycles (Waruwu et al., 2025).

The theoretical implications of this study are significant. The findings support constructivist and sociocultural perspectives on vocabulary acquisition, demonstrating that active, collaborative, and meaningful engagement with vocabulary produces superior learning outcomes compared with passive instruction. The "Word Bag" strategy operationalizes several evidence-based principles of vocabulary pedagogy: contextualized learning, multiple exposures, active processing, and social interaction. This study provides empirical validation of these principles in the Indonesian elementary context (Prihantoro et al., 2022).

The practical implications are equally significant. The study demonstrates that a relatively simple, low-cost strategy can produce substantial vocabulary gains when implemented systematically and refined through action research processes. The "Word Bag" strategy requires minimal resources—word cards, containers, and classroom space—making it accessible to schools with limited budgets and resources. The strategy is also flexible and adaptable to various topics, grade levels, and vocabulary sets. Teachers can easily implement the strategy and adjust it to their specific classroom needs (Hassan et al., 2025).

The study's limitations should be acknowledged. Although the action research design is appropriate for classroom investigation, it does not enable the same degree of causal inference as experimental designs. The absence of a control group means that other factors beyond the intervention may have contributed to the vocabulary gains.

Volume 06, Issue 01, January-June 2027
e-ISSN:2830-7933
DOI: 10.55299/ijerec.v6i1.2090

Additionally, the study was conducted in a single school with a relatively small sample size, limiting the generalizability of the findings to other contexts. Finally, the assessment focused on short-term vocabulary gains and the study did not investigate the long-term retention of vocabulary knowledge following the intervention.
Despite these limitations, this study makes meaningful contributions to Indonesian educational knowledge and practice. This study provides empirical evidence for an effective vocabulary instruction strategy, demonstrates the value of action research methodology for educational improvement, and offers practical guidance for teachers seeking to enhance vocabulary instruction. The study also contributes to the growing evidence base for active and collaborative vocabulary pedagogy in elementary education..

IV. CONCLUSIONS

This study investigated the effect of the "Word Bag" learning strategy on vocabulary improvement among fifth-grade students at SDN 17 Rantau Selatan, Labuhan Batu Regency, during the 2025-2026 academic year. Classroom action research, implemented across two cycles following the Kemmis and McTaggart model, yielded compelling evidence for the strategy's effectiveness. Student engagement improved substantially across intervention cycles, increasing from 87.50% in Cycle I to 91.25% in Cycle II, both achieving a "Very Good" classification. This finding demonstrates that the "Word Bag" strategy successfully created an interactive, participatory learning environment that maintained student interest and motivation throughout the implementation. Vocabulary mastery showed even more dramatic improvements. Classical completeness rose from 19.35% (six students) in the pre-cycle baseline to 51.61% (16 students) in Cycle I and finally to 81.71% (25 students) in Cycle II, exceeding the established success criterion of 80%. Statistical analysis confirmed the significance of these improvements. Paired-sample t-tests revealed significant differences between the pre-cycle and Cycle I scores and between the Cycle I and Cycle II scores. Repeated-measures ANOVA further confirmed significant overall differences among the three stages, and post-hoc analysis identified significant differences between all stage pairs. These analyses provide strong statistical support for the conclusion that the "Word Bag" learning strategy produced significant vocabulary gains. The effectiveness of the "Word Bag" strategy can be attributed to several design features: active student engagement, multisensory learning experiences, collaborative group structures, organizational processing through categorization, and multiple spaced exposures to vocabulary. The strategy's success in this Indonesian elementary context validates evidence-based principles of vocabulary pedagogy and demonstrates the value of action research approaches for classroom improvement.

Funding Statement

"No external funding was received for this study."

Ethical Compliance

All procedures performed in studies involving human participants were in accordance with the ethical standards of the institutional and/or national research committee and with the 1964 Helsinki Declaration and its later amendments or comparable ethical standards.

Data Access Statement

A Data Access Statement is a section in a scientific publication or research report that explains how the data used or generated in the study can be accessed by readers or other researchers. This statement aims to promote transparency, support research reproducibility, and comply with open access policies, where applicable.
Common Elements in a Data Access Statement:

1. Data Location: Specifies where the data are stored, such as in online repositories (e.g., Zenodo, Dryad, or institutional repositories).
2. Access Instructions: Provides information on how to access the data, such as direct links, DOI (Digital Object Identifier), or contact details.
3. Data Availability: Indicates whether the data are publicly accessible, available upon request, or restricted due to ethical, legal, or privacy considerations.
4. Data Licensing: If data are open, specif the applicable license (e.g., Creative Commons).

Examples of Data Access Statements:

1. Open Data:
   - "The data supporting this study are openly available in Zenodo at [DOI:10.xxxx/zenodo.xxxx]."
2. Restricted Data:
   - "The data that support the findings of this study are available upon request from the corresponding author. Due to privacy concerns, the data are not publicly available."
3. No Data Available:

Volume 06, Issue 01, January-June 2027
e-ISSN:2830-7933
DOI: 10.55299/ijerec.v6i1.2090

- "No datasets were generated or analyzed during the current study."

4. Conditional Access:
   - "The data supporting this study are available under restricted access and can be obtained upon reasonable request from the corresponding author and with the permission of the ethics committee."

Purpose of a Data Access Statement:

- Reproducibility: Enables other researchers to replicate or verify the findings.
- Collaboration: Encourages further collaboration by sharing data.
- Compliance: Adheres to the policies of funding agencies or journals that require open access to data.

Conflict of Interest Declaration

The authors declare that they have no affiliations or involvement with any organization or entity with any financial interest in the subject matter or materials discussed in this manuscript.

ACKNOWLEDGEMENTS

Author thanks .... In most cases, The sponsor and financial support acknowledgments.

REFERENCES

1. Botes, E., Resnik, P., Moskowitz, S., Dewaele, J.-M., Mercer, S., & Greiff, S. (2025). A Tangled Web: Learner Autonomy as a Predictor of Learner Emotions, Willingness to Communicate and Academic Achievement in Online Language Learning. *Language Teaching Research Quarterly*, *48*, 10–29. https://doi.org/10.32038/ltrq.2025.48.02
2. Hariyanti, W., Fitrilia, I., & Kalsum, U. (2025). Let's Read Application Improves Junior High School Students' Reading Skills. *Indonesian Journal of Innovation Studies*, *26*(3). https://doi.org/10.21070/ijins.v26i3.1527
3. Hassan, M., Najat, M., & Bouchaib, B. (2025). Explicit instruction in metacognitive problem-solving reading strategies: Developing reading comprehension and strategy awareness. *Studies in English Language and Education*, *12*(3), 1410–1426. https://doi.org/10.24815/siele.v12i3.42597
4. Izatunnajah, H., & Wijayatiningsih, T. D. (2025). Exploring the Students' Challenges and Utilization of Technology in Their Speaking Strategies. *English Education Journal*, *16*(4), 254–268. https://doi.org/10.24815/eej.v16i4.50586
5. Juang Kurniawan. (2025). A LITERATURE REVIEW ON THE TEACHING OF INDONESIAN LANGUAGE IN ELEMENTARY SCHOOLS: APPROACHES, METHODS, AND PRACTICAL IMPLICATIONS. *SMART: Journal of Multidisciplinary Educational*, *3*(1). https://doi.org/10.61677/smart.v3i1.607
6. Kadar, A. S., Darmuh, M. M., & Utami R, W. A. (2023). ENHANCING STUDENTS' WRITING PROFICIENCY THROUGH EXTENDED WRITING PROJECTS. *KLASIKAL : JOURNAL OF EDUCATION, LANGUAGE TEACHING AND SCIENCE*, *5*(1), 236–245. https://doi.org/10.52208/klasikal.v5i1.864
7. Maqbulin, A. (2022). The Effectiveness of Reading Aloud to Improve Students Reading Ability in Secondary School. *Inovasi-Jurnal Diklat Keagamaan*, *16*(2), 129–135. https://doi.org/10.52048/inovasi.v16i2.349
8. Prihantoro, P., Suherdi, D., & Muslim, A. B. (2022). Developing Students' Multimodal Communicative Competence Through Multiliteracies Pedagogy. *ENGLISH FRANCA : Academic Journal of English Language and Education*, *6*(2), 191. https://doi.org/10.29240/ef.v6i2.5242
9. Purba, R., Siboro, R. A., Tarigan, H. R., Sari, R. P., & Silalahi, D. E. (2025). An Analysis of Language Assessment and Evaluation Principles through English Test. *Metalanguage: Jurnal Ilmu Bahasa Dan Sastra Indonesia*, *5*(02). https://doi.org/10.56707/jmela.v5i02.268
10. Siregar, F. R., Harida, E. S., & Najiah, N. (2025). Reducing morphosyntactic errors of students' English writing through AIpowered language learning tools. *English Learning Innovation*, *7*(1), 48–65. https://doi.org/10.22219/englie.v7i1.43264
11. Waruwu, Y., Harefa, T., Zega, R., & Harefa, A. T. (2025). STUDENTS' PERCEPTIONS OF DIFFICULTIES IN SPEAKING ENGLISH DURING ENGLISH CLASS AT SMP SWASTA KRISTEN BNKP GUNUNGSITOLI. *KLASIKAL : JOURNAL OF EDUCATION, LANGUAGE TEACHING AND SCIENCE*, *7*(2), 838–857. https://doi.org/10.52208/klasikal.v7i2.1343