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Enhancing Students' Vocabulary Achievement through Flashcards Strategy at Public Elementary School

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Abstract

This study investigated the effectiveness of flashcards in enhancing vocabulary achievement among third-grade students in a public elementary school in South Tangerang. A quantitative quasi-experimental design was applied, involving 33 students in the experimental group who received seven sessions of flashcard-based instruction and 32 students in the control group who received conventional teaching. Both groups completed pre-tests at the beginning and post-tests at the end of the intervention, and data were analyzed using SPSS. Analyses included descriptive statistics, item mastery, normality and homogeneity tests, N-gain calculation, and paired and independent t-tests. Results showed the experimental group achieved a mean post-test score of 16.88 (SD = 2.247), significantly higher than the control group's 11.53 (SD = 1.951), with a mean difference of 5.35 points ($t(63) = 10.233$, $p < 0.001$). N-Gain analysis indicated a high gain of 0.70 (70.16%) for the experimental group, compared to 0.13 (12.80%) for the control group. Item-level analysis confirmed flashcards improved both recognition and productive use of vocabulary. Additionally, flashcards enhanced students' motivation, engagement, and confidence through visual cues and interactive practice. The findings suggest flashcards are an effective, low-cost strategy for elementary EFL classrooms, guiding teachers in using engaging and multimodal tools.

Keywords: Flashcards, Vocabulary Achievement, Elementary Students

I INTRODUCTION

English is taught as a foreign language (EFL) in Indonesia and holds a prominent place in the national curriculum across educational levels (Pratiwi et al., 2022). However, despite its importance, many students encounter difficulties in mastering the language due to limited exposure outside the classroom. As Wahyuningsih and Afandi (2020) point out, this lack of real-world practice hinders students' ability to apply what they learn in meaningful contexts. Among the major barriers is vocabulary acquisition, which is widely recognized as the foundation of all four language skills: listening, speaking, reading, and writing (Simaora & Oktaviani, 2020). Without a sufficient vocabulary base, students often struggle to comprehend or express themselves effectively in English, making it difficult for them to achieve language proficiency. Vocabulary is thus central to language competence (Romadhon et al., 2021; Coady & Huckin, 1998, as cited in Zarfsaz & Yeganehpour, 2021).

This theoretical recognition becomes even more relevant in the Indonesian context, particularly in public elementary schools where English is first formally introduced. Young learners often encounter significant obstacles in developing vocabulary, as traditional methods focus on rote memorization and repetition, which do not support long-term retention (Rahmawati & Dahlina, 2024). Observations suggest that decontextualized vocabulary instruction leads to reduced interest and engagement. Grauberg (1997, as cited in Uraimshikova, 2022) explains that effective vocabulary acquisition progresses through several stages, including discrimination, understanding of meaning, retention, and consolidation. However, many learners in public schools struggle to move beyond the initial stages, resulting in limited mastery. Previous study (Rahmadillah & Fatimah, 2023) further highlights that vocabulary knowledge extends beyond knowing word meanings; it also encompasses spelling, pronunciation, and usage—areas that are frequently neglected in conventional classrooms. The problem is exacerbated by the lack of interactive and immersive learning opportunities, which are essential to keep young learners engaged in language learning. As Umaralieva and Yakhyoyeva (2023) argue, vocabulary serves as the bridge between theoretical instruction and practical communication. Yet, traditional approaches often fail to provide the dynamic and contextual experiences that children need. Consequently, many students in public elementary schools find it difficult to retain new vocabulary, which in turn hampers their overall progress in learning English.

To address these gaps, researchers have advocated for more engaging and multimodal strategies. Nation (2001, as cited in Wero et al., 2021) distinguishes between receptive and productive vocabulary, underscoring the need for strategies that support both recognition and active use. In this regard, flashcards have emerged as a particularly promising tool. Flashcards are typically small cards that contain a word, phrase, or image, designed to facilitate active recall through repeated exposure (Meidina et al., 2024). Over time, their design has evolved from basic word-image pairs into interactive and digital formats, allowing for more engaging classroom activities (O'Donnell & Chomdokmai, 2024). The underlying principle of flashcards is straightforward yet powerful: repeated exposure to vocabulary in both verbal and visual forms strengthens memory associations and improves recall. This supports Glenn Doman's perspective, which emphasizes that flashcards combine playful interaction with visual stimulation to promote children's cognitive development (Sari, 2024). Similarly, Podoroh (2023) emphasizes that flashcards are particularly effective for vocabulary acquisition because they allow learners to link linguistic input with visual cues, thereby improving retention and comprehension. Likewise, Aziza (2021) notes that flashcards are especially engaging for young learners when they include colorful images, which capture attention and make learning enjoyable. This suggests that flashcards do more than aid memorization—they actively promote learners' engagement and curiosity, which are crucial for sustained language development.

Research shows that flashcards are not limited to memorization; they can support broader language skills such as pronunciation and spelling (Nuryani & Fadloeli, 2021; Arsana & Maharani, 2021). It also highlights that flashcards create enjoyable and interactive learning

environments, reducing anxiety and encouraging participation (Komalig, 2023; Amalia, 2025), which in turn helps maintain students' motivation over time (Firdausah and Sari, 2022). The effectiveness of flashcards has been demonstrated in multiple studies. Donasari et al. (2023), Rahmawati & Rustipa (2023), Khan (2022), and Syamsiyah & Ma'rifatulloh (2023) collectively emphasize that the use of flashcards—whether combined with games, visual worksheets, or applied in different learning settings—creates a joyful and engaging classroom environment. Their findings align with Sharma & Mahavidhyalaya's (2023) claim that flashcards promote active recall, thereby strengthening memory. These results suggest that flashcards not only facilitate vocabulary retention but also increase learner motivation, making them particularly suitable for elementary school contexts.

Despite this, important gaps remain. Most studies focus on middle or high school learners, with fewer examining elementary students, particularly in Indonesian public schools. Moreover, previous research often reports overall gains without item-level analysis across vocabulary categories such as prepositions, verbs, adjectives, numerals, and spelling. Understanding how flashcards affect each category provides more nuanced insights and helps identify which types of words learners find challenging.

Therefore, the present study investigates the effectiveness of flashcards on vocabulary achievement among third-grade students in a public elementary school in South Tangerang. This grade was chosen because students have some basic vocabulary but still face difficulties in retention and usage. The study compares an experimental group taught using flashcards with a control group taught with conventional methods and examines improvements in vocabulary categories including meaning, spelling, and grammatical use. By offering item-level analysis, this study contributes to the literature on vocabulary acquisition in early English education.

The significance of this study lies in both theoretical and practical contributions. Theoretically, it extends research by providing detailed insights into vocabulary achievement across different word categories. Practically, it provides teachers and curriculum developers with evidence that flashcards are an effective, low-cost strategy in resource-limited elementary schools. The findings are expected to demonstrate that vocabulary acquisition is enhanced when learning is interactive, multimodal, and visually engaging, preparing students for higher-level language learning.

II METHOD

This study employed a quantitative quasi-experimental design to investigate the effectiveness of flashcards on third-grade students' vocabulary. Intact classes were assigned as either the experimental group, which received instruction using flashcards, or the control group, which received traditional instruction. Pre-tests and post-tests were administered to assess learning outcomes and provide an empirical evaluation of the flashcards' impact on vocabulary achievement.

The research was conducted at SD Negeri Pondok Cabe Udik 02 in South Tangerang, Banten, Indonesia. The population consisted of all third-grade students at the school, where observations revealed that many students faced difficulties in mastering vocabulary, highlighting the need for an intervention. Two classes were purposely selected as the sample: Class 3A (33 students) served as the experimental group, and Class 3B (32 students) as the control group. These classes were chosen based on comparable initial vocabulary levels and classroom dynamics to ensure a fair comparison of instructional strategies.

The primary instrument in this study was a vocabulary test, comprising both pre-test and post-test. The pre-test measured students' baseline vocabulary knowledge, allowing the researcher to identify initial differences between groups, while the post-test evaluated vocabulary achievement after the instructional intervention. Each test contained 20 items covering four categories: prepositions, verbs, adjectives, and numerals. The items were presented in various

formats—including sentence completion, spelling, translation, word–picture matching, and error analysis—to assess both receptive and productive vocabulary skills comprehensively.

Data collection followed three main stages: pre-test, treatment, and post-test. The pre-test was administered to both groups at the beginning of the study under supervision and within a fixed time frame, providing a reference point for measuring vocabulary improvement. During the treatment phase, seven instructional meetings were conducted using the Grade 3 English textbook (English for Nusantara Kids, 2022) as the source of vocabulary items. The experimental group received instruction through the flashcards strategy, which combined teacher modeling, drilling, and interactive activities such as picture–word matching, peer practice, pair quizzes, and group competitions. These activities promoted active engagement and repeated exposure to the target vocabulary, supporting deeper understanding and retention. In contrast, the control group followed traditional instruction, consisting of teacher explanations, repetition, and written exercises. While both groups covered the same content, the absence of interactive and visual elements in the control group allowed the study to isolate the effect of the flashcards strategy. Following the intervention, the post-test, identical in format and content to the pre-test, was administered to both groups to measure vocabulary improvement.

The collected data were analyzed using IBM SPSS Statistics version 26.0. Descriptive statistics, including mean scores and standard deviations, provided an overview of student performance. An item-level mastery analysis was conducted to identify which vocabulary items were easy or difficult for students, categorizing items according to Magdalena et al. (2021) as very easy, easy, moderate, difficult, or very difficult. Overall improvement was quantified using normalized gain (N-gain) scores, calculated with the formula: N-gain = (Post score – Pre score)/(Max score – Pre score), and interpreted as high (0.70–1.00), medium (0.30–0.69), or low (0.00–0.29) following Kolopita et al. (2022).

Before conducting inferential tests, assumptions of normality and homogeneity were checked using the Shapiro-Wilk and Levene's tests, respectively, confirming that the data met the requirements for parametric analysis, p-values greater than 0.05 indicating normally distributed data and equal variances between groups (Wicaksono et al., 2024; Wahab et al., 2021). Paired-sample t-tests compared pre-test and post-test scores within each group to determine significant improvement, while independent-sample t-tests compared post-test scores between groups to evaluate whether the flashcards strategy produced significantly higher vocabulary achievement than conventional instruction. A significance level of $p < 0.05$ was applied (Fitri et al., 2023).

The experimental group's instructional activities emphasized engagement and multisensory learning. Picture–word matching exercises reinforced word–image associations, peer practice and pair quizzes encouraged collaborative learning, group competitions provided repeated exposure, and teacher modeling ensured accurate pronunciation and contextual usage. Conversely, the control group followed conventional instruction with explanations and repetitive exercises, lacking interactive and visual components. This design allowed for a rigorous evaluation of the flashcards' effectiveness, measuring individual improvement and comparing instructional strategies. Overall, the combination of structured assessment, systematic instruction, and quantitative analysis provided meaningful insights into how interactive visual tools can enhance vocabulary learning compared to conventional methods.

III RESULT

3.1 Descriptive Statistics

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Table 1. Descriptive Statistics of Vocabulary Achievement

	N	Min	Max	Mean	Std. Deviation
Pre-test experimental	33	6	14	9.79	1.883
Post-test experimental	33	12	20	16.88	2.247
Pre-test Control	32	7	14	10.31	1.615
Post-test Control	32	8	15	11.53	1.951
Valid N (listwise)	32				

Table 1 displays the descriptive statistics of the vocabulary test scores. The experimental group (n = 33) obtained pre-test scores ranging from 6 to 14, with a mean of 9.79 (SD = 1.883), while the control group (n = 32) scored between 7 and 14, with a slightly higher mean of 10.31 (SD = 1.615). These results suggest that both groups had comparable vocabulary achievement before the treatment. In the post-test, however, the experimental group demonstrated substantial progress, achieving scores between 12 and 20 with a mean of 16.88 (SD = 2.247). By contrast, the control group's post-test scores ranged from 8 to 15, with a mean of 11.53 (SD = 1.951). The sharp increase in the experimental group's mean score compared to the relatively modest improvement in the control group. Figure 4.1 further illustrates this improvement through a comparison of pre-test and post-test scores.

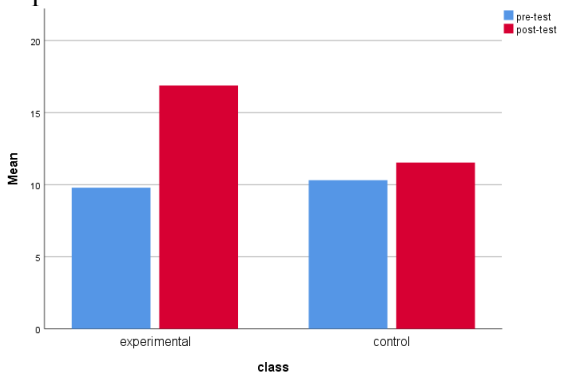

Figure 4.1 Test Scores of Experimental and Control Groups

3.2 Item Mastery Analysis

Table 2a. Test Items Mastery Experimental Group

Mastery Level	Items	Mean Range
High (>0.90)	Q14, Q15, Q16, Q17	0.91 – 0.94
Moderate (0.80-0.90)	Q1–Q13, Q18, Q19, Q20	0.82 – 0.85
Low (<0.80)	-	0

Table 2b. Test Items Mastery Control Group

Mastery Level	Items	Mean Range

High (>0.70)	Q2, Q3, Q4, Q8	0.81 – 0.91
Moderate (0.50-0.60)	Q1, Q5 Q6, Q7, Q9, Q10, Q11, Q12, Q14	0.53 – 0.75
Low (<0.30)	Q13, Q15, Q16, Q17, Q18, Q19, Q20	0.38 – 0.41

As shown in Table 2a, the experimental group reached moderate to high mastery across all items. The highest scores were in translation and picture-word matching (Q14–Q17, mean ≈0.91–0.94), while sentence completion, spelling, and error recognition remained at a moderate level (≈0.82–0.85). Importantly, no items fell into the low category, indicating consistent vocabulary gains.

In contrast, Table 2b shows that the control group demonstrated uneven mastery. Only four items (sentence completion and spelling) were high (0.81–0.91), most were moderate (0.53–0.75), and seven items—particularly translation, picture matching, and error recognition—were low (≈0.38–0.41). Overall, the experimental group consistently outperformed the control group across all task types. The largest differences appeared in visual-based and contextual tasks (Q15–Q20), where flashcards boosted mastery to >85–90% (moderate–high), while the control remained low (<60%).

3.3 Normality Test

Table 3. Shapiro–Wilk Test of Normality

Class	Shapiro-Wilk		
	Statistic	df	Sig.
Pre-test 3A (Experimental)	0.950	33	0.261
Post-test 3A (Experimental)	0.961	33	0.096
Pre-test 3B (Control)	0.946	32	0.135
Post-test 3B (Control)	0.945	32	0.152

The Shapiro–Wilk test was used to check whether the vocabulary scores were normally distributed. As shown in Table 3, the experimental class obtained p = 0.261 (pretest) and p = 0.096 (post-test), while the control class obtained p = 0.135 (pretest) and p = 0.152 (post-test). Since all p-values were above 0.05, the data in both groups met the normality assumption, making them suitable for parametric analysis.

3.4 Homogeneity Test

Table 4. Levene's Test of Homogeneity of Variances

Test	Levene Statistics	df1	df2	Sig.
Pre-test	0.507	1	63	0.479
Post-test	0.756	1	63	0.388

Levene's Test was conducted to examine the equality of variances. As presented in Table 4, the pretest showed F = 0.507, p = 0.479, and the post-test showed F = 0.756, p = 0.388. Both p-values were greater than 0.05, indicating no significant difference in variances between the groups. Thus, the homogeneity assumption was also satisfied, confirming that the datasets were appropriate for parametric statistical procedures.

3.5 Gain Score Analysis

Table 5. Descriptive Statistics of N-Gain and N-Gain (%)

Variable	Class	Mean	Min	Max
N-gain	Experimental	0.7016	0.43	1.00
	Control	0.1280	-0.11	0.44
N-gain (%)	Experimental	70.16	42.86	100.00
	Control	12.80	-11.11	44.44

As summarized in Table 5, The N-Gain analysis revealed notable differences between the two groups. The experimental group obtained an average N-Gain of 0.70 (70.16%), ranging from 0.43 to 1.00 (42.86%–100%), which falls into the high category ($g > 0.7$) and indicates substantial effectiveness of the flashcards strategy. In contrast, the control group only reached an average N-Gain of 0.13 (12.80%), with values between -0.11 and 0.44 (-11.11%–44.44%), categorized as low ($g < 0.3$). These findings demonstrate that the experimental group showed far greater improvement in vocabulary achievement than the control group, confirming the effectiveness of the flashcards strategy.

3.6 Paired Sample T-test

Table 6a. Paired Sample Statistics: Experimental Group

Statistics	Pre-test	Post-test
N	33	33
Mean	9.79	16.88
Std.Deviation	1.883	2.247

Table 6b. Paired Sample T-test: Experimental Group

Statistics	Value

Mean Difference	-7.091
t	-19.020
df	32
Sig. (2-tailed)	0.000

As displayed in Table 6a and 6b, the paired samples t-test for the experimental group revealed a significant improvement in students' vocabulary scores after the use of flashcards. The mean score increased markedly from 9.79 (SD = 1.883) in the pretest to 16.88 (SD = 2.247) in the post-test, yielding a mean difference of -7.091. The statistical test result, $t(32) = -18.290$, $p < 0.05$, confirmed that this increase was highly significant.

Table 7a. Paired Sample Statistics: Control Group

Statistics	**Pre-test**	**Post-test**
N	32	32
Mean	10.31	11.53
Std.Deviation	1.651	1.951

Table 7b. Paired Sample T-test: Control Group

Statistics	**Value**
Mean Difference	-1.219
T	-5.571
df	31
Sig. (2-tailed)	0.000

Meanwhile, the control group presented in Table 7a and 7b, also exhibited a slight but statistically significant improvement. The mean pretest score was 10.31 (SD = 1.615), which increased modestly to 11.53 (SD = 1.951) in the post-test, with a mean difference of -1.219. The result of the paired samples t-test, $t(31) = -4.640$, $p < 0.05$, indicated that although the control group's performance improved significantly, the magnitude of gain was far smaller compared to the experimental group.

3.7 Independent Sample T-test

Table 8a. Independent Sample Statistics: Pre-test

Statistics	Experimental	Control
N	33	32
Mean	9.79	10.31
Std.Deviation	1.883	1.651

Table 8b. Independent Sample T-test: Pre-test

Statistics	Value
Levene's Test Sig.	0.479*
Mean Difference	-0.52
t	-1.204
df	63
Sig. (2-tailed)	0.233

*Equal variances assumed

The pre-test (Table 8a and 8b) comparison showed that the experimental group (M = 9.79, SD = 1.883) and control group (M = 10.31, SD = 1.615) did not differ significantly. Levene's test indicated homogeneity of variance ($p = 0.479 > 0.05$), and the t-test result, $t(63) = -1.204$, $p = 0.233$, confirmed no significant difference between groups. This suggests that both groups began the study with similar vocabulary knowledge.

Table 9a. Independent Sample Statistics: Post-test

Statistics	Experimental	Control
N	33	32
Mean	16.88	11.53
Std.Deviation	2.247	1.951

Table 9b. Independent Sample T-test: Post-test

Statistics	Value
Levene's Test Sig.	0.388*
Mean Difference	5.35
t	10.233
df	63
Sig. (2-tailed)	0.000

*Equal variances assumed

Table 9a and 9b summarizes the post-test results, revealing a significant difference between the groups. The experimental group achieved a higher mean score (M = 16.88) compared to the control group (M = 11.53), with a mean difference of 5.35 points. Levene's test confirmed homogeneity ($p = 0.388 > 0.05$), and the t-test result, $t(63) = 10.233$, $p < 0.001$, indicated that the experimental group significantly outperformed the control group.

Table 10a. Independent Sample Statistics: N-Gain

Statistics	**Experimental**	**Control**
N	33	32
Mean	0.7016	0.1280
Std.Deviation	0.19679	0.12806

Table 10b. Independent Sample T-test: N-Gain

Statistics	**Value**
Levene's Test Sig.	0.000*
Mean Difference	0.57364
t	13.970
df	55.188
Sig. (2-tailed)	0.000

*Equal variances not assumed

As indicated in Table 10a and 10b, the comparison of normalized gain (N-Gain) scores further supported these findings. The experimental group achieved a higher average N-Gain (M = 0.70, SD = 0.197) than the control group (M = 0.13, SD = 0.128). Since Levene's test indicated unequal variances ($p < 0.05$), results were interpreted under the "equal variances not assumed" option. The t-test showed a significant difference, $t = 13.970$, $p < 0.001$, with a mean difference of 0.574.

IV DISCUSSION

The findings of this study indicate that the use of flashcards had a significant effect on students' vocabulary achievement. Statistical analysis revealed that the experimental group, which was taught using flashcards, demonstrated substantial improvement in vocabulary achievement from pre-test to post-test, while the control group, which relied on conventional methods, displayed only limited gains. This difference confirms that flashcards are more effective than traditional instruction in enhancing vocabulary learning, particularly for young learners in EFL classrooms. These results highlight the importance of flashcards in supporting language acquisition, emphasizing that vocabulary development is not merely a matter of rote memorization but is strengthened when learners are exposed to meaningful, context-rich, and visually engaging tools.

Understanding the gains observed in this study requires looking closely at what changed for learners when flashcards were introduced. The most obvious shift lies in how vocabulary, often described as the backbone of language learning, was made more accessible and memorable.

Without an adequate store of words, learners cannot construct meaning in listening or reading, nor can they express themselves effectively in speaking and writing (Romadhon et al., 2021; Coady & Huckin, 1998, as cited in Zarfsaz & Yeganehpour, 2021). In this sense, vocabulary is not just one aspect of language learning—it is the foundation upon which all other skills depend. Prior studies confirm that mastery of vocabulary allows learners to participate more fully across all four language domains; speaking listening, reading, writing (Simaora & Oktaviani, 2020), and four dimensions of vocabulary knowledge: meaning, spelling, pronunciation, and usage (Rahmadillah & Fatimah, 2023)

Flashcards, in this context, serve as a medium that directly aligns with the conditions that scholars argue are necessary for vocabulary growth: frequent exposure, salient presentation, and meaningful association. By repeatedly exposing learners to target words in a visually engaging way, flashcards make new items stand out and attach them to images or contexts that carry meaning. This approach mirrors how young learners naturally acquire words in their first language—through repeated, meaningful encounters that tie words to objects, actions, or situations.

Other researchers have underscored the same point. Nuryani and Fadloeli (2021) highlight that flashcards do not merely strengthen vocabulary knowledge but also support related areas such as grammar, spelling, and pronunciation, showing their broader pedagogical value. Arsana and Maharani (2021) similarly stress that flashcards help learners' pronunciation and meaning, improving both comprehension and oral accuracy. Taken together, these studies suggest that flashcards operate on multiple levels at once: they reinforce form, clarify meaning, and boost learners' confidence in using language.

This layered impact is particularly significant for elementary students. At this stage, children's linguistic repertoires remain limited, and abstract explanations of grammar or vocabulary often fail to resonate. What they need is scaffolding that transforms abstract language into something tangible and memorable. Visual aids such as flashcards provide exactly this bridge. They are especially engaging for young learners when they include colorful images (Aziza, 2021), which not only capture attention but also stimulate curiosity and motivation to learn. By offering clear, concrete, and visually appealing representations of words, flashcards allow young learners to build a mental lexicon that is not only larger but also easier to retrieve during communication.

A more detailed examination of the test items provides additional insight into how flashcards specifically enhanced students' performance. For example, in Q1, which tested prepositions through the sentence "The cat is _____ the table," students in the experimental group consistently supplied the correct answer "on." The visual flashcards that illustrated spatial relations between objects enabled learners to internalize prepositional usage, while many students in the control group remained confused and often provided incorrect alternatives such as "in." Similarly, in Q2, "I always _____ in the canteen every morning," flashcards with action verbs helped students recall "eat" with accuracy. The repeated exposure to picture-word pairings facilitated faster retrieval of verb forms compared to the control group, which displayed hesitation and inconsistent answers.

The positive effect continued with Q3, "The ball is very _____," where the correct adjective was "small." Flashcards depicting balls of different sizes gave learners a visual anchor for distinguishing adjectives. This finding aligns with the Glenn Doman perspective, which regards flashcards as combining playfulness and visual stimulation to strengthen children's brain development (Sari, 2024). In Q4, "I always _____ every day," students in the experimental group correctly filled in "read," demonstrating that repetitive practice with verb flashcards not only improved recognition but also strengthened productive use. In Q5, "There are _____ students in the classroom," numerical flashcards supported learners in recalling "forty," and the visual depiction of groups of students reinforced numeral comprehension.

Q6 required students to identify relative positions: "The cat is _____ the box and the ball." Here, the experimental group overwhelmingly selected "between," supported by flashcards showing relational positions. The control group often confused this with "in" or "beside," confirming that spatial prepositions are better learned when learners can see concrete images of relationships. Q7, which tested numerical vocabulary in "There are _____ books in the library," showed the same pattern: students in the experimental group who had practiced with numeral flashcards answered with higher accuracy than those in the control group.

Spelling was also reinforced through flashcards, as shown in Q8 and Q9. For Q8, which required recognition of "u-n-d-e-r," flashcards improved orthographic memory, enabling students to confidently identify the correct spelling. In Q9, the experimental group corrected "l-a-r-j" to "large," demonstrating that repeated visual exposure strengthened the link between phonology and orthography. The same effect was found in Q10, where spelling of numerals such as "forty" was more accurately recalled by students who had practiced with flashcards. These results provide concrete evidence that flashcards are effective not only for vocabulary recognition but also for spelling acquisition.

Translation-based items (Q11–Q14) also highlighted the benefits of flashcards. In Q11, students were asked to translate "beside," and those in the experimental group could correctly associate the English word with its Indonesian equivalent due to image-word associations. Q12 tested "narrow," and the flashcards provided visual contrasts between wide and narrow spaces, helping students grasp the meaning. Similarly, in Q13, "dirty," flashcards depicting clean versus dirty objects gave learners a memorable mental image, leading to correct translations. In Q14, which focused on numbers such as "thirty six," numeral flashcards enabled accurate translation into Indonesian, while the control group often confused similar number words.

Matching exercises (Q15–Q17) provided further confirmation of the benefits of flashcards. In Q15, learners matched prepositions "on, in, in front of" with pictures, and the experimental group achieved significantly higher accuracy. This shows that flashcards encourage learners to connect abstract linguistic items with visual representation. Q16 tested verbs "read, teach, write," and again the group exposed to picture-word flashcards performed much better. In Q17, adjectives such as "dirty, clean, big" were more effectively understood when paired with images. These findings show that flashcards are highly effective in supporting vocabulary learning. By connecting words with clear visual cues, students can remember new vocabulary more easily and understand meanings more deeply (Podoroh, 2023).

Error analysis questions (Q18–Q20) further illustrate the role of flashcards in refining learners' linguistic awareness. In Q18, students had to identify the error in "There are forty fife students in the office," and those in the experimental group corrected "fife" to "five" due to stronger retention of numeral spelling. In Q19, "The teachers tech English in their class," the experimental group recognized "tech" as an error and corrected it to "teach," a reflection of their improved verb recognition. Similarly, in Q20, "The students dring in the canteen," flashcards had helped learners identify the incorrect form "dring" and replace it with "drink." These examples show that flashcards not only support acquisition of new vocabulary but also heighten students' ability to detect and correct errors, an essential skill in language learning.

The detailed analysis of Q1–Q20 underscores the comprehensive role of flashcards in developing multiple aspects of vocabulary knowledge: meaning, form, spelling, translation, and contextual usage. This aligns with Nation's framework (2001, as cited in Wero et al., 2021), which distinguishes between receptive and productive vocabulary knowledge, encompassing aspects of form, meaning, and use. The flashcards applied in this study effectively supported all three aspects, contributing to more solid vocabulary acquisition. Furthermore, the results reinforce the notion that vocabulary learning becomes more effective when learners are exposed to words through multiple modalities. In addition, the progression observed in this study resonates with Grauberg's (1997, as cited in Uraimshikova, 2022) stages of acquisition, where learners move from initial recognition of words, to establishing connections between form and meaning, and eventually toward consolidation and active use. Flashcards facilitated this movement by offering

repeated recognition practice, reinforced semantic associations, and opportunities for productive recall.

Comparing these findings with previous studies provides further validation. Syamsiyah & Ma'rifatulloh (2023) found that flashcards significantly improved students' vocabulary scores in junior high school, while Rahmawati & Rustipa (2023) reported similar results at the primary school level. Firdausah and Sari (2022) also concluded that flashcards enhanced students' motivation and engagement, making vocabulary learning more enjoyable. Nuryani and Fadloeli (2021) emphasized the importance of multimodal approaches in language classrooms, which is precisely what flashcards provide. The current study is consistent with these results but extends them by demonstrating item-level improvements across different vocabulary categories, including prepositions, verbs, adjectives, numerals, spelling, and error correction. This level of detail adds depth to the existing literature and shows that flashcards are not limited to simple word-meaning recall but can be applied to broader aspects of vocabulary competence.

The implications of these findings are significant for EFL teachers, particularly in Indonesian elementary schools. Teachers often rely heavily on textbook explanations and rote memorization, which may not effectively engage young learners. Flashcards, by contrast, offer a simple yet powerful tool to create interactive and enjoyable learning experiences. They cater to visual learners, provide immediate feedback, and can be easily adapted to different vocabulary items. In addition, flashcards can be used for both individual practice and group activities, promoting active participation. In resource-limited settings, flashcards are also practical because they can be created from inexpensive materials, making them accessible for teachers who do not have access to advanced technology.

Nevertheless, this study is not without limitations. The sample size was restricted to one elementary school in South Tangerang, which limits the generalizability of the results. The intervention period was relatively short, so long-term retention of vocabulary was not measured. Moreover, the study focused exclusively on vocabulary achievement, without examining related skills such as reading comprehension or oral fluency. Future research could address these limitations by conducting longitudinal studies across multiple schools, examining retention over time, and exploring how flashcards impact integrated language skills. Additionally, comparative studies could investigate how flashcards perform relative to other visual aids, such as digital apps or interactive multimedia, to determine whether traditional flashcards remain as effective in technology-rich classrooms.

In conclusion, the discussion of findings demonstrates that flashcards are an effective instructional strategy for enhancing vocabulary acquisition among young EFL learners. By providing visual reinforcement, repeated exposure, and contextualized practice, flashcards enable learners to internalize new words more effectively than conventional methods alone. The detailed analysis of test items confirms that flashcards support a wide range of vocabulary skills, from meaning recognition to spelling and error correction. These results corroborate previous research while offering new insights into item-specific effects. For teachers, the findings highlight the pedagogical value of incorporating flashcards into daily practice. For researchers, they open avenues for further investigation into multimodal approaches to vocabulary learning. Ultimately, this study reaffirms that vocabulary learning is most successful when it is interactive, visual, and engaging—qualities that flashcards inherently provide.

V CONCLUSION

This study investigated the effectiveness of flashcards in enhancing vocabulary achievement among third-grade students in a public elementary school in South Tangerang. The findings demonstrate that students taught using flashcards significantly outperformed those receiving conventional instruction, with the experimental group achieving a mean post-test score of 16.88 (SD = 2.247) compared to 11.53 (SD = 1.951) in the control group, and a mean difference

of 5.35 points ($t(63) = 10.233$, $p < 0.001$). The N-Gain analysis further showed a high gain of 0.70 (70.16%) for the experimental group, versus 0.13 (12.80%) for the control group, indicating a substantial effect of the flashcards strategy. Item-level analysis revealed moderate to high mastery across all items in the experimental group, especially in translation and picture-word matching (mean $\approx$ 0.91 – 0.94), while the control group remained low (<0.60), confirming that flashcards support both recognition and productive use of vocabulary, including prepositions, verbs, adjectives, numerals, spelling, translation, and error correction. Beyond measurable scores, flashcards enhanced student engagement, motivation, and confidence through visual cues, repeated exposure, and interactive practice, aligning with theories emphasizing multimodal and contextualized learning. Practically, the study indicates that flashcards are an effective, low-cost tool for resource-limited classrooms, allowing teachers to create interactive and meaningful learning experiences that improve retention and comprehension. Limitations include a single-school sample, short intervention period, and exclusive focus on vocabulary, suggesting that future research should explore long-term retention, effects on other language skills, and comparisons with digital or alternative visual aids. In conclusion, flashcards are a powerful strategy for enhancing vocabulary acquisition among young EFL learners, with demonstrated improvements including a mean score increase of 7.09 points and an N-Gain of 70.16%, providing an interactive, visual, and engaging approach that significantly outperforms conventional methods.

REFERENCES

Amalia, A. (2025). Penggunaan media flashcard untuk mengatasi hambatan pemahaman matematika dasar siswa MI Tarbiyatul Ikhwan Pamekasan. *RESTECH: Journal of Research in Education, Science & Technology, 1*(1), 1–6. https://ejournal.papanda.org/index.php/restech

Arsana, A. A. P., & Maharani, A. A. P. (2021). The use of flashcards in English vocabulary learning. *Journal on Studies in English Language Teaching (JOSELT,)* 2(2), 25–33.

Aziza, R. N. (2021). The use of flashcards in teaching vocabulary to young learners. In *Bogor English Student and Teacher (BEST) Conference* (Vol. 2, pp. 120-122).

Donasari, R., Rofiah, T. D., & Qurroti, A. (2023). Students' responses of joyful learning class in Islamic elementary school: Flashcard games and visual worksheet. *SITTAH: Journal of Primary Education, 4*(2), 181–196. https://doi.org/10.30762/sittah.v4i2.1950

English for Nusantara Kids (Buku Siswa Bahasa Inggris Kelas III) [Student's book]. (2022). Pusat Perbukuan, Badan Standar, Kurikulum, dan Asesmen Pendidikan, Kementerian Pendidikan, Kebudayaan, Riset, dan Teknologi Republik Indonesia. Retrived from https://static.buku.kemdikbud.go.id/content/pdf/bukuteks/kurikulum21/Inggris_BS_KLS_III_Lc.pdf

Firdausah, A., & Sari, D. M. M. (2022). Teaching vocabulary to young learners using flashcards. *Ilmu Budaya: Jurnal Bahasa, Sastra, Seni, dan Budaya*, *6*(2), 719-724. http://dx.doi.org/10.30872/jbssb.v6i2.6029.

Fitri, A., Rahim, R., Nurhayati, Azis, S. L. Pagiling, N., Natsir, I., Munfarikhatin, A., Simanjuntak, D. N., Hutagaol, K., & Anugrah, N. E. (2023). *Dasar-dasar statistika untuk penelitian*. Yayasan Kita Menulis.

Khan, R. M. I. (2022). The use of flashcards in teaching EFL vocabulary in online learning. *Register Journal, 15*(1), 109–125. http://dx.doi.org/10.18326/rgt.v15i1.109-125

Kolopita, C. P., Katili, M. R., & Yassin, R. M. T. (2022). Pengaruh media pembelajaran terhadap hasil belajar siswa pada mata pelajaran komputer dan jaringan dasar. *INVERTED: Journal of Information Technology Education, 2*(1). https://doi.org/10.37905/inverted.v2i1.13081

Komalig, O. E. (2023). Dampak penggunaan flash card dan games pada kelas ESL (English as second language) terhadap kemampuan siswa mempelajari kosa kata. *Al Ittihadu, 2*(2), 171–180. https://doi.org/10.63736/ai.v2i2.83

Magdalena, I., Fauziah, S. N., Faziah, S. N., & Nupus, F. S. (2021). Analisis validitas, reliabilitas, tingkat kesulitan dan daya beda butir soal ujian akhir semester Tema 7 kelas III SDN Karet Sepatan. *BINTANG: Jurnal Pendidikan dan Sains, 3*(2), 198–214.https://doi.org/10.36088/bintang.v7i2

Meidina, P. A. N., A'yun, Q., & Ermawati, D. (2024). Peningkatan kemampuan penguasaan vocabulary melalui model make a match berbantuan media flashcard siswa sekolah dasar. *Didaktik: Jurnal Ilmiah PGSD STKIP Subang*, *10*(3), 282-294.

Nuryani, N., & Fadloeli, O. (2021). The Utilization of Flash Cards in Teaching English To Young Learners. *PROJECT (Professional Journal of English Education)*, *4*(2), 156-162. https://doi.org/10.22460/project.v4i2.p156-162.

O'Donnell, B. Q. J., & Chomdokmai, M. (2024). An application of Marzano's six-steps process and digital flashcards on vocabulary learning for grade 12 students in Thailand. *Asian Journal of Social Science and Management Technology,* 6(6), 77–88.

Podoroh, P. (2023). Enhancing ESL Vocabulary Acquisition with Flashcards and Arts Integration. *KUPAS SENI*, 11(1), 28-35. https://doi.org/10.37134/kupasseni.vol11.1.5.2023.

Pratiwi, A. W., Atmowardoyo, H., & Salija, K. (2022). The use of Indonesian in teaching English as the foreign language. *Journal of Art, Humanity, and Social Studies*, *2*(3), 57-66.

Rahmadillah, M. C., & Fatimah, S. (2023). Students' Perceptions on Using Vocabulary Journal for Mastering Vocabulary: A Descriptive Study at SMAN 12 Padang. *Journal of English Language Teaching*, *12*(4), 1142-1159.

Rahmawati, A. W., & Rustipa, K. (2023). Using flashcards to motivate students to learn English at SDN Karangayu 03 Semarang. *Globish: An English-Indonesian Journal for English, Education and Culture, 12*(2), 108–118. http://dx.doi.org/10.31000/globish.v7i2

Rahmawati, R. A., & Dahlina, U. (2024). The Effect of Digital Flashcards on Students' Vocabulary Mastery at Seventh Grade of SMP Negeri 1 Kramatwatu. https://doi.org/10.61664/jedlish.v4i1.165.

Romadhon, L. R., Mutiarani, & Hadi, M. S. (2021). The use of flashcard media in improving students' ability in learning vocabulary at English class VII An-Nurmaniah Junior High School. *Getsempena English Education Journal, 8*(2), 361–372. https://doi.org/10.46244/geej.v8i2.1498.

Sharma, D., & Mahavidhyalaya, M. (2023). Cognitivism and Integration of Technology. Dr. Shabina Fatima, 22.

Simamora, M. W. B., & Oktaviani, L. (2020). What is your favorite movie?: A strategy of English Education students to improve English vocabulary. *Journal of English Language Teaching and Learning*, *1*(2), 44-49. https://doi.org/10.33365/jeltl.v1i2.604.

Syamsiyah, N., & Ma'rifatulloh, S. (2023). The effectiveness of using flashcards to improve students' vocabulary mastery. *Journal of Science and Education Research, 2*(2), 25–30. https://doi.org/10.62759/jser.v2i2.37

Umaralieva, M. M., & kizi Yakhyoyeva, S. K. (2023). How to Improve Vocabulary through Different Strategies. *Educational Research in Universal Sciences*, *2*(6), 445-447.

Uraimshikova, M. R. (2022). Problems and Solutions for English Undergraduate Students in Vocabulary Learning. *Central Asian Research Journal for Interdisciplinary Studies (CARJIS)*, *2*(6), 64-70.

Wahab, A., Junaedi, J., & Azhar, M. (n.d.). Efektivitas pembelajaran statistika pendidikan menggunakan uji peningkatan N-Gain di PGMI. *Jurnal BASICEDU: Research & Learning in Elementary Education.* https://doi.org/10.31004/basicedu.v5i2.845

Wahyuningsih, S., & Afandi, M. (2020). Investigating English Speaking Problems: Implications for Speaking Curriculum Development in Indonesia. *European Journal of Educational Research*, *9*(3), 967-977. https://doi.org/10.12973/eu-jer.9.3.967.

Wero, Y. T., Machmud, K., & Husain, N. (2021). The study on students' vocabulary size. *Jambura Journal of English Teaching and Literature*, 2(1), 22-34. https://doi.org/10.37905/jetl.v2i1.10279.

Wicaksono, W., Buchori, A., & Nugroho, A. A. (2023). Efektivitas model problem based learning berbantu media M-Math untuk meningkatkan kemampuan berpikir kritis dan kreatif peserta didik sekolah dasar. *Didaktik: Jurnal Ilmiah PGSD FKIP Universitas Mandiri, 9*(4), 1441–1455.https://doi.org/10.36989/didaktik.v9i04.1716

Zarfsaz, E., & Yeganehpour, P. (2021). The Impact of Different Context Levels on Vocabulary Learning and Retention. *Shanlax International Journal of Education*, *9*(4), 24-34. https://doi.org/10.34293/education.v9i4.4049.