

The Effectiveness Of Flashcard-Based Instruction In Enhancing English Vocabulary Mastery Among EFL Learners: A Systematic Literature Review

Efektivitas Pengajaran Berbasis Kartu Flash Dalam Meningkatkan Penguasaan Kosakata Bahasa Inggris Di Kalangan Pembelajar EFL: Tinjauan Literatur Sistematis

Sofiyatul Ilmah¹, Zahro Salsabila², Arif Purnama³, Elyza Martiarini⁴

Universitas Indraprasta PGRI Jakarta^{1,2,3,4}

Email: ¹sofiyatulilmah@gmail.com, ²zahro.salsa23@gmail.com, ³ariefpurnama19@gmail.com,
⁴elyza.martia@gmail.com

*Corresponding Author

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ABSTRACT

Vocabulary mastery is a core component of English language proficiency, particularly for English as a Foreign Language (EFL) learners who have limited exposure to authentic language input. A lack of vocabulary knowledge often restricts learners' ability to understand texts and communicate ideas effectively. One instructional strategy that has been widely applied to address this issue is flashcard-based instruction, which emphasizes repeated exposure and active recall to support vocabulary retention. This study aims to examine the effectiveness of flashcard-based instruction in enhancing English vocabulary mastery among EFL learners through a systematic literature review. The review follows the Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) guidelines to ensure a transparent and systematic research process. Data were collected from peer-reviewed journal articles published between 2020 and 2025 and retrieved via Google Scholar. After the processes of identification, screening, and eligibility assessment, 30 relevant studies were selected for analysis. The findings reveal that flashcard-based instruction has a positive impact on learners' vocabulary development, with digital flashcards showing higher effectiveness due to the integration of multimedia features and spaced repetition systems. The study concludes that flashcard-based instruction is an effective and practical approach for improving English vocabulary mastery in EFL contexts.

Keywords: Digital Flashcards, EFL Learners, Flashcard-Based Instruction, Systematic Literature Review, Vocabulary Mastery.

ABSTRAK

Penguasaan kosakata merupakan komponen inti dari kemampuan berbahasa Inggris, khususnya bagi pembelajar Bahasa Inggris sebagai Bahasa Asing (EFL) yang memiliki paparan terbatas terhadap masukan bahasa otentik. Kurangnya pengetahuan kosakata seringkali membatasi kemampuan pembelajar untuk memahami teks dan mengkomunikasikan ide secara efektif. Salah satu strategi pembelajaran yang telah banyak diterapkan untuk mengatasi masalah ini adalah pembelajaran berbasis kartu flash, yang menekankan paparan berulang dan pengingatan aktif untuk mendukung retensi kosakata. Studi ini bertujuan untuk menguji efektivitas pembelajaran berbasis kartu flash dalam meningkatkan penguasaan kosakata bahasa Inggris di kalangan pembelajar EFL melalui tinjauan literatur sistematis. Tinjauan ini mengikuti pedoman Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) untuk memastikan proses penelitian yang transparan dan sistematis. Data dikumpulkan dari artikel jurnal yang ditinjau sejawat yang diterbitkan antara tahun 2020 dan 2025 dan diambil melalui Google Scholar. Setelah proses identifikasi, penyaringan, dan penilaian kelayakan, 30 studi yang relevan dipilih untuk dianalisis. Temuan menunjukkan bahwa pembelajaran berbasis kartu flash memiliki dampak positif pada kemampuan pembelajar pengembangan kosakata, dengan kartu flash digital menunjukkan efektivitas yang lebih tinggi karena integrasi fitur multimedia dan sistem pengulangan berjarak. Studi ini menyimpulkan bahwa pengajaran berbasis kartu flash merupakan pendekatan yang efektif dan praktis untuk meningkatkan penguasaan kosakata bahasa Inggris dalam konteks EFL.

Kata kunci: Kartu Flash Digital, Pembelajar EFL, Pengajaran Berbasis Kartu Flash, Tinjauan Pustaka Sistematis,

1. Introduction

Vocabulary is a fundamental component of language proficiency, enabling learners to understand and produce language effectively in communication. In the context of English as a Foreign Language (EFL), learners often experience limited exposure to natural linguistic input, making intentional vocabulary instruction crucial for supporting their overall language development. (Le & Luong, 2023) emphasize that vocabulary is even more critical than other language components, such as grammar and pronunciation, because it forms the essential building block for all aspects of language proficiency. The use of flashcards has been shown to facilitate vocabulary retention by offering repeated visual exposure, thereby strengthening memory and supporting long-term word acquisition. (Wulandari, 2025) argues that flashcards enhance vocabulary learning through repetition and visual reinforcement.

Students who utilize digital flashcards for learning academic vocabulary tend to achieve significantly higher outcomes compared to those using traditional paper-based flashcards or simple word lists. Digital flashcards offer interactive features, repeated exposure, and multimedia support, which increase learner engagement and enable deeper processing of vocabulary, resulting in more effective and sustained learning outcomes. (Xodabande dkk., 2022) found that students using digital flashcards (NAWL Builder) outperformed those using paper flashcards and word lists, with substantially higher test scores. Continuous and systematic encounters with vocabulary items improve learners' ability to retain and comprehend word meanings. (F. A. K. Putri dkk., 2023) highlight that vocabulary learning necessitates repeated exposure and meaningful engagement with words to achieve stable long-term retention and stronger lexical understanding.

Learning media, including tools, methods, and techniques, play a critical role in delivering instructional content and facilitating student understanding (Setiyaningsih dkk., 2024). Among these, flashcards have gained notable attention due to their ability to promote repeated exposure, active recall, and associative learning, thereby reinforcing memory for newly introduced vocabulary. Through systematic review and continual retrieval practice, flashcard-based instruction strengthens mental connections with lexical items, supports long-term retention, and enhances learners' capacity to recall words accurately across contexts. This method is valued for its simplicity, flexibility, and effectiveness in both independent study and classroom instruction. Flashcards encourage active engagement, repeated practice, and efficient vocabulary retention, making learning more practical and effective (Siregar dkk., 2025).

Interactive and engaging learning media foster student enthusiasm and participation, which in turn improves vocabulary mastery. (Rifai, 2024) report that flashcard-based instruction significantly enhances vocabulary acquisition among junior high school students. Regular exposure and repeated practice help learners recognize, remember, and recall new words more effectively, leading to noticeable improvements in vocabulary mastery. Flashcards also play an essential role in developing listening and speaking skills by providing repeated exposure to words along with pronunciation and contextual usage, facilitating accurate word recognition during listening activities and effective oral communication (Wijaya dkk., 2025).

The effectiveness of flashcards as learning media stems from their ease of use, flexibility, high retention value, and engaging nature. Zebua et al. (2024) note that flashcards are portable, practical, memorable, and interactive, making them highly suitable for supporting vocabulary learning. Learning media, in general, help teachers present information clearly, maintain student attention, and create meaningful instructional experiences, thereby enhancing understanding and retention. Digital flashcards, in particular, have been shown to improve vocabulary mastery and learner autonomy in Indonesian EFL classrooms (Rambe dkk., 2025). This study aims to examine the effectiveness of flashcard-based instruction in enhancing English vocabulary mastery among EFL learners through a systematic literature review.

2. Method

This study employs a systematic literature review to examine the effectiveness of flashcard-based instruction in improving English vocabulary mastery among EFL learners. The review follows the Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) framework to ensure a structured, transparent, and replicable research process (Wijaya dkk., 2025). The systematic review approach enables a rigorous selection of studies through clearly defined identification, screening, eligibility, and inclusion phases, ensuring the reliability of the findings.

Phase 1: Identification

Relevant studies were identified through a systematic search of peer-reviewed journal articles using Google Scholar as the primary database. The search focused on articles published between 2019 and 2025 to reflect recent developments in the field. Keywords used during the search included: digital flashcards, EFL learners, flashcard-based instruction, systematic literature review, vocabulary mastery. Non-journal sources were excluded, although the potential for publication bias remains.

Table 1. Source of Journals

Journal Source	Quantity	Keywords
Google Scholar	49	digital flashcards, EFL learners, flashcard-based instruction, systematic literature review, vocabulary mastery

Phase 2: Screening

After the initial identification, duplicate articles were detected and removed. The remaining publications were then evaluated to ensure they met the research criteria. This process helped refine the dataset and ensured that only relevant studies were considered for further analysis.

Phase 3: Eligibility

During this phase, articles were assessed based on **inclusion criteria** to ensure high-quality and relevant data were analyzed.

Table 2. Inclusion Criteria

Inclusion Criteria
The use of flashcard-based instruction in enhancing English vocabulary
Research methodologies: quantitative, qualitative, mixed-method, or systematic literature review
Peer-reviewed journal articles published between 2020–2025

The selected studies were further examined for their methodological rigor and relevance to the research topic, ensuring that only studies meeting the inclusion criteria were included in the review.

Phase 4: Exclusion

Studies that did not meet the eligibility requirements were excluded based on the following criteria:

Table 3. Exclusion Criteria

Exclusion Criteria
Studies that did not explicitly examine vocabulary learning outcomes
Studies investigating digital tools or instructional strategies without a clear flashcard-based component

Non-empirical publications (literature reviews, theoretical papers, opinion articles, editorials, or book chapters)

Articles published outside the predetermined timeframe (before 2020)

This exclusion process ensured that the analysis focused on high-quality and relevant empirical studies.

Research Design and Participants

The reviewed studies employed diverse research designs, including qualitative, quantitative, quasi-experimental, classroom action research, and systematic literature reviews. The participants represented various educational levels, from junior high school to higher education institutions.

Table 4. Quantity of Journals Based on Research Design

Research Design	Quantity
Qualitative design	1
Quasi-experimental design	2
Classroom Action Research	1
Quantitative design	2
Systematic Literature Review	1

PRISMA Flow and Data Analysis

The complete selection process is illustrated in Figure 2, which follows the PRISMA 2020 guidelines. This flowchart details each phase of study selection, from identification to final inclusion, ensuring a transparent and reproducible methodology.

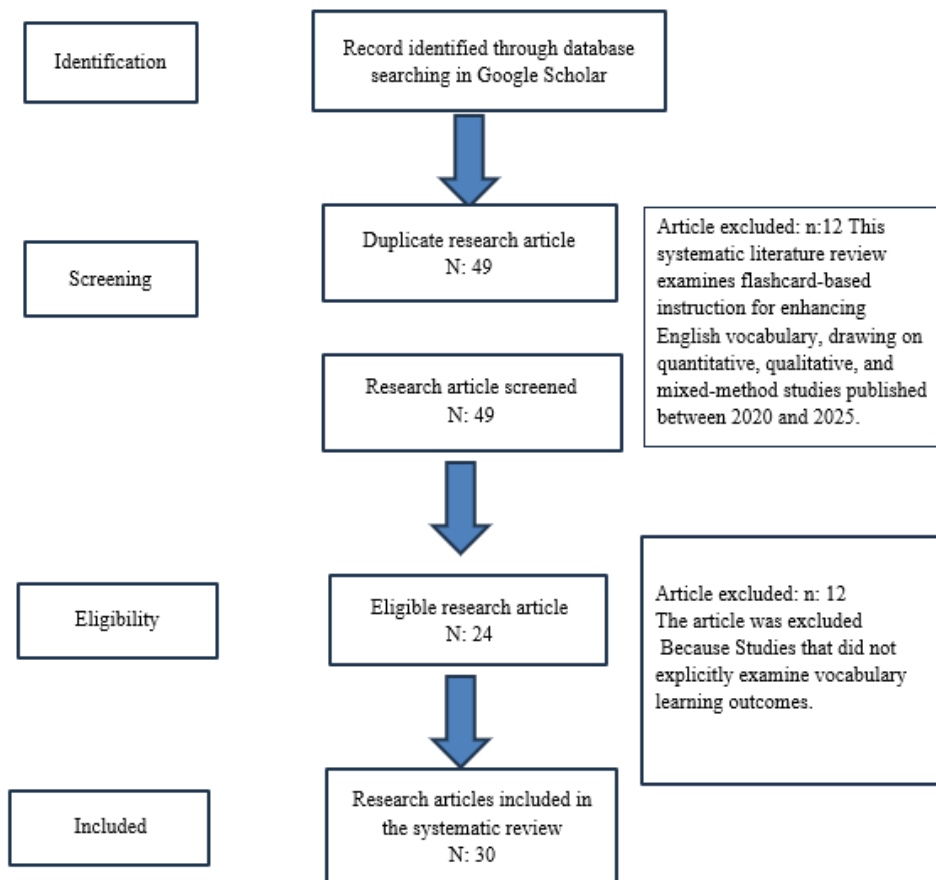


Figure 1. Stream Chart Of The Research Article Selections Process

By systematically following these steps, this study provides a comprehensive review of how flashcard-based instruction enhances vocabulary mastery among EFL learners, ensuring methodological rigor and relevance to current educational practices.

3. Result and Discussion

This section presents the findings of the studies included in this systematic literature review. Table 5 provides a summary of the authors, research objectives, and key results regarding the effectiveness of flashcard-based instruction in enhancing English vocabulary mastery among EFL learners.

Table 5. Summary of Selected Studies on Flashcard-Based Instruction

No.	Authors	Study Purpose	Key Findings
1	(Siregar dkk., 2025)	To investigate the effectiveness of flashcard-based instruction in improving EFL students' vocabulary mastery	Flashcard-based instruction significantly enhanced students' vocabulary recall and retention through repeated exposure and visual support
2	(Xodabande dkk., 2022)	To compare digital flashcards, paper flashcards, and word lists in academic vocabulary learning	Digital flashcards produced higher vocabulary achievement and long-term retention compared to paper flashcards and word lists
3	(Annisa dkk., 2025)	To examine the impact of flashcard-based instruction on vocabulary mastery in Indonesian EFL classrooms	Flashcards effectively improved vocabulary mastery and learner autonomy when integrated into classroom instruction
4	(Azizah dkk., 2025)	To analyze the effect of flashcard media on junior high school students' vocabulary achievement	Students taught using flashcards showed significant improvement in vocabulary acquisition compared to conventional instruction
5	(Darsana, 2025)	To explore the use of bilingual flashcards in teaching English vocabulary to young learners	Bilingual flashcards enhanced vocabulary comprehension, retention, and learning confidence by linking L1 and L2 vocabulary
6	(Maulana, 2025)	To investigate the effectiveness of flashcards in improving students' vocabulary memorization	Flashcards improved vocabulary retention and recall through repeated practice and active memorization
7	(Yunita, 2024)	To examine students' perceptions of flashcard use in vocabulary learning	Students perceived flashcards as engaging, helpful, and effective tools for understanding and remembering vocabulary
8	(Wijaya dkk., 2025)	To conduct a systematic review of flashcard use in English language teaching	Flashcard-based instruction consistently enhanced vocabulary learning outcomes across different EFL contexts and levels
9	(Syamsiyah & Ma'rifatulloh, 2023)	To analyze the effectiveness of interactive flashcard media in vocabulary learning	Interactive flashcards increased students' motivation,

			engagement, and vocabulary mastery	
10	(Wulandari, 2025)	To examine the effectiveness of flashcards in teaching English vocabulary	Flashcards supported recognition, pronunciation, and contextual word use	significantly supported vocabulary

This section integrates and interprets the findings of the selected studies by identifying common patterns, highlighting differences in research outcomes and methodologies, and revealing gaps in the literature regarding flashcard-based instruction for vocabulary development among EFL learners. Through this synthesis, current research trends are clarified, and areas needing further investigation are identified.

Similarities Across Studies

The reviewed studies consistently demonstrate the effectiveness of flashcard-based instruction in enhancing vocabulary mastery among EFL learners. Asyiah (2017) notes that while students may rely on memorization without full comprehension, the effectiveness of flashcards depends on meaningful instructional strategies. Most studies report significant improvements in vocabulary recall, retention, and word recognition following flashcard implementation, irrespective of learners’ age, proficiency level, or educational context. Both international and Sinta-accredited publications highlight that flashcards facilitate frequent exposure and retrieval practice, which are critical for reinforcing lexical knowledge.

Learner engagement and motivation emerge as another consistent theme. Studies indicate that digital flashcards particularly encourage active participation and foster learner autonomy. Features such as instant feedback, multimodal input, and gamified elements contribute to sustained interest and practice (R. R. Putri & Purnawan, 2026). Additionally, flashcard-based instruction supports self-regulated learning by enabling learners to control the timing, repetition, and focus of their vocabulary learning activities.

Differences Among Studies

Despite these similarities, notable differences exist in instructional approaches, research designs, and learning outcomes. One key distinction concerns the type of flashcards used. Conventional paper-based flashcards generally yield positive effects on vocabulary acquisition, whereas digital flashcards integrated with Spaced Repetition Systems (SRS) tend to produce stronger long-term retention and more efficient learning outcomes. (Labanu dkk., 2026) emphasize that flashcards’ simplicity, flexibility, and engaging format make them effective for learners across age groups.

Differences also arise from the duration of instructional interventions. Some studies employ short-term experimental designs spanning a few weeks, while others implement flashcard-based instruction over an entire academic semester. Extended interventions typically report more sustained vocabulary improvements, suggesting that continuous and repeated exposure is crucial for durable learning. Variations in assessment techniques, such as receptive tests, productive vocabulary measures, or delayed post-tests, further contribute to differing reported outcomes.

Contextual factors also influence study results. Learners’ proficiency levels, educational settings, access to technology, and the extent of teacher support affect flashcard implementation and effectiveness. For instance, research in Indonesian EFL contexts often underscores the role of teacher scaffolding and guided instruction, whereas studies in technology-rich environments emphasize learner independence and self-directed learning.

Research Gaps

Despite strong evidence supporting flashcard-based instruction, several research gaps remain. First, most studies focus on short-term vocabulary gains, with limited attention to long-term retention assessed via delayed post-tests. Future research should examine the durability of vocabulary learning over extended periods. Second, few studies investigate productive vocabulary development, including learners' ability to apply newly acquired words in speaking and writing. Existing research predominantly relies on receptive vocabulary assessments, which may not fully capture communicative competence. Third, comparative studies exploring flashcards in combination with other instructional approaches, such as task-based learning or extensive reading, are scarce. Research on integrated teaching models could provide more comprehensive insights into the role of flashcards in broader language learning frameworks. Finally, although digital flashcards have been widely studied, limited research examines learners' strategic behavior and metacognitive awareness during flashcard use. Understanding how learners plan, monitor, and evaluate their (Ma'rufah dkk., 2024) strategies could inform more effective instructional designs. (Ma'rufah dkk., 2024) highlight that flashcards enhance memory, promote independent learning, and expand vocabulary knowledge. Addressing these gaps will improve the quality of future empirical studies and offer valuable guidance for pedagogical practices in EFL vocabulary instruction.

4. Conclusion

This systematic literature review demonstrates that flashcard-based instruction is an effective strategy for enhancing English vocabulary mastery among EFL learners. Based on 30 empirical studies published between 2019 and 2024, both physical and digital flashcards are shown to improve vocabulary recall, retention, and learner engagement across diverse educational contexts.

The review highlights that digital flashcards, particularly those incorporating Spaced Repetition Systems (SRS), generally outperform traditional flashcards by providing adaptive review, multimodal input, and immediate feedback. However, the effectiveness of flashcard-based instruction is influenced by several factors, including the duration of instruction, assessment methods, learners' proficiency and characteristics, and the extent of teacher guidance. Studies indicate that longer interventions and the integration of contextualized and communicative activities contribute to more durable vocabulary gains.

In conclusion, flashcard-based instruction represents a flexible and pedagogically sound approach for vocabulary learning in EFL contexts. To optimize its impact, educators are encouraged to combine digital flashcards with interactive and meaningful language activities while guiding learners on effective usage. Future research should focus on long-term retention, productive vocabulary development, and learners' strategic engagement with flashcards to further enhance instructional practices.

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