



IMPROVING SENIOR HIGH SCHOOL STUDENTS' VOCABULARY MASTERY THROUGH PICTURE MATCHING GAME: A CLASSROOM ACTION RESEARCH

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Abstract: *Vocabulary mastery is a fundamental pillar in English language learning, yet Indonesian students consistently struggle to develop adequate lexical knowledge due to traditional practice-based teaching and low classroom engagement. This classroom action research investigated the effectiveness of a Picture Matching Game (PMG) in improving students' vocabulary mastery and learning motivation among Grade XI students of SMA Sint Carolus Penfui Kupang. Adopting Kemmis and McTaggart's (1988) spiral model, the study was conducted in two cycles involving 18 students. Quantitative data were collected through pre-test and post-test vocabulary assessments, while qualitative data were drawn from classroom observations and field notes. Results demonstrated significant improvement: mean vocabulary scores increased from 55.00 pre-action to 81.11 in Cycle II, with mastery rates improving from 16.67% to 88.89%. Student engagement similarly rose from 31.67% to 85.00%. The findings confirm that PMG is a pedagogically feasible approach to increase vocabulary retention, boost learning motivation, and reduce language anxiety in Indonesian EFL classrooms. Therefore, teachers are recommended to integrate visual game-based strategies as part of regular instruction.*

Keywords : *Vocabulary, Game-based learning, Picture matching game, Engagement, Classroom action research.*

Abstrak: Penguasaan kosakata merupakan pilar fundamental dalam pembelajaran bahasa Inggris, namun siswa di Indonesia secara konsisten mengalami kesulitan dalam mengembangkan pengetahuan leksikal yang memadai akibat praktik pengajaran yang masih bersifat tradisional dan rendahnya keterlibatan siswa di kelas. Penelitian tindakan kelas ini menyelidiki efektivitas Picture Matching Game (PMG) dalam meningkatkan penguasaan kosakata dan motivasi belajar siswa pada siswa kelas XI di SMA Sint Carolus Penfui Kupang. Dengan mengadopsi model spiral dari Kemmis dan McTaggart (1988), penelitian ini dilaksanakan dalam dua siklus yang melibatkan 18 siswa. Data kuantitatif dikumpulkan melalui tes kosakata pre-test dan post-test, sedangkan data kualitatif diperoleh dari observasi kelas dan catatan lapangan. Hasil penelitian menunjukkan peningkatan yang signifikan: rata-rata nilai kosakata meningkat dari 55,00 pada tahap pra-tindakan menjadi 81,11 pada Siklus II, dengan tingkat ketuntasan belajar meningkat dari 16,67% menjadi 88,89%. Keterlibatan siswa dalam pembelajaran juga meningkat dari 31,67% menjadi 85,00%. Temuan ini menegaskan bahwa Picture Matching Game (PMG) merupakan pendekatan pedagogis yang layak diterapkan untuk meningkatkan retensi kosakata, memperkuat motivasi belajar, serta mengurangi kecemasan berbahasa di kelas EFL di Indonesia. Oleh karena itu, guru disarankan untuk mengintegrasikan strategi pembelajaran berbasis permainan visual sebagai bagian dari praktik pembelajaran rutin.

Kata kunci : Kosakata, Pembelajaran berbasis permainan, Permainan mencocokkan gambar, Keterlibatan, Penelitian tindakan kelas

INTRODUCTION

English has become a dominant communication tool across academic, scientific, economic, political, and professional spheres. Its global spread has shifted its function from merely a native language to an international contact language. In many contemporary interactions, English is used between individuals who do not share the same mother tongue, forming a neutral linguistic bridge. This concept, known as English as a Lingua Franca (ELF), emphasizes communicative adequacy, not native-speaker norms, and prioritizes intelligibility among multilingual users (Kirkpatrick & Schaller-Schwaner, 2022). Thus, English proficiency has become a necessity for individuals in diverse societies, particularly those in developing regions where global mobility and digital connectivity increasingly shape socioeconomic opportunities.

In the Indonesian context, English is positioned as a foreign language within the national curriculum, taught from the elementary level in certain schools and compulsorily at junior and senior high school levels. The ability to use English opens educational and professional pathways, giving learners access to international knowledge, scholarship opportunities, and global labor markets. Mastery of English is also perceived to enhance academic competitiveness, particularly in higher education, research, and international partnerships. Despite this institutional recognition, the quality of English teaching and learning varies significantly across regions, affecting students' long-term proficiency. This variation highlights that simply allocating classroom hours is insufficient; effective pedagogical models and meaningful learning experiences are essential for linguistic growth.

Among the core challenges in foreign language learning, vocabulary acquisition remains a critical barrier for Indonesian students. Vocabulary plays a fundamental role in language performance because it provides the raw material with which learners construct meaning. Wilkins (1972) famously stated that “without grammar little can be said, but without vocabulary nothing can be said,” underscoring vocabulary as the backbone of communication. Students can possess grammatically accurate structures but be unable to express ideas due to lexical limitations. The absence of sufficient vocabulary not only impedes spoken communication but also limits reading comprehension, listening ability, and writing expression. In other words, vocabulary is the foundation upon which other linguistic skills are built.

To develop lexical competence, learners must understand vocabulary as a multidimensional construct. Nation (2001) explains that vocabulary knowledge comprises form (pronunciation and spelling), meaning (denotative and connotative), and use (grammatical behavior, collocation, and pragmatic context). Thornbury (2002) further emphasizes that vocabulary mastery does not occur through one-time exposure. Rather, learners need repeated and varied encounters to convert words from passive recognition to active use. Without opportunities to interact with vocabulary meaningfully, retention tends to be shallow and short-lived.

Despite the theoretical importance of context-sensitive vocabulary instruction, many Indonesian classrooms still rely on traditional pedagogical approaches. Teacher-centered practices, such as lecturing, rote translation, and copying definitions, dominate instructional routines. Students often listen passively while teachers provide lists of English words accompanied by their Indonesian equivalents. This approach treats vocabulary as isolated

linguistic units rather than communicative tools, preventing learners from making meaningful associations. Schmitt (2000) warns that such surface-level strategies encourage memorization without cognitive engagement, which results in rapid forgetting and limited transfer to real-world language use. When vocabulary is presented devoid of authentic experiences, students struggle to integrate words into their mental lexicon.

The local context of Kupang illustrates how these instructional issues are compounded by sociocultural and psychological barriers. Students tend to avoid speaking English due to fear of public embarrassment, low self-efficacy, and a perception that English performance will be judged harshly by peers or teachers (Hornay, et al., 2024). These affective constraints discourage linguistic experimentation and reduce opportunities for internalizing new vocabulary (Hornay & Lomi, 2024). Learners may know certain words mentally but remain reluctant to verbalize them, leading to fossilized classroom silence. In such environments, the emotional climate becomes as influential as instructional design, hampering vocabulary growth despite considerable time spent in English lessons.

Given the structural and psychological limitations of traditional instruction, alternative teaching approaches are needed to promote both vocabulary learning and student engagement. Game-Based Learning (GBL) has emerged as a promising strategy, particularly in EFL contexts where motivation and exposure are limited. Prensky (2001) highlights that games stimulate intrinsic motivation because they incorporate reward mechanisms, competition, and self-directed progress, elements that mirror how students naturally engage with challenges. Instead of perceiving tasks as obligations, learners willingly invest cognitive effort because play transforms learning into an enjoyable pursuit. For educational environments marked by passivity or low confidence, GBL can provide the emotional safety that enables risk-taking and experimentation.

Beyond motivation, games also foster deeper cognitive involvement. Gee (2003) argues that game-based environments allow learners to assume identities, make decisions, and test hypotheses, turning language into a lived experience rather than a memorized system. This aligns with the notion of *situated learning*, wherein knowledge is acquired through meaningful participation within activity systems. By navigating game scenarios, students do not simply learn vocabulary; they use it to solve problems, interpret symbols, and collaborate. Such environments disrupt the rigid patterns of teacher-led instruction and reposition learners as active participants, encouraging them to apply vocabulary in ways that mirror authentic communication.

In response to these challenges and theoretical perspectives, this study applies a Picture Matching Game as a visual and interactive strategy to support vocabulary learning. As a form of multimodal instruction, picture-based games activate both linguistic and visual cognitive channels, which strengthens retention and reduces abstraction. Students do not merely memorize lexical items; they connect them to images, contexts, and peer interaction. The Picture Matching Game therefore addresses the dual objectives of vocabulary mastery and engagement, offering a pedagogical alternative suited to the realities of EFL classrooms in Kupang.

LITERATURE REVIEW

Vocabulary Learning in EFL Contexts

Vocabulary is the foundation for receptive and productive language skills. As Nation (2001) explains, learners must acquire both receptive vocabulary (recognition and comprehension) and productive vocabulary (independent use in communication). Schmitt (2000) adds that vocabulary acquisition is gradual; learners require multiple exposures to reinforce semantic networks. Students who memorize lists may remember words temporarily, but without visual or contextual cues, retention declines rapidly. Thornbury (2002) emphasizes that vocabulary becomes functional when students connect words to real contexts and communicative purposes. Therefore, authentic tasks, meaningful word associations, and spaced practice are essential for sustainable vocabulary development.

Indonesian research shows that vocabulary learning is often considered “additional,” not integral, to communication tasks. Many teachers believe vocabulary is naturally acquired once grammar is mastered, but this assumption leads to fragmented learning and low proficiency. In contexts such as East Nusa Tenggara, where English exposure outside school is limited, vocabulary cannot be assumed to develop implicitly (Liunokas et al., 2023). Students must be given stimuli that bridge word form and meaning, delivered through engaging activities that reduce anxiety.

Game-Based Learning and Language Development

Game-Based Learning (GBL) encourages interaction, problem-solving, and autonomy. Adipat et al. (2021) argue that GBL increases student agency because it transforms learning into an active process. Instead of positioning students as recipients, games turn them into decision-makers who manipulate information to achieve goals. Games offer challenges, goals, competition, and instant feedback—conditions known to increase intrinsic motivation and attention (Prensky, 2001). These mechanisms are especially beneficial in language classrooms, where anxiety often blocks communication.

Gee (2003) notes that games create “semiotic domains” where learners must apply knowledge in scenario-based environments. Such environments make vocabulary meaningful: learners do not just learn words—they use them to solve problems. Ahamad et al. (2022) further demonstrate that cooperative games promote social responsibility, foster peer support, and alleviate fear of mistakes. The combination of cognitive engagement and social collaboration creates fertile ground for vocabulary learning in classrooms that struggle with motivation.

Dual Coding and Visual Learning

Paivio’s (1986) Dual Coding Theory posits that verbal and visual channels form independent but interconnected memory pathways. When vocabulary is linked to images, learners develop stronger cognitive associations. The picture *cat* paired with the word *cat* activates visual and linguistic systems simultaneously, increasing retention. Thornbury (2002) supports this approach, explaining that vocabulary stored through multiple channels is more easily retrieved. Nation (2001) adds that multimodal exposure facilitates long-term acquisition because learners connect form, meaning, and image.

This dual coding approach is crucial in remote Indonesian classrooms where vocabulary input is minimal. Students may encounter English only through textbooks or chalkboards. Visual games offer richer stimuli and thus help reduce abstraction. They also lower anxiety because learners focus on recognition rather than linguistic performance. As Dewaele and Li (2021) found, enjoyment mediates social-behavioral engagement, making playful activities ideal environments to stimulate vocabulary practice among reluctant learners..

RESEARCH METHOD

The present research applies a Classroom Action Research (CAR) design to solve instructional problems at the classroom level. CAR empowers teachers to investigate their teaching practices and adjust them through iterative action (Kemmis & McTaggart, 1988). This research explicitly sought practical solutions to low vocabulary mastery and engagement.

The study was conducted at SMA Sint Carolus Penfui Kupang during the 2025/2026 academic year. The participants were 18 Grade XI students with mixed English proficiency. Preliminary classroom observations revealed three problems: (1) weak vocabulary knowledge, (2) low participation, and (3) avoidance of English due to fear of error. The class was therefore chosen purposively, consistent with CAR principles that prioritize context-specific intervention.

CAR follows the following cyclic approach:

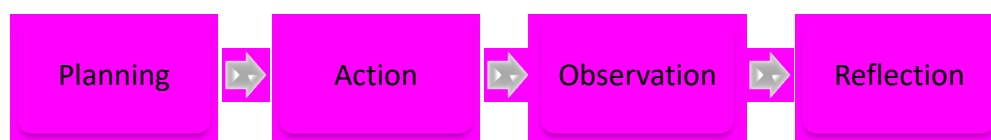


Figure 1. CAR Cycle

Cycle I aimed to introduce vocabulary through the Picture Matching Game without altering classroom routines significantly. Pictures and vocabulary cards were distributed, and students worked in small groups. The researcher facilitated but did not intervene heavily, observing how students responded.

Cycle II implemented refinements based on reflection. Pictures were categorized (food, household items, animals), vocabulary cards were more contextually appropriate, and game rules encouraged verbal explanation. Students were provided opportunities to guess aloud, reformulate responses, and negotiate meaning. These modifications targeted comprehension and confidence.

Data were collected using:

1. Vocabulary tests: 30 items per instrument, combining matching, definition, and usage tasks.
2. Observation sheets: measuring attention, interaction, vocabulary use, emotion, and persistence.

Field notes: documenting verbal exchanges, hesitation, laughter, confusion, peer coaching, and social patterns.

RESEARCH FINDINGS AND DISCUSSION

Quantitative data were analysed descriptively: mean scores and mastery percentages. Qualitative data were coded inductively, revealing patterns in engagement, vocabulary usage, and emotional responses. The triangulation of test results and observed behaviours increased reliability.

Quantitative Result

Below is the table of students' performances in pre-action, Cycle I, and Cycle 2.

Table 1. Student Vocabulary Performance			
Phase	Mean Score	Mastery %	Students $\geq$ KKM
Pre-Action	55.00	16.67%	3
Cycle I	68.50	50.00%	9
Cycle II	81.11	88.89%	16

The results of this classroom action research demonstrate that the implementation of the Picture Matching Game (PMG) led to substantial improvement in students' vocabulary mastery. The quantitative data revealed a clear upward trend in student achievement. Students' mean vocabulary score in the pre-action phase was 55.00, and only 3 of 18 students (16.67%) met the minimum mastery criteria. After the intervention was introduced in Cycle I, the mean increased to 68.50 with 50.00% mastery. Cycle II showed a further improvement, where the mean score reached 81.11 and 88.89% of students successfully achieved the minimum standard. This progressive trend reflects not only the effectiveness of the PMG strategy, but also the influence of instructional design that matches cognitive and affective needs of learners. These findings align with the view that game-based instructional strategies can stimulate intrinsic motivation and increase learners' engagement (Prensky, 2001; Adipat et al., 2021).

Qualitative Result

The qualitative findings add important insights into how vocabulary mastery improved. During the pre-action stage, students were highly dependent on teacher assistance and tended to rely on memorization.

Table 2. Engagement Indicators		
Phase	Engagement Level	Category
Pre-Action	31.67%	Low
Cycle I	63.33%	Moderate
Cycle II	85.00%	High

Table 2 shows how their engagement was low (31.67%), as they appeared reluctant to participate and often avoided interaction due to fear of making mistakes. This classroom dynamic can be described as teacher-centered learning, where knowledge transmission flows one way (teacher $\rightarrow$ student) and students remain passive recipients. After Cycle I, students gradually shifted toward more autonomous learning behavior. Engagement levels rose to 63.33%, and collaborative efforts visibly increased. They began to negotiate meaning within groups, seek assistance from peers, and test vocabulary hypotheses based on visual cues. These patterns are consistent with cooperative learning literature, which shows that collaboration promotes verbal risk-taking and

strengthens conceptual understanding (Ahamad et al., 2022).

The integration of visual stimuli in the form of pictures was a central factor in these improvements. According to Paivio's (1986) Dual Coding Theory, the human brain processes information simultaneously via verbal and non-verbal systems. When vocabulary is introduced through pictures, learners build cognitive bridges between language symbols and mental imagery. Students in Cycle II frequently referenced the images to retrieve meaning ("I remember this picture, that is freezer"), indicating that visual cues supported memory reconstruction. This observation corresponds with Nation (2001), who argues that vocabulary learning must engage memory systems beyond simple rote memorization to ensure long-term retention. Visual anchors helped students associate form and meaning, which made vocabulary more durable and accessible.

The gamified nature of the learning process also played a decisive role in increasing motivation. Students expressed excitement during matching activities, laughed at incorrect guesses, and celebrated correct answers. This classroom atmosphere stands in stark contrast to conventional vocabulary drills, which often feel like tests rather than learning opportunities. As Prensky (2001) explains, games trigger intrinsic motivation because they contain the familiar reward systems—achievement, competition, and challenge—that students naturally respond to. Learning becomes meaningful not because the teacher commands it, but because students want to progress. This is consistent with Gee's (2003) notion of "semiotic domains," in which learners take on roles, test ideas, and build identities through game participation. Here, the PMG transformed students from test-takers into problem-solvers.

Teacher enthusiasm also indirectly contributed to student engagement. During Cycle I, the researcher provided structured guidance but limited emotional reinforcement. In Cycle II, directions were delivered with more encouragement, clearer scaffolding, and positive affirmation. Students responded with increased willingness to interact, demonstrating behaviors such as explaining vocabulary to peers or voluntarily using English when placing cards. Dewaele and Li (2021) found that enthusiasm is socially contagious—when teachers display excitement, students mirror that enthusiasm in their behavioral engagement. This was evident when hesitant learners began to volunteer answers without being called upon, indicating that their affective filters became lower.

The cooperative structure of the PMG helped redistribute responsibility and reduce anxiety. Instead of being judged individually, learners worked in teams of two or three, which provided emotional buffers. Students no longer feared ridicule because they could rely on their partners for confirmation or correction. This mirrors findings from Ahamad et al. (2022), who emphasize that cooperative learning models strengthen social cohesion and encourage active participation. In Cycle II, peer scaffolding was evident: stronger students assisted weaker peers by explaining vocabulary or gesturing toward images. Such peer scaffolding is not merely a social act but it reflects Vygotskian principles of collective problem solving, where learning is socially mediated and knowledge is co-constructed.

Beyond academic gains, the PMG had psychological implications. Many students initially displayed signs of classroom avoidance such as looking down, whispering to friends, or waiting passively for answers. After

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repeated gameplay sessions, these behaviors diminished. Students began to accept trial-and-error processes and became more relaxed when making mistakes. This aligns with Dewaele & Li's (2021) argument that enjoyment reduces anxiety and facilitates engagement. When errors are framed as part of the game's exploratory nature, they lose their stigma. In Cycle II sessions, students expressed enthusiasm even when losing points because they understood that vocabulary acquisition, not perfection, was the goal.

Notably, the PMG also encouraged spontaneous speech. In traditional vocabulary lessons, student responses are often limited to teacher prompts or reading aloud. During the game, students used English phrases such as "No, that one," "Check this," or "Maybe that picture," even if grammatically imperfect. These emergent utterances indicate authentic communicative use rather than mechanical repetition. Schmitt (2000) argues that vocabulary learning becomes meaningful when students activate lexical items in communication. The PMG created low-risk speaking opportunities where students naturally attempted to produce language without fear of teacher evaluation.

The results also validate cultural-contextual arguments in Indonesian EFL settings. Hornay, Talok, and Erom (2024) show that students' preferred learning styles are frequently visual, collaborative, and interactive. When instruction aligns with learner preference, motivation increases and cognitive outcomes improve. The PMG addressed this alignment by providing sensory-rich materials (pictures), collaborative learning structures (groups), and playful competition (game mechanics). As learning felt familiar and enjoyable, students became more confident and willing to engage. This was particularly evident in Kupang, where learners tend to avoid speaking tasks due to self-consciousness (Hornay & Lomi, 2024). Visual games reduced linguistic pressure and democratized classroom participation.

Overall, the findings suggest that the PMG was not simply a teaching technique but a reorganizing force in classroom ecology. It shifted power dynamics, altered student identities, activated dual coding systems, and lowered affective barriers. The combined effects produced measurable improvements in vocabulary mastery and observable increases in engagement. Rather than relying on rote memorization or teacher-centered explanation, the PMG transformed vocabulary learning into a meaningful interaction with peers, images, and the linguistic environment. This demonstrates that pedagogical innovation does not require digital technology or expensive resources—it requires designs that acknowledge how learners think, feel, and socially interact.

CONCLUSION AND SUGGESTIONS

Conclusion

The Picture Matching Game effectively improved vocabulary mastery and increased learning motivation in an Indonesian EFL classroom. Students exceeded the minimum mastery criteria after Cycle II and demonstrated stronger confidence, willingness to participate, and reduced anxiety. PMG is therefore recommended for vocabulary instruction at secondary level.

Suggestion

Suggestions are provided to improve future research. Further studies are recommended to involve larger

and more diverse participant groups in order to increase the generalizability of the findings. Future researchers may also consider extending the duration of the research cycles so that the development of students' vocabulary mastery can be observed more comprehensively.

In addition, future research is suggested to employ more varied data collection techniques, such as interviews, reflective journals, or learning logs, to obtain deeper insights into students' learning experiences during game-based activities. Researchers may also explore the integration of digital or technology-based picture matching games to examine whether digital learning environments can further enhance students' engagement and vocabulary retention. Finally, longitudinal studies are recommended to investigate the long-term effects of game-based learning strategies on students' vocabulary development and overall English language proficiency.

REFERENCES

- Adipat, S., Laksana, K., Busayanon, K., Ausawasowan, A., & Adipat, B. (2021). Engaging students in the learning process with game-based learning: The fundamental concepts. *International Journal of Technology in Education*, 4(3), 542–552.
- Ahamad, F., Sulaiman, T., & Yusof, Y. (2022). Effectiveness of cooperative learning model in improving students' motivation and achievement in science education: A meta-analysis. *International Journal of Academic Research in Business and Social Sciences*, 12(10), 452–468.
- Dewaele, J. M., & Li, C. C. (2021). Teacher enthusiasm and students' social-behavioral learning engagement: The mediating role of student enjoyment and boredom in Chinese EFL classes. *Language Teaching Research*, 25(5), 922–945.
- Gee, J. P. (2003). *What video games have to teach us about learning and literacy*. Palgrave Macmillan.
- Hornay, P. M. A., Talok, D., & Erom, K. (2024). Bridging the gap: Aligning teachers' pedagogical beliefs with learners' preferences of English language learning in the adaptive learning era. *Jurnal Paedagogy*, 11(3), 483–495.
- Hornay, P. M. A., & Lomi, A. N. K. (2024). Unravelling self-efficacy in online discussion and presentation: Insights from English education students in Kupang, Indonesia. *International Journal of English Linguistics, Literature, and Education*, 6(1), 1–15. <https://doi.org/10.32585/ijelle.v6i1.4446>
- Kemmis, S., & McTaggart, R. (1988). *The action research planner*. Deakin University.
- Kirkpatrick, A., & Schaller-Schwaner, I. (2022). English as a lingua franca. In E. Hinkel (Ed.), *Improving Senior High School Students' Vocabulary....* (Da'a & Hornay, 2026)

Handbook of Practical Second Language Teaching and Learning (pp. 115–130).

- Lestari, M., & Wahyudin, A. Y. (2020). Language learning strategies of undergraduate EFL students. *Journal of English Language Teaching and Learning*, 1(1), 25–30.
- Liunokas, O. B. T., Sila, O., Landi, M., & Maryati, T. (2023). Case study and evaluation of East Sumba Covid-19 self-isolation sufferers. *Jurnal Penelitian Pendidikan IPA*, 9(Special Issue), 554–562.
- Nation, I. S. P. (2001). *Learning vocabulary in another language*. Cambridge University Press.
- Paivio, A. (1986). *Mental representations: A dual coding approach*. Oxford University Press.
- Prensky, M. (2001). *Digital game-based learning*. McGraw-Hill.
- Rao, P. S. (2019). The importance of speaking skills in English classrooms. *ACIELJ*, 2(1), 6–18.
- Schmitt, N. (2000). *Vocabulary in language teaching*. Cambridge University Press.
- Thornbury, S. (2002). *How to teach vocabulary*. Pearson Education.
- Wilkins, D. A. (1972). *Linguistics in language teaching*. Edward Arnold

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