PRIMARYEDU

Primaryedu: Journal of Elementary Education
Volume 10, Number 1, February 2026

P-ISSN: 2580-9326 | E-ISSN: 2580-7714

Integrating Interactive Standing Board Media in Elementary English Classrooms: Impact on Vocabulary Acquisition

Divya Ludi Saputri[1*], Arsyi Rizqia Amalia[2], Astri Sutisnawati[3]

[1,2,3] Universitas Muhammadiyah Sukabumi. Indonesia

Article Info

Article history:

Received January 23rd, 2025
Revised February 19th, 2026
Accepted February 23rd, 2026

Keywords:

Board Media
English Elementary
Interactive Learning Media
Vocabulary Acquisition

Abstract

This study investigates the implementation of Standing Board media to enhance elementary students' English vocabulary acquisition through classroom action research. The study was conducted in two action cycles involving 28 fifth-grade students in an Indonesian public elementary school. Each cycle consisted of planning, action, observation, and reflection stages. Vocabulary acquisition was measured using a performance-based test assessing pronunciation accuracy, spelling accuracy, and word meaning comprehension. Descriptive statistics were used to analyze students' progress across cycles. The findings revealed a consistent improvement in students' vocabulary acquisition. The mean score increased from 67.85 in the pre-cycle stage to 75.21 in Cycle I and further improved to 84.18 in Cycle II. Classroom observations also indicated increased student engagement and participation during interactive learning activities using the Standing Board media. The iterative refinement of instructional strategies across cycles contributed to improved pronunciation clarity, spelling accuracy, and vocabulary development. These findings suggest that interactive visual media integrated through classroom action research can effectively support vocabulary learning in elementary English classrooms. The study highlights the importance of active engagement and multisensory learning in early EFL instruction.

Corresponding Author:

Divya Ludi Saputri
Universitas Muhammadiyah Sukabumi. Indonesia
Email Author: divyarudiansyah26@gmail.com

INTRODUCTION

English plays a central role in global communication, academic exchange, and digital participation in the contemporary era. In English as a Foreign Language (EFL) contexts, early exposure to English instruction is increasingly viewed as essential for fostering communicative competence and long-term academic success. Primary education represents a foundational stage in which learners begin to construct their lexical repertoire and language awareness, shaping subsequent language development. Empirical research consistently identifies vocabulary knowledge as a strong predictor of overall language proficiency, particularly in relation to reading

comprehension, listening performance, and oral fluency (Schmitt, 2014; Webb & Nation, 2017; Uchihara & Saito, 2019). Limited vocabulary knowledge restricts learners' ability to process input efficiently and produce meaningful output, thereby constraining communicative competence.

Contemporary perspectives conceptualize vocabulary acquisition as a multidimensional construct that involves phonological representation, orthographic knowledge, semantic depth, and contextual use rather than mere memorization of definitions. Recent studies emphasize that effective lexical development requires both breadth (number of known words) and depth (quality of knowledge about each word), including pronunciation accuracy and contextual flexibility (Li & Hafner, 2022; Zhang & Graham, 2020). In elementary EFL settings, vocabulary learning presents particular challenges because learners are typically exposed to English primarily within classroom hours, limiting opportunities for incidental acquisition. Research indicates that limited exposure reduces cumulative lexical growth and increases reliance on structured instructional support (Peters & Webb, 2018; Uchihara, Webb, & Yanagisawa, 2019). When vocabulary instruction relies heavily on rote memorization, learners tend to engage in shallow processing, which weakens long-term retention and meaningful transfer (Laufer & Hulstijn, 2001; Teng & Zhang, 2021).

From a cognitive perspective, vocabulary acquisition is closely related to how information is encoded, organized, and retrieved from memory. The Cognitive Theory of Multimedia Learning proposes that learners process information through dual channels—visual and auditory—and that learning is enhanced when these channels are integrated effectively (Mayer, 2014). Coordinated verbal and visual input supports mental model construction and reduces cognitive overload. Complementing this view, dual coding principles suggest that lexical items encoded both verbally and visually are more likely to be retained and recalled (Paivio, 2007). More recent empirical research confirms that multimedia-supported vocabulary instruction yields significantly higher retention compared to text-only instruction, particularly when visual elements are meaningfully aligned with linguistic input (Chen & Hsu, 2020; Lin & Lin, 2019).

For young learners in elementary classrooms, interactive and multisensory learning environments are especially beneficial. Developmental research indicates that children respond more effectively to concrete representations and active engagement than to abstract explanation. Interactive instructional approaches have been shown to increase motivation, sustain attention, and deepen lexical processing in primary education contexts (Hsu, 2019; Sun & Yin, 2022). Moreover, retrieval-based and visually supported activities promote stronger form–meaning connections and longer retention intervals (Peters & Webb, 2018; Lin & Lin, 2019). These findings underscore the pedagogical importance of integrating interactive visual media into vocabulary instruction to address the learning challenges commonly observed in EFL elementary classrooms.

In addition to cognitive processes, motivational factors play a significant role in vocabulary learning outcomes. Learner engagement, attention regulation, and perceived task relevance influence the depth of lexical processing and retention. Studies in second language motivation indicate that young learners demonstrate stronger vocabulary retention when instructional activities promote interaction, collaboration, and active participation rather than passive reception (Dörnyei & Ryan, 2015; Sun & Yin, 2022). Interactive learning environments have been shown to enhance behavioral and cognitive engagement, which in turn facilitates deeper processing of

lexical items (Hiver, Al-Hoorie, & Mercer, 2021). When learners are actively involved in manipulating linguistic input, they are more likely to form durable form–meaning associations.

Technology-enhanced vocabulary learning tools, including multimedia applications and mobile-assisted language learning systems, have demonstrated positive effects on vocabulary growth and learner motivation in recent years (Chen & Hsu, 2020; Lin & Lin, 2019; Zhang et al., 2022). Empirical findings suggest that visually enriched and interactive environments increase retention rates and support repeated exposure to target words. However, much of the existing literature focuses primarily on fully digital or screen-based interventions. While digital platforms offer flexibility and accessibility, they may limit physical interaction and embodied engagement, particularly in elementary classrooms where kinesthetic involvement supports cognitive development.

Recent pedagogical discussions emphasize the importance of embodied cognition and multisensory engagement in early education. Research in educational psychology suggests that physical manipulation of learning materials can enhance attention, working memory integration, and conceptual understanding (Mavilidi et al., 2015). For young learners, movement-based and tangible learning tools can reinforce memory consolidation by linking motor activity with linguistic input. Despite this emerging theoretical support, empirical investigations examining hybrid instructional media—those combining physical interaction, visual representation, and limited digital integration—remain relatively scarce in elementary EFL contexts.

In many elementary schools, vocabulary instruction continues to rely heavily on textbooks, worksheets, and teacher-centered explanation. Although such approaches may provide structured input, they often offer limited opportunities for interactive practice and contextualized engagement. Research indicates that teacher-dominated vocabulary instruction may reduce learner autonomy and weaken sustained attention (Mercer & Dörnyei, 2020). Without sufficient visual reinforcement and interactive tasks, learners may struggle to construct meaningful lexical networks. Therefore, there is a growing need to explore instructional strategies that integrate visual support, physical interaction, and collaborative learning to foster deeper lexical development.

Standing Board media represents an interactive visual instructional tool designed to integrate physical manipulation, visual elements, and QR-code-supported pronunciation resources within vocabulary instruction. By encouraging students to engage in hands-on activities, peer collaboration, and guided pronunciation practice, this medium seeks to activate multiple cognitive channels simultaneously. The integration of visual representation and structured interaction aligns with multimedia learning principles and dual-channel processing frameworks, suggesting its potential effectiveness in strengthening phonological encoding, orthographic accuracy, and semantic integration.

However, empirical evidence regarding the effectiveness of hybrid physical–interactive vocabulary media in elementary EFL classrooms remains limited. While prior research has documented the benefits of digital multimedia tools, fewer studies have examined instructional approaches that combine tangible materials with structured interactive design. This gap highlights the need for classroom-based investigation that explores how such media function within authentic instructional settings. Addressing this gap is particularly important for primary education contexts where technological access may vary and where embodied engagement plays a crucial developmental role.

Based on the identified challenges in vocabulary instruction, the theoretical support for multisensory and interactive learning, and the limited empirical evidence on hybrid instructional media, this study aims to enhance elementary students' vocabulary acquisition through the implementation of Standing Board media using a classroom action research approach. Specifically, the study examines how iterative instructional refinement across action cycles contributes to improvements in pronunciation accuracy, spelling accuracy, and word meaning comprehension in an elementary EFL classroom.

METHOD

Research Design

This study employed a classroom action research (CAR) design to improve students' vocabulary acquisition through the implementation of Standing Board media. Classroom action research is an iterative and reflective approach that aims to enhance teaching practices and address practical classroom problems through systematic cycles of planning, action, observation, and reflection (Kemmis & McTaggart, 2014). This design was selected because the study focused on improving instructional practice within a specific classroom context rather than comparing treatment effects across different groups.

The research was conducted in two action cycles. Each cycle consisted of four stages: (1) planning the instructional intervention, (2) implementing the action using Standing Board media, (3) observing students' learning processes and performance, and (4) reflecting on the results to refine the instructional strategy for the subsequent cycle. The second cycle was designed based on reflections and identified limitations from the first cycle to ensure continuous instructional improvement.

Research Setting and Participants

The study was conducted in a public elementary school in Indonesia during the second semester of the academic year. Participants were 28 fifth-grade students enrolled in one intact classroom. All students participated in the learning activities across both action cycles. The class was selected based on preliminary observation indicating that students experienced difficulties in vocabulary pronunciation, spelling accuracy, and word meaning comprehension. Students' vocabulary acquisition was measured at three stages: pre-cycle (before the intervention), Cycle I, and Cycle II. Data from students with incomplete attendance during the intervention were excluded from quantitative analysis to ensure consistency of measurement.

Instrument

Vocabulary acquisition was measured using a researcher-developed test consisting of 30 items assessing three dimensions of lexical knowledge: phonological form (pronunciation), orthographic form (spelling), and semantic knowledge (word meaning). These dimensions are aligned with established frameworks of vocabulary knowledge that distinguish between form and meaning components (Nation, 2013; Schmitt, 2014).

Table 1. Blueprint of Vocabulary Acquisition Instrument

No	Dimension	Specific Indicator	Observable Skill
1	Phonological Knowledge (Pronunciation)	a. Accurate vowel production	Correct articulation of short and long vowels (e.g., /æ/, /iː/)
		b. Accurate consonant production	Clear articulation of consonants (e.g., /θ/, /ʃ/, /v/)
		c. Word stress accuracy	Correct stress placement in two- or three-syllable words
		d. Final sound clarity	Accurate pronunciation of final consonants
2	Orthographic Knowledge (Spelling)	a. Correct letter sequence	Writing words with correct letter order
		b. Vowel spelling accuracy	Accurate representation of vowel sounds in written form
		c. Consonant cluster accuracy	Correct spelling of double consonants or blends
3	Semantic Knowledge (Meaning)	a. Word–picture matching	Matching vocabulary to corresponding image
		b. Meaning recognition	Selecting correct meaning in context
		c. Contextual use	Identifying correct word in simple sentence

Procedure

The study was conducted through three stages: pre-cycle, Cycle I, and Cycle II. The pre-cycle stage was carried out to identify students' initial vocabulary acquisition levels and classroom learning conditions. Preliminary observation revealed that vocabulary instruction relied mainly on textbook explanation and repetition drills. Students showed limited engagement, and difficulties were particularly evident in pronunciation accuracy and spelling.

Cycle I began with the planning stage, in which the researcher prepared lesson plans integrating Standing Board media into vocabulary instruction. Learning objectives, vocabulary lists (e.g., animal-related vocabulary), and assessment criteria were aligned with the curriculum. During the action stage, vocabulary instruction was implemented using Standing Board media as an interactive visual tool combining physical manipulation, visual representation, and QR-code-supported pronunciation models. Students participated in guided pronunciation practice, spelling exercises, word–picture matching activities, and small-group retrieval tasks. The teacher facilitated learning by modeling pronunciation, providing corrective feedback, and encouraging collaborative interaction.

During the observation stage, students' participation, engagement, and vocabulary performance were documented using observation sheets and performance assessments. Reflection on Cycle I indicated that although students demonstrated improvement in engagement and vocabulary scores, some learners still required clearer pronunciation modeling and more structured peer support during spelling activities.

Based on this reflection, instructional strategies were refined in Cycle II. The second cycle emphasized more explicit phonological modeling, increased repetition of difficult vowel and

consonant sounds, and structured peer collaboration during practice activities. Additional scaffolding was provided to support accurate spelling and contextual understanding of vocabulary items. The same assessment procedures were applied at the end of Cycle II to measure students' vocabulary acquisition progress. The iterative refinement across cycles was intended to enhance instructional effectiveness and improve students' pronunciation accuracy, spelling accuracy, and word meaning comprehension through continuous classroom-based improvement.

RESULTS AND DISCUSSION

Results

This section presents the findings of the classroom action research conducted across three stages: pre-cycle, Cycle I, and Cycle II. The analysis focuses on the progression of students' vocabulary acquisition following the implementation of Standing Board media. Vocabulary acquisition was examined in terms of overall achievement, mastery level attainment, and performance across three dimensions: pronunciation accuracy, spelling accuracy, and word meaning comprehension. Descriptive statistics were used to illustrate the pattern of improvement across action cycles.

Overall Vocabulary Acquisition Improvement

Students' vocabulary acquisition was measured at three stages: pre-cycle, Cycle I, and Cycle II. Descriptive statistics of students' scores are presented in Table 2.

Table 2. Students' Vocabulary Acquisition Scores Across Action Cycles

Stage	Mean	SD	Minimum	Maximum
Pre-cycle	67.85	6.42	55	78
Cycle I	75.21	6.08	62	86
Cycle II	84.18	5.37	72	95

Table 2 shows a consistent upward trend in students' vocabulary acquisition scores across action cycles. The initial mean score of 67.85 in the pre-cycle stage indicates that students' vocabulary mastery was below the expected minimum standard. After the implementation of Standing Board media in Cycle I, the mean score increased to 75.21, reflecting an improvement of 7.36 points. This increase suggests that interactive visual engagement and structured pronunciation activities contributed positively to students' learning outcomes.

Further refinement in Cycle II resulted in a more substantial increase, with the mean score reaching 84.18. The total improvement from pre-cycle to Cycle II was 16.33 points. In addition to the increase in mean score, the standard deviation decreased from 6.42 to 5.37, indicating more homogeneous performance among students. This suggests that the instructional refinement in Cycle II not only improved overall achievement but also reduced performance disparities within the classroom.

Mastery Level Achievement

To examine learning achievement more specifically, the minimum mastery criterion (MMC) was set at 75. The percentage of students achieving mastery at each stage is shown in Table 3.

Table 3. Percentage of Students Achieving Mastery

Stage	Students Achieving MMC	Percentage
Pre-cycle	12 of 28	42.9%
Cycle I	18 of 28	64.3%
Cycle II	24 of 28	85.7%

As shown in Table 3, fewer than half of the students (42.9%) achieved the mastery criterion in the pre-cycle stage. This finding confirms the need for instructional improvement in vocabulary learning. Following the first cycle, the percentage of students achieving mastery increased to 64.3%, indicating that more students were able to meet the expected learning standard after exposure to interactive learning activities.

In Cycle II, mastery achievement rose significantly to 85.7%, meaning that nearly all students met the expected performance threshold. This substantial increase demonstrates that iterative refinement of instructional strategies enhanced not only average performance but also learning completeness at the class level. The steady increase in mastery percentage supports the effectiveness of the classroom action approach in addressing learning difficulties systematically.

Improvement by Vocabulary Dimension

To further examine the impact of the intervention, students' performance was analyzed across three vocabulary dimensions: pronunciation, spelling, and meaning comprehension. The results are presented in Table 4.

Table 4. Mean Scores by Vocabulary Dimension

Dimension	Pre-cycle	Cycle I	Cycle II
Pronunciation	21.30	25.14	28.86
Spelling	22.10	24.82	28.21
Meaning	24.45	25.25	27.11

Table 4 indicates that all vocabulary dimensions showed progressive improvement across cycles. Pronunciation demonstrated the most notable growth, increasing from 21.30 in the pre-cycle stage to 28.86 in Cycle II. This pattern suggests that repeated phonological modeling and interactive oral practice in the Standing Board activities effectively supported students' articulation accuracy.

Spelling accuracy also improved consistently, particularly in Cycle II after additional scaffolding and structured peer collaboration were introduced. Meanwhile, word meaning comprehension showed steady gains, indicating that visual representation and contextual reinforcement supported semantic understanding. Overall, the balanced improvement across phonological, orthographic, and semantic dimensions suggests that the interactive and multisensory characteristics of Standing Board media contributed to comprehensive vocabulary development rather than isolated skill enhancement.

Discussion

The findings of this classroom action research demonstrate a substantial and progressive improvement in students' vocabulary acquisition across the three stages of implementation. The upward trajectory from the pre-cycle stage to Cycle II reflects not only quantitative gains in

performance scores but also qualitative changes in classroom engagement and instructional dynamics. Such progressive improvement aligns with action research principles, which emphasize iterative refinement as a mechanism for enhancing pedagogical effectiveness (Kemmis et al., 2014). The observed development suggests that the integration of Standing Board media, combined with reflective instructional adjustment, facilitated deeper lexical processing and more sustained student participation.

One of the most striking findings of this study is the significant growth in pronunciation accuracy, which showed the highest increase among the assessed dimensions. This outcome may be attributed to the multisensory design of the Standing Board media, which integrated visual word representation, structured oral modeling, and physical interaction. Theoretical perspectives in multimedia learning propose that information is processed more effectively when learners receive input through coordinated visual and auditory channels (Mayer, 2014). Recent empirical research further confirms that multimodal input enhances phonological encoding and improves pronunciation development in EFL learners (Zhang et al., 2022). The QR-supported pronunciation models and guided repetition likely strengthened learners' phonological representations, enabling more accurate articulation of vowel and consonant sounds. In elementary EFL contexts, where exposure to authentic pronunciation outside school is limited, structured auditory reinforcement becomes particularly essential.

The more pronounced improvement in Cycle II compared to Cycle I highlights the role of explicit phonological scaffolding. Reflection after Cycle I revealed that several students required clearer modeling of stress patterns and segmental sounds. By intensifying phonemic awareness activities and increasing repetition opportunities in Cycle II, instructional refinement appears to have supported more precise phonological processing. Research in second language vocabulary acquisition emphasizes that phonological form recognition constitutes a foundational dimension of lexical knowledge and significantly influences long-term retention and retrieval (Uchihara et al., 2019; Li & Hafner, 2022). The strengthened pronunciation gains observed in this study are therefore consistent with evidence suggesting that explicit attention to phonological form enhances vocabulary retention.

Spelling accuracy also demonstrated consistent improvement across cycles. Spelling development requires integration between phonological awareness and orthographic knowledge. The interactive and collaborative tasks implemented through the Standing Board media encouraged repeated exposure to correct letter sequences and immediate feedback, both of which are known to reinforce orthographic representation. Retrieval-based practice has been shown to strengthen memory traces and reduce forgetting effects (Agarwal et al., 2021). Furthermore, peer-supported correction activities can promote metalinguistic awareness and deeper engagement with word form. The steady gains in spelling accuracy across cycles suggest that structured repetition combined with collaborative negotiation contributed meaningfully to orthographic consolidation.

Although improvement in meaning comprehension was slightly less pronounced than pronunciation gains, the consistent upward trend indicates enhanced semantic processing. The integration of visual stimuli, contextualized sentence tasks, and group-based activities likely strengthened form–meaning connections. Research suggests that contextualized vocabulary exposure and repeated encounters in meaningful settings enhance semantic depth and promote flexible word use (Peters & Webb, 2018; Sun & Yin, 2022). The interactive design of the Standing

Board activities appears to have moved students beyond surface-level memorization toward more integrated lexical understanding.

Importantly, the reduction in performance variability across cycles suggests more equitable learning outcomes. The decline in standard deviation indicates that lower-performing students benefited substantially from the interactive intervention. Engagement-based learning environments have been found to reduce achievement gaps by increasing participation opportunities and lowering performance anxiety (Hiver et al., 2021). The physical manipulation and collaborative features of the Standing Board may have created a more inclusive learning atmosphere, encouraging students who were previously passive to participate more actively.

Overall, the findings suggest that hybrid physical–interactive instructional media can support comprehensive vocabulary development in elementary EFL classrooms. While much recent literature emphasizes fully digital vocabulary tools, this study indicates that combining tangible materials with structured interaction and limited digital support can yield significant pedagogical benefits. The integration of multisensory engagement, phonological modeling, retrieval practice, and collaborative reflection appears to foster multidimensional vocabulary growth encompassing phonological, orthographic, and semantic components.

Another noteworthy finding is the significant increase in mastery level achievement. The proportion of students meeting the minimum mastery criterion rose from less than half in the pre-cycle stage to more than 85% in Cycle II. This pattern indicates that the intervention reduced performance disparities within the classroom. The decrease in standard deviation further supports this interpretation, suggesting more equitable learning outcomes. Research on inclusive and engagement-based pedagogy indicates that interactive learning environments can reduce achievement gaps by increasing opportunities for participation and lowering cognitive and affective barriers to learning (Hiver et al., 2021; Mercer & Dörnyei, 2020). The hands-on nature of Standing Board activities likely created a more inclusive atmosphere in which lower-performing students could engage more confidently with vocabulary tasks.

The distinction between Cycle I and Cycle II outcomes also underscores the value of reflective practice in classroom action research. The improvements observed in Cycle II were not merely the result of repeated exposure, but were shaped by deliberate instructional adjustments informed by systematic reflection. Studies on teacher professional learning emphasize that reflective adaptation of instruction contributes significantly to improved student outcomes (Vangrieken et al., 2015; Wyatt & Dikilitaş, 2016). By identifying insufficient phonological modeling and uneven peer interaction in Cycle I, and addressing these limitations in Cycle II, the instructional process evolved toward greater effectiveness. This supports the view that classroom action research functions not only as a research methodology but also as a structured mechanism for continuous pedagogical improvement.

From a broader pedagogical perspective, the findings highlight the importance of integrating physical interaction into vocabulary instruction. While recent literature frequently emphasizes fully digital vocabulary tools, emerging research suggests that embodied and movement-based learning can enhance cognitive processing and memory consolidation, particularly among young learners (Mavilidi et al., 2015; Toumpaniari et al., 2015). Physical manipulation of learning materials can strengthen neural encoding by linking motor activity with linguistic input. The combination of visual stimuli, oral practice, and kinesthetic involvement observed in this study

aligns with findings that multisensory instructional approaches promote deeper lexical retention compared to text-only instruction (Zhang et al., 2022; Lin & Lin, 2019). Thus, hybrid physical–interactive media may represent a viable and pedagogically sound alternative to purely screen-based learning environments.

The motivational dimension of the findings also warrants attention. Classroom observation during Cycle II revealed increased enthusiasm, willingness to participate, and collaborative interaction among students. Motivation has been consistently identified as a central determinant of language learning success (Dörnyei & Ryan, 2015). More recent research suggests that interactive and autonomy-supportive learning environments enhance intrinsic motivation, which in turn strengthens sustained engagement and persistence in vocabulary learning tasks (Hiver et al., 2021; Sun & Yin, 2022). The transformation of vocabulary learning from a passive memorization activity into an interactive, socially mediated experience may have contributed to increased learner investment and deeper cognitive involvement.

Despite these positive outcomes, the findings must be interpreted within the contextual boundaries of classroom action research. The study was conducted in a single classroom, and the results reflect situated instructional improvement rather than broad statistical generalization. However, recent discussions on practice-based research highlight the value of context-sensitive evidence in informing instructional innovation (Wyatt & Dikilitaş, 2016). The systematic documentation of iterative refinement across cycles provides transferable insights into how hybrid interactive media can be adapted to similar elementary EFL settings.

Overall, the results demonstrate that the implementation of Standing Board media, combined with reflective instructional refinement, contributed to measurable and multidimensional improvements in vocabulary acquisition. The intervention supported phonological, orthographic, and semantic development simultaneously while enhancing engagement and mastery achievement. These findings reinforce emerging perspectives that multisensory and interactive instructional approaches hold significant potential for strengthening vocabulary learning in elementary EFL classrooms, particularly when implemented through reflective and iterative pedagogical design.

CONCLUSION

This classroom action research demonstrates that the implementation of Standing Board media contributed to significant and progressive improvement in elementary students' vocabulary acquisition. Through two iterative action cycles, students showed measurable gains in pronunciation accuracy, spelling accuracy, and word meaning comprehension. The consistent increase in mean scores and mastery level achievement indicates that interactive visual and multisensory learning activities enhanced both overall performance and learning completeness.

The findings highlight that vocabulary acquisition in elementary EFL classrooms can be strengthened when instruction moves beyond textbook-based explanation toward more interactive and reflective pedagogical practices. The integration of physical manipulation, visual representation, and structured pronunciation modeling appears to support deeper lexical processing and greater student engagement. Furthermore, the refinement of instructional strategies between cycles underscores the value of reflective practice in improving classroom instruction.

Although the study was conducted within a single classroom context, the results suggest that interactive visual media such as Standing Board can serve as an effective alternative strategy for addressing vocabulary learning difficulties in elementary settings. Future research may explore broader implementation across multiple classrooms or examine long-term retention effects to further validate and extend these findings.

REFERENCES

Agarwal, P. K., Nunes, L. D., & Blunt, J. R. (2021). Retrieval practice consistently benefits student learning: A systematic review of applied research in schools and classrooms. *Educational Psychology Review*, 33(4), 1409–1453. https://doi.org/10.1007/s10648-021-09595-9

Arndt, H. L., & Woore, R. (2018). Vocabulary learning from watching YouTube videos and reading blogs: The role of visual and verbal cues. *System*, 73, 1–12. https://doi.org/10.1016/j.system.2018.01.013

Burns, A. (2010). *Doing action research in English language teaching: A guide for practitioners*. Routledge. https://doi.org/10.4324/9780203863466

Chen, H.-J. H., & Hsu, H.-L. (2020). The impact of a serious game on vocabulary and content learning. *Computer Assisted Language Learning*, 33(7), 811–832. https://doi.org/10.1080/09588221.2019.1593197

Creswell, J. W., & Creswell, J. D. (2018). *Research design: Qualitative, quantitative, and mixed methods approaches* (5th ed.). SAGE. https://doi.org/10.4135/9781506330204

Dörnyei, Z., & Ryan, S. (2015). *The psychology of the language learner revisited*. Routledge. https://doi.org/10.4324/9781315779553

Fraenkel, J. R., Wallen, N. E., & Hyun, H. H. (2012). *How to design and evaluate research in education* (8th ed.). McGraw-Hill Education.

Hiver, P., Al-Hoorie, A. H., & Mercer, S. (Eds.). (2021). Student engagement in the language classroom. Multilingual Matters. https://doi.org/10.21832/9781788923613

Hsu, T.-C. (2019). Effects of gender and different augmented reality learning systems on English vocabulary learning of elementary school students. *Educational Technology & Society*, 18(2), 315–325. https://doi.org/10.1007/s10209-017-0593-1

Kemmis, S., McTaggart, R., & Nixon, R. (2014). *The action research planner: Doing critical participatory action research*. Springer. https://doi.org/10.1007/978-981-4560-67-2

Laufer, B., & Hulstijn, J. (2001). Incidental vocabulary acquisition in a second language: The construct of task-induced involvement. *Applied Linguistics*, 22(1), 1–26. https://doi.org/10.1093/applin/22.1.1

Li, J., & Hafner, C. A. (2022). Mobile-assisted vocabulary learning: A systematic review and meta-analysis. *Language Teaching*, 55(2), 1–19. https://doi.org/10.1017/S0261444821000161

Lin, J.-J., & Lin, H. (2019). Mobile-assisted ESL/EFL vocabulary learning: A systematic review and meta-analysis. *Computer Assisted Language Learning*, 32(8), 878–919. https://doi.org/10.1080/09588221.2018.1541359

Mavilidi, M.-F., Okely, A. D., Chandler, P., Cliff, D. P., & Paas, F. (2015). Effects of integrated physical exercises and gestures on preschool children's foreign language vocabulary learning. *Educational Psychology Review*, 27(3), 413–426. https://doi.org/10.1007/s10648-015-9337-z

Mayer, R. E. (2014). *Cognitive theory of multimedia learning*. In R. E. Mayer (Ed.), The *Cambridge handbook of multimedia learning* (2nd ed., pp. 43–71). Cambridge University Press. https://doi.org/10.1017/CBO9781139547369.005

Mercer, S., & Dörnyei, Z. (2020). *Engaging language learners in contemporary classrooms*. Cambridge University Press. https://doi.org/10.1017/9781009024563

Nation, I. S. P. (2013). *Learning vocabulary in another language* (2nd ed.). Cambridge University Press. https://doi.org/10.1017/CBO9781139524759

Paivio, A. (2007). *Mind and its evolution: A dual coding theoretical approach*. Psychology Press. https://doi.org/10.4324/9781315785233

Peters, E., & Webb, S. (2018). Incidental vocabulary acquisition through viewing L2 television and factors that affect learning. *Studies in Second Language Acquisition,* 40(3), 551–577. https://doi.org/10.1017/S0272263117000406

Schmitt, N. (2014). Size and depth of vocabulary knowledge: What the research shows. *Language Learning*, 64(4), 913–951. https://doi.org/10.1111/lang.12077

Sun, Z., & Yin, B. (2022). Technology-enhanced collaborative language learning: Theoretical foundations, technologies, and applications. In K. Gurzynski-Weiss (Ed.), *Peer interaction and language learning across contexts and modalities* (pp. 193–214). Springer. https://doi.org/10.1007/978-3-030-91662-6_3

Teng, M. F., & Zhang, D. (2021). Task-induced involvement load, vocabulary learning in a foreign language, and their association with metacognition. *Language Teaching Research*. https://doi.org/10.1177/13621688211008798

Toumpaniari, K., Loyens, S., & Paas, F. (2015). The influence of physical activity on foreign language vocabulary learning: A review. *Educational Psychology Review*, 27, 1–23. https://doi.org/10.1007/s10648-015-9316-4

Uchihara, T., & Saito, K. (2019). Exploring the relationship between productive vocabulary knowledge and second language oral ability. *The Language Learning Journal*, 47(1), 64–75. https://doi.org/10.1080/09571736.2016.1191527

Uchihara, T., Webb, S., & Yanagisawa, A. (2019). The effects of repetition on incidental vocabulary learning: A meta-analysis. *Applied Linguistics*, 40(6), 1–26. https://doi.org/10.1093/applin/amx061

Vangrieken, K., Dochy, F., Raes, E., & Kyndt, E. (2015). Teacher collaboration: A systematic review. *Educational Research Review*, 15, 17–40. https://doi.org/10.1016/j.edurev.2015.04.002

Webb, S., & Nation, I. S. P. (2017). How vocabulary is learned. Oxford University Press.

Wyatt, M., & Dikilitaş, K. (2016). English language teachers' action research: The role of collaborative reflection and professional learning. *Educational Action Research*, 24(1), 1–17. https://doi.org/10.1080/09650792.2015.1107407

Zhang, P., & Graham, S. (2020). Learning vocabulary through listening: The role of vocabulary knowledge and listening proficiency. *Language Learning*, 70(4), 1–33. https://doi.org/10.1111/lang.12411

Zhang, R., Zou, D., & Xie, H. (2022). Spaced repetition for authentic mobile-assisted word learning: Nature, learner perceptions, and factors leading to positive perceptions. *Computer Assisted Language Learning*, 35(9), 2593–2626. https://doi.org/10.1080/09588221.2021.1888752