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WIELDING INTERACTIVE FLAT PANELS (IFP) TO ENRICH STUDENTS' VOCABULARY: A CLASSROOM ACTION RESEARCH

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Abstrak:

Penelitian Tindakan Kelas (PTK) ini mengidentifikasi pemanfaatan Interactive Flat Panels (IFP) untuk meningkatkan penguasaan kosakata murid kelas tujuh di SMP Negeri Satu Atap Gondoruso 01. Penelitian ini dilatarbelakangi oleh rendahnya motivasi murid dan tingkat kemahiran awal dikarenakan pembelajaran yang konvensional. Penelitian ini menggunakan model Kemmis dan Taggart, dengan dua siklus dan melibatkan 31 murid. Data dikumpulkan melalui tes pilihan ganda, observasi, dan catatan lapangan. Hasil penelitian menunjukkan peningkatan kuantitatif yang konsisten: rata-rata pre-test sebesar 65,80 meningkat menjadi 68,70 pada Siklus I, dan dan mencapai 74,03 pada Siklus II, dari kecakapan murid dari kategori "cukup" ke "sedang". Temuan ini menunjukkan bahwa transisi penggunaan IFP dari alat bantu visual pasif menjadi alat kognitif aktif, dengan menggabungkan digital scaffolding, aktivitas "Sentence Train", dan umpan balik korektif melalui IFPs terbukti efektif meningkatkan keaktifan serta kosa kata murid. Kesimpulannya, pemanfaatan IFP sebagai media interaktif mampu mendorong lingkungan belajar yang dinamis dan kolaboratif, serta meningkatkan kosa kata murid.

Katakunci: *Papan Interaktif, Penguasaan Kosa Kata, Penelitian Tindakan Kelas*

Abstract:

This Classroom Action Research (CAR) investigates the integration of Interactive Flat Panels (IFPs) to enhance vocabulary acquisition among seventh-grade students at SMP Negeri Satu Atap Gondoruso 01. The study addressed low student motivation and initial proficiency levels linked to conventional pedagogical approaches. Following the Kemmis and Taggart model, the research was conducted in 2 cycles involving 31 students. Data were collected through multiple-choice tests, observations, and field notes. Results indicated a steady quantitative improvement: the baseline pre-test average of 65.80 rose to 68.70 in Cycle I and culminated in 74.03 in Cycle II, shifting students from "fair" to "moderate"

proficiency. The findings demonstrate that transitioning IFP usage from a passive visual aid to an active cognitive tool—incorporating digital scaffolding, "Sentence Train" activities, and immediate corrective feedback—effectively bridges the gap between physical engagement and language retention. Consequently, the shared-intellectual space created by IFPs successfully lowered affective filters and fostered a dynamic, collaborative learning environment, and improved students' vocabulary.

Keywords: *Interactive Flat Pannels; Vocabulary Acquisition; Classroom Action Research*

INTRODUCTION

Vocabulary acquisition serves as a key component of English language learning. This underscores a basic aspect of developing four language skills: listening, reading, speaking, and writing. In addition, vocabulary proficiency is said to be an essential factor in successful English language learning (Wilda et al., 2024; Azad & Ali, 2025). This vocabulary proficiency allows students to interpret the meaning and engage in spoken or written interaction. In other words, a limited vocabulary base can hinder students' ability to understand words, convey their ideas, and actively engage in classroom interaction (Li & Pei, 2024).

In Indonesian EFL classroom, however, the vocabulary proficiency remains one of the major challenges faced by most foreign-language students. In this case, most students in Indonesia exhibit a limited vocabulary range in learning English as a foreign language (Wahid et al., 2025). The students frequently struggle to understand the meaning and to convey the ideas across the four language skills. In addition, these limitations can hinder the effectiveness of pedagogical instructions in an EFL classroom setting (Wilda et al., 2024).

In this case, students' inadequate vocabulary proficiency is frequently attributed to the lack of pedagogical approaches and media in the EFL classroom setting. Conventional classroom instruction has led to monotonous instructions and failed long-term retention of vocabulary learning (Tsai, 2020). This, additionally, has contributed to the passive learning activities, typified by dictionary-dependent practices and rote memorization (Ganesan et al., 2025). These issues highlight the importance of implementing more dynamic and effective vocabulary learning strategies.

Furthermore, the ongoing transformation of education in the digital era demands that teachers develop advanced competencies to leverage technology in pedagogically effective ways. In this case, 21st-century teachers are expected to possess strong digital pedagogical skills and technological literacy, and the ability to integrate instructional media and learning devices. Integrating technology in education has shown to enhance students' accessibility, engagement, and personalised learning outcomes (Zou et al., 2025). In addition, this also emphasizes that teachers' digital competence in utilising ICT has contributed positively to students' learning outcomes (Dong et al., 2024).

Integrating Information and Communication Technology (ICT) in education these days has offered promising answers in addressing these issues. This ICT emerges as a significant pedagogical tool to transform instructional practices and to cultivate more interactive student-centered learning practices (Oscar & Ana, 2026). In addition, this ICT-enhanced language learning has expanded through the integration of digital applications to support and develop students' language learning. These underscore the increasingly

vital role of ICT in shaping a more adaptive, effective, and responsive language-learning context.

Given this context, the adoption of the Interactive Flat Panel (IFP) can further strengthen the role of ICT in more interactive and engaged classroom activities (Budaya et al., 2025). In addition, this IFPs provides touch-based interaction, supports the integration of various multimedia resources, and offers more dynamic and real-time engagement between the teacher and students (Jayadi, 2025). Moreover, utilising IFPs encourages collaborative learning by enabling students to actively participate in digital tasks and shared problem-solving activities. This aligns with current trends in education, where interactive digital tools are shown to support and foster more student-centered learning activities.

Within the context of English language learning, the use of IFPs proves most beneficial for English language classrooms, including promoting deeper understanding and more interactive-engaged activities (Setiawan et al., 2025). In this case, IFPs function as integrated learning platforms that consolidate a wide range of digital resources such as videos, audio materials, textual content, and interactive applications into a single, easily accessible device (Chen et al., 2020; Pimdee et al., 2023). During the integration, teachers can display images, videos, and interactive games, allowing students to touch, drag, and interact with English content.

There have been various studies dealing with the integration of IFPs into the English language classroom. A recent study highlights that using IFPs in the English classroom has improved students' engagement and active participation during the class (Rafajdusová, 2024). When dealing with writing skills, students receiving an interactive flat display are said to be more engaged in classroom instructions and pedagogical activities (Teng, 2022). In addition, this IFP is associated with gains in pedagogical practices, language learning outcomes, and classroom engagement when teachers apply interactive and well-structured activities using IFPs (Setiawan et al., 2025).

While the previous studies generally highlight the educational potential of integrating IFPs in English language teaching, research on exploring the use of IFPs to empower students' vocabulary acquisition remains notably limited. Most previous studies have merely dealt with pedagogical practices and students' engagement and motivation. In addition, previous studies focused on heavily affective outcomes like students' motivation, engagement, and writing skills (Rafajdusová, 2024; Setiawan et al., 2025; Teng, 2022).

Meanwhile, this study shifts the focus from students' classroom activities and engagement to measurable vocabulary enrichment. To address this gap, this study introduces a novel approach to integrating Interactive Flat Panels (IFPs) into vocabulary learning at SMP Negeri Satu Atap Gondoruso 01. This

study bridges the gaps between high-tech potential and low-resource reality, offering a pedagogical framework for interactive vocabulary learning where it is needed most. In addition, this study seeks to evaluate whether the IFP integration in the EFL classroom can enrich students' vocabulary learning.

To sum up, this study serves as a validated framework along with practical pedagogical implications for teachers to utilise IFPs as potential media in the EFL classroom.

RESEARCH METHODOLOGY

This study employed a Classroom Action Research (CAR) by Kemmis and Taggart (1988). This classroom action research facilitates collaborative engagement, enabling them to share pedagogical experiences on classroom issues and jointly develop solutions through reflective discussion (Legesse & Kitila, 2024).

Furthermore, this study incorporated two instructional meetings, including four stages: planning action, observation, and reflection. In addition, this study was conducted at SMP Negeri Satu Atap Gondoruso 01. The seventh-grade students, consisting of 31 students, were employed as the research subjects due to preliminary results indicating low vocabulary proficiency.

In the planning phase, the teacher designed a lesson plan adapted to learning objectives and prepared media. In the action stage, the teacher then incorporated IFPs as the learning media in vocabulary learning. During this stage, the students were grouped into mixed-ability groups consisting of 3-4 students, involving teacher-led instruction, group discussion, peer-assisted activities, and group-based tasks.

The observation phase dealt with documenting students' English learning activities, including active participation and engagement. In this context, the teacher worked in collaboration with another teacher as the observer to record the classroom context, the instructional interventions, and the sequence of processes undertaken. Meanwhile, the reflection phase involved identifying the successes and areas for improvement conducted in cycle II.

Research instruments were used to collect the data, including a pretest-posttest, employed in the form of 20 questions consisting of 10 multiple-choice items, 15 complex-multiple choices, and 5 matching items. In addition, validity and reliability were ensured through careful alignment with curriculum objectives, expert judgment, and pilot testing. Then, field notes were employed to capture contextual information within the action stage.

Further, these instruments offer both quantitative and qualitative insights into the learning process. Qualitative data were analysed using data reduction, data display, and conclusion drawing. Meanwhile, quantitative data were used to calculate students' mean scores, classified into four categories: high, moderate, fair, and low (Anggara, 2025). Each student is considered successful if their score is≥70. In

addition, this indicates that students have achieved adequate vocabulary understanding based on the learning objectives.

Table 1. Students' learning scores

Score Range	Category
85 – 100	High
70 – 84	Moderate
55 – 69	Low
0 – 49	Very low

RESULTS AND DISCUSSION

This study was Classroom Action Research (CAR), enabling teachers to see and share pedagogical experiences on classroom issues and jointly develop solutions through reflective discussion. This incorporated the seventh-grade students at SMP Negeri Satu Atap Gondoruso 01. This dealt with two-cycle meetings incorporating IFPs to improve students' vocabulary acquisition. Preceding the cycle I and cycle II, pre-cycle observation and pre-test were employed to see the students' initial proficiency in the topic of *House core activities* taught in the second semester.

The results of the preliminary test conducted on 31 students, it showed that the students' average score was 65.80. It indicated that most students were categorized as having low vocabulary proficiency. During the pre-cycle practices, most students had the lack of motivation in vocabulary learning practices. This condition has led to the students' boredom owing to inappropriate pedagogical approaches and learning media.

Further, the teacher conducted cycle I to utilise the IFPs as learning media to improve students' vocabulary learning. In cycle I, the teacher proposed planning, action, observation, and reflection stages. Additionally, the results indicated that the students' average score was 68.7, which was considered fair. In other words, while the integration of the Interactive Flat Panel (IFP) significantly increased student enthusiasm and physical engagement, the cognitive learning outcomes (vocabulary scores) remained below the Minimum Mastery Criterion (KKM).

In addition, the observation sheet and field notes showed that the students enjoyed the learning process, but they didn't quite "retain" the language. They were active physically, but not active cognitively. The students could recognize a chore when seeing a picture. Therefore, for the reflection phase, the teacher chose to modify the learning activities using IFPs from games to mastery.

Regarding this cycle I, cycle II was then conducted to improve the students' vocabulary scores through modifying cycles.

Table 2. Modifying cycles

Feature	Cycle I	Cycle II
Vocabulary	Recognition and Reading	Dragging, Writing, & Correcting
Engagement	Individual turns	Small groups (Competing for scores).
Feedback	Verbal from the teacher.	Digital scores or stars on the IFP.

The results in cycle II highlighted that there was an improvement in the students' vocabulary learning due to improvement in the planning and action phase. This improvement in Cycle 2 occurred because the teacher shifted the use of the Interactive Flat Panel (IFP) from a visual aid to a cognitive tool. In addition, the students in cycle II were more engaged in the vocabulary learning powered by IFPs.

Table 3. Students' scores in each cycle

		Sum	Average
Cycle	Cycle I	2130	2295
	Cycle II	68.7	74.03

The data above indicated that there was an improvement in the students' average score from cycle I to cycle II. It shows that the students' average score in cycle I was 68.7, whereas the students' average score in cycle II was 74.03, and it was considered a moderate score.

In this case, the improvement in students' vocabulary scores during Cycle I to Cycle II stems from a fundamental shift in pedagogical strategy, transitioning from passive technology use to active multimodal engagement. In Cycle 1, the Interactive Flat Panel (IFP) was primarily used as a visual aid. This was aligned with Dewayani et al., (2020) that visual aids often failed to trigger deep cognitive processing.

Further, the implementation of "drag-and-drop" in cycle II forced students to engage in physical and spatial interaction with the language. This approach is supported by Alabi (2024) that interactive displays provide a sensory-rich environment, activating both kinesthetic and visual learning pathways. This also aligned with Emma (2024), that educational environments are becoming increasingly digital, and the use of technology supports diverse learning styles, which has gained significant attention to absorb, process, and retain information.

Moreover, the role of giving feedback also proved to be a decisive factor in Cycle II's success. Using gamified tools like Slido or Classpoint on the IFP in Cycle II, students received immediate auditory and visual feedback. Integrating synchronous activities using IFPs technology allows for immediate corrective feedback, which is essential for vocabulary acquisition (Hao et al., 2021; Kundu & Bej, 2025). In addition, using game-based learning elements, multimedia environments, immediate corrective feedback, and spaced repetition are highlighted, increasing vocabulary retention and recall (Ulya et al., 2021).

Finally, more dynamic aspects of the classroom were transformed through the use of the IFP as a shared-intellectual space. Instead of individual, isolated tasks, the grouping or pair activities encouraged collaborative scaffolding. Further, the use of large-scale interactive displays for digital game-based learning creates a competitive learning environment to lower students' affective filters, increases their willingness to communicate, and enriches their vocabulary acquisition (Wang et al., 2022; Chowdhury et al., 2024).

CONCLUSIONS AND RECOMMENDATION

Integrating Interactive Flat Panels (IFPs) at SMP Negeri Satu Atap Gondoruso 01 has proven to be an effective intervention in improving seventh-grade students' vocabulary acquisition, particularly regarding house chore activities. The data present a steady quantitative improvement: starting from a baseline average of 65.80 in the pre-test, rising to 68.7 in cycle I, and culminating in a significant achievement of 74.03 in cycle II. This improvement validates the shift from passive visualization to active cognitive engagement using technology integration into English language teaching.

The study concludes that the mere presence of advanced hardware like IFPs is insufficient to guarantee learning outcomes if used only as a visual aid. Utilizing digital scaffolding in vocabulary learning, including providing students with immediate corrective feedback, can potentially bridge the gap between students' engagement and language retention. Furthermore, involving to a shared intellectual space in grouping or pair activities effectively lowered the students' affective filters, turning a previously boring learning practice into more dynamic and collaborative learning.

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