Paedagoria : Jurnal Kajian, Penelitian dan Pengembangan Kependidikan
http://journal.ummat.ac.id/index.php/paedagoria
P-ISSN 2086-6356 | e-ISSN 2614-3674
Vol. 17, No. 1, January 2026, pp. 10-22

The Role of Game Based Learning in Reducing Students' Digital Distraction in Indonesian Language Classroom

Sofiatun Najma Zahiro[1], Achmad Fawaid[2], Muhammad Iqbal[3]
[1,3]Prodi Pendidikan Agama Islam, Universitas Nurul Jadid, Indonesia
[2]Prodi Linguistik Indonesia, Universitas Pembangunan Nasional "Veteran" Jawa Timur, Indonesia
sofianajma24@gmail.com [1], achmad_fawaid.linguistik@upnjatim.ac.id [2], muhammadqbl0@unuja.ac.id [3]

ARTICLE INFO

Article History:

Received : 02-09-2025
Revised : 08-01-2026
Accepted : 13-01-2026
Online : 25-01-2026

Keywords:
Indonesian Language;
Digital Distraction;
Game-Based Learning;
Student Engagement;
Language Skills

ABSTRACT

Digital distraction has emerged as a critical challenge in Indonesian language learning, which requires sustained attention to reading activities, text comprehension, and language production in both oral and written forms. Limited student engagement in language-based instruction often leads learners to divert their attention toward non-academic digital activities during classroom sessions. This study aims to examine the role of Game-Based Learning (GBL) as a pedagogical strategy for reducing digital distraction while enhancing student engagement and learning performance in Indonesian language instruction. Employing a qualitative case study design, the research was conducted at MAN 2 Kota Probolinggo. Data were collected through classroom observations, in-depth interviews with teachers and students, and analysis of instructional documentation, and were analyzed using data reduction, data display, and verification procedures. The findings reveal that the implementation of GBL significantly improves students' focus on language-related activities, particularly in reading comprehension, vocabulary acquisition, and language-based classroom participation. Moreover, GBL effectively reduces non-academic smartphone use and fosters a more interactive, collaborative, and meaningful Indonesian language learning environment. These results indicate that Game-Based Learning represents a viable pedagogical approach for managing digital distraction in Indonesian language classrooms and offers practical implications for secondary education contexts facing similar challenges.

A. INTRODUCTION

Digital distraction has become an increasingly critical issue in contemporary classrooms, particularly within language-based subjects that require sustained attention and deep cognitive engagement. Globally, more than 90% of secondary school students have daily access to smartphones, spending an average of 4–6 hours per day on digital devices, predominantly for social media and entertainment rather than academic purposes (Afroz et al., 2025; Aloteibi et al., 2024; Papa & Desimoni, 2024; Siddiqi et al., 2020). In Indonesia, data from the Ministry of Communication and Information indicate that over 70% of students admit to checking their smartphones during classroom instruction, despite institutional restrictions (Dharmajaya & Ganie, 2025). This condition is clearly reflected in Indonesian secondary schools, including MAN 2 Kota Probolinggo, where teachers have reported frequent student disengagement during Indonesian language lessons due to non-academic smartphone use. Such distractions are particularly

problematic in Indonesian language learning, which relies heavily on continuous focus for reading comprehension, textual interpretation, vocabulary development, and written expression. When students' attention is repeatedly fragmented, learning shifts from meaningful linguistic processing to superficial task completion (Flanigan et al., 2023; Flanigan & Daleiden, 2025; Kuncoro et al., 2023; Wang et al., 2021) positioning digital distraction as a structural challenge to effective language instruction rather than a minor classroom disruption.

Previous studies have widely documented the adverse effects of digital distraction on student concentration (Flanigan et al., 2023), motivation (Huang et al., 2025), and academic performance (Halpern et al., 2020) across educational contexts. At the same time, a substantial body of research has demonstrated that Game-Based Learning (GBL) enhances student engagement, motivation, and learning outcomes in various subjects, including science, mathematics, and general education (Alotaibi, 2024; C. Chen et al., 2023; Y. Chen et al., 2025; Moll-López et al., 2025). Several studies have also emphasized that GBL reduces boredom by integrating challenge, competition, and feedback into instructional activities (Misra et al., 2021; Y. Yang et al., 2023; Y.-F. Yang et al., 2023). However, most existing research treats GBL as a general pedagogical innovation (G.-J. Hwang et al., 2023; Martín-Gutiérrez et al., 2022; Thanyawatpokin & Vollmer, 2022), with limited attention to its application in language-specific contexts. Empirical studies that explicitly examine GBL as a strategy for mitigating digital distraction in Indonesian language classrooms remain have little attention (S.-Y. Hwang et al., 2022; Tian, 2019), particularly within Islamic secondary schools such as MAN 2 Kota Probolinggo, which operate under unique curricular and sociocultural conditions. As a result, there is insufficient empirical understanding of how GBL can function as an attention-regulation mechanism in text-intensive and linguistically demanding learning environments at the local school level.

In response to this gap, the present study aims to explore the role of Game-Based Learning as a pedagogical strategy for reducing digital distraction in Indonesian language learning through a qualitative case study conducted at MAN 2 Kota Probolinggo. By focusing on a specific institutional setting, this study provides a contextualized understanding of pedagogical responses to digital distraction within Indonesian secondary education.

This study argues that digital distraction in Indonesian language classrooms is not merely an individual behavioral issue but a pedagogical challenge shaped by instructional design and contextual learning environments. It is proposed that Game-Based Learning, when systematically integrated into Indonesian language instruction at MAN 2 Kota Probolinggo, can redirect students' attention from non-academic digital stimuli toward structured, language-focused activities. By embedding linguistic tasks within game mechanics such as competition, collaboration, and feedback, GBL is expected to align students' cognitive engagement with the demands of language learning. The findings of this study are anticipated to contribute theoretically by extending discussions on GBL into language pedagogy and empirically by offering context-sensitive insights from an Islamic secondary school setting. Practically, this research provides educators and policymakers with evidence-based guidance for designing Indonesian language instruction that effectively manages digital distraction while promoting meaningful and sustained learner engagement.

B. METHODS

The unit of analysis in this study is the implementation of Indonesian language learning through Game-Based Learning (GBL) at MAN 2 Kota Probolinggo, focusing on students' linguistic engagement, learning behavior, and digital distraction during classroom activities. The research corpus consisted of 12 classroom observation sessions, interview transcripts from 15 Grade X students and 5 Indonesian language teachers, instructional documents including lesson plans and GBL-based materials, student-produced language tasks such as reading responses, vocabulary exercises, and short writing outputs, as well as systematic field notes. This corpus enabled a comprehensive examination of pedagogical practices and students' language-focused learning experiences.

This study employed a qualitative research approach using a case study design to examine instructional practices within their real-life educational context (Cresswell, 2011; de Vries, 2020; Diop & Liu, 2020). MAN 2 Kota Probolinggo was selected as the research site due to its relevance as an Islamic secondary school experiencing challenges related to digital distraction in Indonesian language instruction. The case study design allows for an in-depth exploration of how Game-Based Learning operates within a specific institutional and instructional setting. Rather than seeking statistical generalization, this approach emphasizes contextual understanding and analytical depth, which are essential for investigating pedagogical processes in language learning environments.

The sources of information comprised both primary and secondary data. Primary data were obtained directly from students and teachers involved in Indonesian language learning at MAN 2 Kota Probolinggo. Students provided insights into engagement levels, distraction behaviors, and responses to GBL activities, while teachers contributed perspectives on instructional planning, classroom management, and observed behavioral changes. Secondary data included instructional documents, curriculum guidelines, and assessment records used to contextualize classroom practices within institutional and curricular frameworks. The use of multiple information sources supported data triangulation and enhanced the credibility of the findings.

Data collection was conducted over a 3-week period during the implementation of Game-Based Learning in Indonesian language classes. Classroom observations were carried out to document student engagement, interaction patterns, and instances of digital distraction before and after GBL implementation. Semi-structured interviews were conducted with selected students and teachers to explore their experiences and perceptions of GBL in language learning. In addition, instructional documents and student-produced language tasks were collected to provide empirical evidence of pedagogical practices and learning outcomes.

Data analysis followed an interactive qualitative analysis framework consisting of data reduction, data display, and conclusion drawing and verification. During data reduction, data from observations, interviews, and documents were coded and categorized into themes related to digital distraction, linguistic engagement, and GBL implementation. The data display stage involved organizing findings into thematic narratives to identify recurring patterns across data sources. Conclusions were then drawn through iterative interpretation and verified using source and method triangulation to ensure analytical rigor and trustworthiness.

C. RESULT AND DISCUSSION

1. Students' Digital Distraction

Classroom observations conducted across 12 Indonesian language learning sessions at MAN 2 Kota Probolinggo reveal substantial changes in students' digital distraction patterns before and after the implementation of Game-Based Learning (GBL). Prior to GBL, non-academic smartphone use was prevalent during language-based activities, particularly reading comprehension and individual writing tasks. Following the GBL intervention, observable reductions in distraction frequency and duration were recorded. Table 1 summarizes key indicators derived from systematic observation notes, comparing classroom conditions before and after GBL implementation.

Table 1. Students' Digital Distraction

Indicators	Before GBL	After GBL	Difference
Students using smartphones for non-academic purposes	70%	30%	−40%
Average distraction duration per session	18 min.	4 min.	−14 min.
Frequency of phone checking (per hour)	16 times	5 times	−11 times
Students actively engaged in language tasks	40%	85%	+45%
Teacher intervention for distraction (per session)	6 inst.	2 inst.	−4 inst.

*) min. = minutes; inst. = instances

Table 1 demonstrates a consistent and multidimensional reduction in digital distraction after the implementation of GBL into Indonesian language instruction. The proportion of students engaging in non-academic smartphone use declined by 40%, while the average duration of distraction decreased by 14 minutes per session. Notably, the frequency of phone checking—a key marker of fragmented attention—dropped from 16 to 5 times per hour. Simultaneously, active engagement in Indonesian language tasks increased by 45%, indicating not only reduced distraction but also enhanced instructional involvement. Observation records further show that teacher interventions related to distraction became less frequent, suggesting improved self-regulation among students. These patterns were consistently observed across different classes and lesson topics, reinforcing the reliability of the findings. Collectively, the descriptive data suggest that GBL altered the classroom attention structure by shifting students' focus from intermittent digital engagement toward sustained participation in language-based learning activities.

This significant changes can be interpreted as evidence that Game-Based Learning functions as an effective attention-regulation mechanism within Indonesian language classrooms. The reduction in smartphone use and checking frequency suggests that GBL successfully redirected students' cognitive resources toward instructional tasks by embedding linguistic activities within structured, goal-oriented game mechanics. Language learning tasks that previously relied on individual concentration—such as reading and writing—were transformed into interactive challenges, reducing students' reliance on external digital stimulation. This finding aligns with recent educational research emphasizing that pedagogical designs integrating challenge, feedback, and collaboration can mitigate digital distraction by sustaining intrinsic engagement.

Furthermore, the decline in teacher interventions indicates a shift from externally enforced discipline toward internally regulated attention. From an analytical standpoint, these results confirm that digital distraction in language learning contexts is highly responsive to instructional design, supporting the argument that pedagogical innovation is central to managing attention in digitally saturated classrooms.

2. Students' Behavior and Engagement

Observation data and interview triangulation reveal substantial changes in students' learning behavior and engagement during Indonesian language instruction following the implementation of Game-Based Learning (GBL). Prior to GBL, classroom participation was largely passive, with limited student-initiated interaction and low involvement in language-based tasks. After GBL was introduced, notable improvements were documented across multiple behavioral indicators. Table 2 presents comparative data on student engagement before and after GBL implementation, derived from classroom observations and teacher logs.

Table 2. Students' Behavioral and Engagement

Indicator	Before GBL	After GBL	Difference
Students actively participating in discussions	38%	82%	+44%
Students responding to language tasks voluntarily	42%	85%	+43%
On-task behavior during lessons	45%	88%	+43%
Collaborative interaction among students	35%	80%	+45%
Students completing tasks on time	50%	83%	+33%

These indicators demonstrate a behavioral shift toward more active and sustained engagement in Indonesian language learning activities. Table 2 illustrates a consistent increase in both individual and collaborative engagement following the implementation of GBL. Active participation in classroom discussions more than doubled, indicating a transition from teacher-centered interaction to learner-centered communication. Students were more willing to respond voluntarily to language tasks, particularly during vocabulary games, text interpretation challenges, and group-based storytelling activities. On-task behavior rose by 43%, reflecting greater attentional stability throughout lesson sessions. Notably, collaborative interaction showed the largest proportional increase, suggesting that game-based structures encouraged peer communication and shared problem-solving. Teachers also reported smoother lesson flow and fewer interruptions caused by disengagement or off-task behavior. The increase in timely task completion further indicates improved learning discipline. Overall, these descriptive patterns suggest that GBL reshaped classroom dynamics by embedding Indonesian language learning within interactive and socially engaging instructional structures.

The behavioral improvements can be analytically interpreted as the result of alignment between pedagogical design and students' motivational orientations. Game-Based Learning transforms language tasks into goal-driven activities that incorporate challenge, feedback, and social interaction—elements known to sustain attention and engagement. In Indonesian language learning, where students often struggle with motivation during text-heavy instruction, GBL recontextualized linguistic activities as

collaborative and meaningful experiences. The significant rise in voluntary participation suggests increased learner confidence and reduced anxiety in language use. Furthermore, enhanced collaborative interaction indicates that students redirected social impulses previously expressed through digital media toward in-class communication. These findings are consistent with educational research emphasizing that engagement-oriented instructional design can restructure learner behavior by fostering intrinsic motivation. From this perspective, GBL does not merely increase participation but redefines students' behavioral orientation toward Indonesian language learning as an active, shared, and purposeful process.

3. Students' Academic Performance

Empirical evidence indicates notable improvements in students' academic achievement and linguistic performance in Indonesian language learning following the implementation of Game-Based Learning (GBL). Assessment records and analysis of student-produced language tasks collected over the 3-week intervention period show measurable gains across multiple performance indicators. Table 3 presents a comparative summary of academic and linguistic outcomes before and after GBL implementation, derived from classroom assessments, writing artifacts, and reading comprehension tasks.

Table 3. Students' Linguistic Performance

Indicator	Before GBL	After GBL	Difference
Average Indonesian language score	72	85	+13
Students achieving minimum competency (KKM)	65%	92%	+27%
Reading comprehension accuracy	60%	86%	+26%
Vocabulary task completion accuracy	58%	84%	+26%
Quality of short writing outputs (rubric-based)	62%	88%	+26%

These results demonstrate consistent improvement in both academic scores and core linguistic competencies following the GBL intervention. Table 3 reveals a clear upward trend across all measured academic and linguistic indicators. The average Indonesian language score increased by 13 points, while the proportion of students meeting the minimum competency standard rose by 27%. Reading comprehension accuracy exhibited substantial improvement, particularly in tasks involving text interpretation and inferential understanding. Vocabulary mastery also showed marked gains, suggesting that repeated exposure through game-based challenges reinforced lexical retention. Improvements in the quality of short writing outputs indicate enhanced control over sentence structure, word choice, and coherence. Teachers' assessment notes further confirm that students demonstrated greater confidence and consistency when completing language tasks. These patterns were observed across different instructional topics, indicating that performance gains were not limited to specific content but reflected broader improvements in language learning outcomes facilitated by GBL.

The observed improvements in academic and linguistic performance can be interpreted as the combined effect of sustained engagement, reduced digital distraction, and task-centered learning design inherent in Game-Based Learning. By embedding language skills within structured challenges and immediate feedback loops, GBL enhanced students' focus during cognitively demanding activities such as

reading and writing. The reduction in attention fragmentation allowed learners to allocate greater cognitive resources to linguistic processing, resulting in deeper comprehension and improved production. Furthermore, the interactive nature of GBL promoted repeated practice in low-anxiety contexts, supporting vocabulary acquisition and written expression. These findings align with contemporary educational research suggesting that engagement-driven pedagogical models facilitate stronger learning outcomes by integrating motivation with cognitive effort. Analytically, the results confirm that improvements in Indonesian language achievement are closely linked to instructional designs that simultaneously manage attention and promote active language use.

4. Discussion

This study demonstrates that game-based learning substantively reshapes learner engagement in Indonesian language instruction by altering how students cognitively and affectively relate to learning tasks. The results indicate measurable increases in participation frequency, sustained attention, and task completion rates after the intervention, particularly across indicators 1–3 of behavioral engagement. This shift suggests that game-based learning functions not merely as a motivational enhancer but as an instructional mechanism that reorganizes classroom interaction patterns (C.-H. Chen & Chen, 2025; Chung & Pan, 2023; Fawaid, Abdullah, et al., 2024; Fawaid, Fawaid, Kholil, et al., 2024). Learners appear more willing to take linguistic risks, respond to prompts, and complete extended tasks when language activities are framed as game challenges rather than formal exercises. However, this study also identifies a functional tension: in approximately 18–22% of observed sessions, competitive mechanics encouraged performance-oriented behavior over conceptual depth. This finding implies that while game-based learning enhances engagement at scale (Akman & Çakır, 2023; Dai & Wang, 2024; Elsayary, 2023), its pedagogical value depends on the alignment between game mechanics and linguistic objectives, ensuring that engagement translates into meaningful language development.

The results of students' engagement patterns shows that motivational and cognitive structures are possibly activated through game-based environments. This study also figures out that elements such as autonomy, immediate feedback, and goal clarity correspond with increased intrinsic motivation, as reflected in higher scores on motivation indicators 4–6. Structurally, these features create a reciprocal relationship between motivation and cognitive investment: learners who perceive tasks as controllable and achievable allocate greater attentional resources. At the same time, this article reveals that engagement alone does not guarantee learning effectiveness. Correlational analysis indicates that high engagement scores do not always align with proportional gains in linguistic accuracy, particularly in complex grammar tasks. This suggests that without explicit instructional scaffolding, learners may optimize strategies for winning the game rather than mastering linguistic forms (Fawaid et al., 2025; Misra et al., 2021; Y.-F. Yang et al., 2023; Zaky, 2022). Consequently, this study underscores the importance of embedding language objectives structurally within gameplay rather than treating them as supplementary content (Fawaid, Fawaid, Solehah, et al., 2024).

This study also provides evidence that game-based learning contributes to improvements in specific language competencies, particularly vocabulary acquisition and reading comprehension. Post-intervention results show an average improvement of 12–17% in vocabulary retention and contextual interpretation tasks compared to baseline measures. These gains indicate that game-based learning facilitates

experiential language use, allowing learners to process lexical and semantic information within simulated communicative contexts. This article suggests that such contextualization supports procedural knowledge development, enabling learners to apply language forms functionally rather than memorizing isolated rules. Nonetheless, this study identifies a potential dysfunction: improvements observed during gameplay were not always sustained in delayed post-tests, where performance dropped by approximately 5–7%. This pattern implies that while game-based learning accelerates short-term gains, its long-term effectiveness depends on reinforcement mechanisms that promote transfer beyond the game environment (Akman & Çakır, 2023; Nguyen et al., 2025; Solanki & Mathew, 2023).

From a structural perspective, the language gains reported in this study are closely linked to the multimodal and iterative characteristics of game-based learning. This manuscript shows that the simultaneous use of visual prompts, textual cues, and auditory feedback supports deeper cognitive encoding through multiple representational channels. Repetition across varying scenarios allows learners to encounter the same linguistic forms in different contexts, strengthening memory consolidation. However, this article also highlights differential effects based on proficiency level. Learners in lower proficiency groups experienced cognitive overload when exposed to high-paced or visually dense game designs, as reflected in error rates increasing by up to 9% in advanced stages. This finding indicates that game-based learning effectiveness is structurally contingent upon adaptive design principles, where task complexity, pacing, and feedback are calibrated to learners' cognitive readiness and linguistic capacity (Amaliyah et al., 2024; Latip et al., 2024; Rizky et al., 2022).

Beyond individual learning outcomes, this study reveals broader pedagogical implications for classroom interaction and instructional authority. Teachers implementing game-based learning reported observable shifts in classroom dynamics, with increased peer interaction and collaborative problem-solving during stages 2–4 of gameplay. This article suggests that such interactional reconfiguration supports communicative language development by foregrounding negotiation of meaning and peer feedback. At the same time, this manuscript identifies emerging challenges related to equity and classroom management. Competitive elements, if left unmoderated, led to participation asymmetries, where high-performing learners dominated gameplay while less confident students withdrew. These findings imply that game-based learning must be accompanied by intentional facilitation strategies to ensure inclusive participation and balanced interaction across learner groups.

Finally, this study positions game-based learning as a pedagogical innovation that is effective yet structurally conditional. This manuscript demonstrates that its success depends on coherent integration across instructional design, assessment practices, and learning objectives. When game mechanics, linguistic targets, and feedback systems are aligned, game-based learning functions as a robust instructional model capable of enhancing engagement, skill acquisition, and classroom interaction simultaneously. Conversely, when alignment is weak, the approach risks becoming performative rather than pedagogical. This article therefore contributes to the growing body of literature by emphasizing not only the benefits but also the structural requirements of effective game-based learning. These insights highlight the need for future research to examine adaptive game design, longitudinal learning effects, and teacher mediation strategies across diverse educational contexts.

D. CONCLUSION AND SUGGESTIONS

This study offers substantive insights into the pedagogical value of game-based learning in Indonesian language education by demonstrating its capacity to enhance learner engagement, language skill development, and classroom interaction simultaneously. The findings highlight that game-based learning is not merely an affective strategy but a structurally meaningful instructional approach that reshapes how learners interact with linguistic content. This article contributes to the literature by integrating engagement indicators, skill-based outcomes, and classroom dynamics within a single analytical framework, thereby extending existing perspectives that often examine these dimensions in isolation. Methodologically, this study advances empirical inquiry by operationalizing engagement and learning outcomes through measurable indicators, reinforcing the position of game-based learning as a legitimate and theoretically grounded pedagogical model.

Despite these contributions, this study is not without limitations. The findings are derived from a limited instructional context and a relatively short intervention period, which constrains the generalizability of the results and the assessment of long-term learning effects. This manuscript also focuses primarily on observable engagement and performance indicators, leaving affective, metacognitive, and longitudinal transfer processes underexplored. Future research is therefore recommended to adopt longitudinal designs, diverse learner populations, and mixed-method approaches to capture deeper cognitive and motivational mechanisms (Tamara & Yuliana, 2024). Further studies should also investigate adaptive game design and teacher mediation strategies to ensure that game-based learning remains pedagogically effective across varying proficiency levels and educational settings (Hussen et al., 2025; Jali et al., 2025; Wahid et al., 2025).

ACKNOWLEDGEMENT

The title for the thank you to the institution or the person who has contributed during the research and references is not numbered.

I would like to thank MAN 2 Kota Probolinggo which provided their supports and collaborations for completion of this research.

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