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FUN MEETS FUNCTIONALITY: EXPLORING THE ROLE OF GAMES IN ENGLISH AS A FOREIGN LANGUAGE (EFL) CLASSROOMS THROUGH THE LENS OF TEACHERS

by

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Abstract:

How do teachers in the context of teaching English as a foreign language (EFL) with limited resource's view and implement GBL after participating in targeted professional development? This study investigates how three experienced EFL teachers view GBL and the challenges they face in its implementation. Data were collected through written reflections using Gibbs' Reflective Cycle, supported by classroom observations and document reviews. Interview data were analyzed using Braun and Clarke's (2006) six-phase thematic analysis. Results indicate that teachers view GBL as effective in increasing student motivation, participation, and confidence, as well as reducing anxiety about English, especially when games align with curriculum objectives and are used for clear pedagogical purposes. However, they reported structural barriers such as limited instruction time, unstable internet connections, unequal access to devices, and rigid curriculum and assessment requirements. To overcome these barriers, teachers adopted practical strategies including team-based formats, games projected to the whole class, and short, focused game activities. The study concludes that maintaining GBL in similar English as a foreign language (EFL) learning environments requires continuous professional development, adequate infrastructure, and greater curriculum flexibility.

Keywords: *digital game-based learning, game-based learning, teachers' perception, technology-enhanced language learning (TELL).*

Abstrak:

Bagaimana guru-guru di konteks pembelajaran bahasa Inggris sebagai bahasa asing (EFL) dengan sumber daya terbatas memandang dan menerapkan GBL setelah mengikuti pengembangan profesional yang ditargetkan. Studi ini menyelidiki bagaimana tiga guru EFL berpengalaman memandang GBL dan tantangan yang mereka hadapi dalam praktiknya. Data dikumpulkan melalui refleksi tertulis menggunakan Siklus Reflektif Gibbs, didukung oleh pengamatan kelas dan tinjauan dokumen. Data wawancara dianalisis menggunakan analisis tematik enam fase Braun dan Clarke (2006). Hasil menunjukkan bahwa guru memandang GBL efektif dalam meningkatkan motivasi, partisipasi, dan kepercayaan diri siswa, serta mengurangi kecemasan terhadap bahasa Inggris—terutama ketika permainan selaras dengan tujuan kurikulum dan digunakan untuk tujuan pedagogis yang jelas. Namun, mereka melaporkan hambatan struktural seperti waktu instruksi yang terbatas, koneksi internet yang tidak stabil, akses yang tidak merata terhadap perangkat, dan persyaratan kurikulum dan penilaian yang kaku. Untuk mengatasi hambatan ini, guru mengadopsi strategi praktis termasuk format berbasis tim, permainan yang diproyeksikan untuk seluruh kelas, dan aktivitas

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permainan singkat dan terfokus. Studi ini menyimpulkan bahwa mempertahankan GBL dalam lingkungan pembelajaran bahasa Inggris sebagai bahasa asing (EFL) yang serupa memerlukan pengembangan profesional berkelanjutan, infrastruktur yang memadai, dan fleksibilitas kurikulum yang lebih besar.

Kata kunci: *pembelajaran berbasis game digital, pembelajaran berbasis game, persepsi guru, pembelajaran bahasa yang ditingkatkan teknologi.*

INTRODUCTION

The integration of game-based learning (GBL) in English as a Foreign Language (EFL) has received significant attention in recent years, with research highlighting its potential to increase student engagement and motivation (Wang & Kabilan, 2024). However, most of the existing literature emphasizes learning outcomes and student perspectives, leaving a critical gap in understanding how teachers, as the primary implementers, deal with the practical realities of integrating games into pedagogical practices, especially in the context of resource-limited education. Although the adoption of technology in language education continues to grow globally, there is still little empirical evidence capturing teachers' authentic reflective experiences after implementing GBL, particularly regarding how they balance pedagogical goals with game-based engagement. This gap is particularly pronounced in developing countries, where infrastructure limitations and varying levels of digital literacy create unique implementation challenges, while many GBL studies are conducted in relatively more supportive environments (Lim & Toh, 2024).

In the digital age, technology has transformed language education from traditional text-based teaching methods to more interactive and experience-based learning. Various digital tools, including learning applications, online platforms (Lim & Toh, 2024), artificial intelligence (Crompton et al., 2024), and educational games, are increasingly being used to support student engagement. In a broader context, GBL refers to the integration of educational content with game mechanics to enhance motivation, participation, and learning outcomes (Zhang & Hasim, 2023) and can take the form of digital or non-digital games designed based on specific learning objectives (Scurati et al., 2023).

Various recent findings confirm the benefits of implementing game-based learning (GBL) in educational contexts, including increased student motivation, higher engagement, richer interaction, and enhanced experience-based learning (Wang & Kabilan, 2024).

Technological interactivity in games allows students to participate actively through discussions, challenges, and collaborative problem-solving, while incentive mechanisms such as points and rewards can stimulate positive emotional responses (Yu & Tsuei, 2023). GBL has also been shown to improve social skills and cooperation, as students work together to solve tasks(Tang et al., 2024), and both intrinsic and extrinsic motivation play a significant role in shaping learning behavior, emotional involvement, and personal development (M. Li et al., 2023; Liu et al., 2021). Although many studies report positive impacts of game-based learning (GBL), such as increased motivation, vocabulary acquisition, and active participation, most focus on student-related variables and use experimental designs or surveys conducted in well-supported environments. As a result, little is known about how teachers overcome practical and contextual challenges when implementing GBL, especially in resource-limited EFL contexts. These limitations highlight the need for research that emphasizes teachers' experiences and the realities of implementation in classrooms in disadvantaged settings.

Despite growing scholarly attention to game-based learning, three critical gaps persist in literature. First, limited focus on teacher reflective experiences. While numerous studies have documented GBL's positive effects on student motivation and learning outcomes (Almusharraf, 2023; Li et al., 2024), there is a notable scarcity of research examining teachers' reflective experiences following GBL implementation. Most existing research employs quantitative designs that measure predetermined variables rather than capturing the nuanced, context-dependent reflections of practitioners as they navigate the integration of games into their pedagogy. Teachers' post-implementation perceptions, particularly regarding the balance between pedagogical goals and entertainment elements, and their decision-making processes when facing practical challenges, remain largely unexplored. Second, Underrepresentation of Resource-Constrained Contexts. The majority of GBL research has been conducted in well-resourced educational environments with reliable internet connectivity, adequate devices, and strong technical support (Kokandy, 2021; Othman, 2025;Hwang et al., 2023). Developing countries such as Indonesia, where infrastructure limitations, varying levels of digital literacy, and rigid curriculum constraints create unique implementation challenges, are significantly underrepresented in empirical studies. This

geographical gap means that current game-based learning (GBL) frameworks and recommendations may not be directly applicable to resource-limited contexts where the majority of global EFL learners reside. Third, absence of post-professional development implementation studies. While teacher training programs increasingly incorporate GBL components, there is limited research tracking how teachers actually implement GBL following professional development and what challenges emerge in authentic classroom settings. The gap between training and actual practice, particularly in contexts with multiple constraints, remains insufficiently documented, leaving questions about the effectiveness and sustainability of GBL training initiatives unanswered.

To address these gaps, this study pursues three interconnected objectives to explore teachers' reflective perceptions of GBL effectiveness following targeted professional development training, with particular attention to how teachers evaluate the balance between pedagogical functionality and game-based engagement, next, to identify and analyze implementation challenges that teachers encounter when integrating GBL in resource-limited Indonesian EFL contexts, including technological, pedagogical, and institutional barriers. And the last is to document adaptive strategies that teachers develop through reflective practice to overcome implementation barriers and sustain GBL integration within contextual constraints.

This study is based on a series of interrelated theoretical perspectives, which collectively explain how game-based learning (GBL) is implemented and interpreted by teachers. First, game-based learning theory (Landers, 2014) provides a foundation for understanding how game elements integrated into learning activities can increase engagement and motivation to learn. Second, self-determination theory (Deci & Ryan, 2000) explains why GBL can influence student motivation to learn by fulfilling psychological needs for competence, autonomy, and social connection. To explain the adoption and use of GBL in the classroom by teachers, this study refers to the technology acceptance model (Davis, 1986) and the content pedagogical technology knowledge (TPACK) as cited from Mishra and Koehler (2006), which emphasizes that teachers' perceptions of usefulness, ease of use, and pedagogical alignment shape how technology is integrated into teaching. Centrally, this study adopts Gibbs' reflective cycle (Gibbs, 1988) not as a theory of learning outcomes, but as a reflective analytical lens that guides the examination of teachers' experiences after

implementation. Through its six-stage description, feeling, evaluation, analysis, conclusion, and action plan, the Gibbs model enables a systematic exploration of how teachers interpret game-based learning (GBL) implementation, evaluate challenges, and make pedagogical decisions in response to contextual constraints.

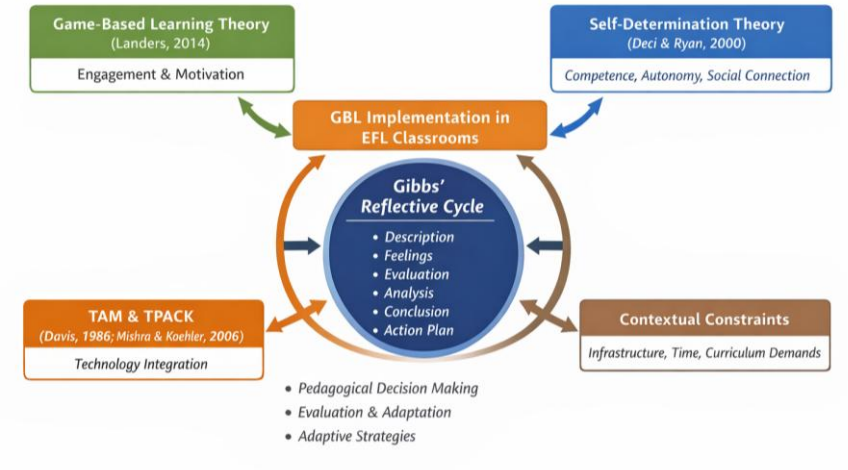

Figure 1. Theoretical framework

Novelty of this study makes a distinct contribution to the field of game-based learning in EFL contexts through three novel aspects. First, it is among the first to employ Gibbs' Reflective Cycle as a structured framework for capturing teachers' authentic post-implementation experiences with GBL, moving beyond the predominant focus on student outcomes. While previous studies have examined GBL effectiveness through quantitative measurements or student surveys, this research centers on teacher voice and reflective practice as the primary unit of analysis. Second, this study combines reflective inquiry with methodological triangulation (written reflections, classroom observations, and document analysis) to provide a comprehensive understanding of GBL implementation challenges and adaptive strategies in resource-constrained settings. This methodological approach is rare in current GBL literature, which tends to rely on single-method designs. Third, by focusing specifically on Indonesian junior high school teachers following targeted professional development, this study fills a significant geographical and contextual gap in the literature. Most GBL research has been conducted in well-resourced Western or East Asian educational contexts, leaving developing Southeast Asian countries like Indonesia underrepresented despite their unique implementation challenges. Thus, this study extends GBL theory by providing qualitative

evidence from an underrepresented context while demonstrating how reflective frameworks can effectively capture the complex realities teachers navigate when integrating educational technology.

This research contributes both practically and empirically to the field of technology-enhanced language learning. Practical contributions: First, this study provides evidence-based guidance for teacher training programs seeking to prepare EFL instructors for game-based learning (GBL) implementation. By documenting the specific challenges teachers face and the adaptive strategies they develop, this research offers concrete insights that can inform more effective professional development design. Second, the findings offer actionable recommendations for schools and educational institutions operating with limited technological resources, demonstrating that successful GBL implementation does not necessarily require extensive digital infrastructure but rather strategic adaptation and creativity. Third, the study informs curriculum designers about the importance of creating flexible GBL modules that can be adapted to varying resource levels while maintaining pedagogical rigor and alignment with learning objectives. Empirical contributions: From a theoretical standpoint, this study extends game-based learning theory by providing qualitative evidence from a context (resource-limited Indonesian junior high schools) that has been underrepresented in existing literature. While most GBL frameworks have been developed and tested in well-resourced environments, this research demonstrates how these frameworks operate differently and require modification in resource-constrained settings. Additionally, this study makes a methodological contribution by demonstrating the effectiveness of combining Gibbs' Reflective Cycle with methodological triangulation for investigating technology adoption. This approach captures the full complexity of teacher experiences in ways that traditional survey-based or experimental designs cannot. Finally, the research contributes to our understanding of teacher agency and adaptive capacity in technology integration, showing how experienced practitioners navigate multiple constraints to implement pedagogical innovations. By answering these questions through systematic reflective inquiry, this study reveals the practical realities of GBL implementation from the perspective of irreplaceable classroom teachers, which ultimately contributes to the integration of more effective and

contextually appropriate game-based approaches in English as a foreign language (EFL) education.

Based on the above discussion, this study addresses the following research questions:

1. How do EFL teachers reflect on and interpret the effectiveness of game-based learning (GBL) in their classrooms following professional development training?
2. What challenges do EFL teachers encounter when implementing game-based learning in resource-limited Indonesian EFL contexts (e.g., technological, pedagogical, and institutional barriers)?
3. What adaptive strategies do teachers develop through reflective practice to overcome implementation barriers and sustain GBL integration within contextual constraints?

METHOD

Design

This study employed a qualitative case study design (Yin, 2014) to explore teachers' experiences with game-based learning implementation in depth. The unit of analysis is the individual teacher's reflective experience with game-based learning (GBL) integration following professional development training. We selected a qualitative approach because our research questions require a rich, contextualized understanding of teachers' decision-making processes, perceptions, and adaptive strategies, phenomena that cannot be adequately captured through quantitative measurement alone. While previous research has predominantly used quantitative surveys to assess GBL effectiveness (Almusharraf, 2023; Tang et al., 2024), such approaches are insufficient for understanding the nuanced, context-dependent ways teachers navigate implementation challenges in resource-limited settings.

The analytical focus encompasses three interconnected dimensions: First, Teacher Perceptions: How teachers evaluate GBL's effectiveness for enhancing student engagement, motivation, language learning, and confidence. Their views on the relationship between game elements and pedagogical goals, and their assessment of GBL's appropriateness for their

specific teaching context. Second, implementation challenges: The technological barriers (device access, internet connectivity, technical skills), pedagogical challenges (curriculum alignment, time management, assessment integration), and institutional constraints (administrative support, infrastructure, policy restrictions) that teachers encounter. Third, Adaptive strategies: The creative solutions, modifications, and workarounds that teachers develop to implement GBL within their constraints, including resource-sharing approaches, time-management techniques, and curriculum integration methods.

Participant

The participants in this study were three experienced English as a foreign language (EFL) teachers from two public junior high schools in Kendal Regency, Central Java, Indonesia. Purposive sampling was used to select teachers who met specific criteria: (1) had at least 10 years of experience teaching EFL, (2) had participated in Technology-Enhanced Language Learning (TELL) training before the study, and (3) actively applied game-based learning in their current teaching practice. This selection strategy ensured that participants had adequate pedagogical expertise and relevant technology training, enabling them to provide informed reflections on game-based learning (GBL) implementation. The students taught by these participants were Indonesian junior high school students (ages 12-15) at beginner to intermediate English proficiency levels, typical for Indonesian EFL contexts where English is learned primarily as a foreign language with limited exposure outside the classroom.

Table 1 shows the demographic characteristics and professional profiles of the three participating teachers.

Teacher	***Teaching Span***	***Technology Knowledge (TK)***	***Pedagogical Knowledge (PK)***	***GBL / TPACK Integration Ability***	***Games Previously Used***
T1	*12 years*	*Intermediate*	*Strong (12 yrs experience)*	*Limited (workshop only)*	*Wordwall, Kahoot, Quizziz*
T2	*15 years*	*Advanced*	*Strong (15 yrs experience)*	*Moderate (2 years sporadic use)*	*Wordwall, Educaplay, Quizziz, Duolingo*
T3	*11 years*	*Intermediate*	*Strong (11 yrs experience)*	*Limited (workshop only)*	*Wordwall, Kahoot*

Ethical considerations

All participants provided written informed consent after receiving detailed information about the study's purpose, procedures, voluntary nature, and their right to withdraw at any time without consequence. Participants were assured of confidentiality, and pseudonyms (Teacher A, B, C) are used throughout this report. Students' parents were informed about the research through school administration, and no student data was collected beyond general classroom observations. All data were securely stored and accessible only for research teams.

Instrument

Reflective interviews generated qualitative content data, focusing on teachers' perceptions, reasons, and insights into their experiences rather than their linguistic accuracy. To enhance the reliability of self-reported reflections, classroom observations were conducted using structured observation sheets, and teachers' lesson plans (RPP) were examined through document checklists. The combination of diverse data sources strengthened the validity and reliability of the findings, in line with Nassaji's (2020) recommendations. Reflections were completed in writing by the teachers in Indonesian to ensure participant comfort.

The written reflections were collected and transcribed verbatim for analysis. The interviews followed (Gibbs, 1988) reflective cycle and produced narrative data about teachers' experiences, feelings, evaluations, and action plans regarding GBL implementation.

Data collection technique

Data collection was conducted in a clear sequence as shown in Table 2:

Table 2 data collection flows or timeline.

Week	***Activity***	***Data Source***	***Purpose***
1 – 4	*Professional development training on GBL*	*Training materials, participant notes*	*Provide background context*
5 – 8	*GBL implementation period*	*Weekly classroom observations*	*Document actual implementation, student responses, and challenges*
9	*Collection of written reflections*	*Reflections based on Gibbs' Reflective Cycle*	*Capture teachers' systematic reflections on experiences*
10	*Document review*	*Lesson plans, teaching materials, and assessments*	*Understand lesson planning and curriculum integration*
11	*Follow-up clarifications*	*Via WhatsApp*	*Verify interpretations and fill data gaps*

Table 2 shows the flow/schedule of data collection over 11 weeks, which was carried out gradually and systematically. This table contains activities, data sources, and objectives for each week. In weeks 1–4, data were obtained from training materials and participant notes to establish the initial context of GBL training. Weeks 5–8 were the GBL implementation phase in the classroom, with weekly observations as a source of data to record implementation, student responses, and obstacles that arose. Next, in week 9, written reflections were collected based on Gibbs' Reflective Cycle to capture teachers' reflections systematically. In week 10, learning documents (lesson plans, teaching materials, and assessments) were reviewed to understand lesson planning and curriculum integration. Finally, in week 11, additional clarifications were made via WhatsApp to verify the interpretation results and complete any missing data.

Data collected using three main instruments: **reflective interviews, classroom observations, and document analysis**. Each instrument generated different types of qualitative data, as summarized in Table 3.

Table 3. Instruments and types of data produced

Instrument	*Description of Use*	*Type of Data Generated*
Reflective Interview	*Semi-structured written reflections completed by teachers after implementing game-based learning using Gibbs' six stages (Description, Feelings, Evaluation, Analysis, Conclusion, Action Plan).*	***Qualitative content data** on teachers' perceptions, reasoning, experiences, challenges, and decision-making during game-based learning.*
Classroom Observation	*Structured observations were conducted while teachers implemented game-based learning after the training. Observation sheets were used to document teaching behaviors, student engagement, and the use of games.*	***Behavioral and process data**, including teaching practices, classroom interactions, student responses, and fidelity of game implementation.*
Document Analysis	*Analysis of lesson plans (RPP) and teaching materials prepared before instruction. A document checklist was used.*	***Document/artefact data** showing how games were integrated into lesson plans, instructional objectives, materials, and task sequencing.*

Data analysis technique

To ensure that each type of data collected in this study was analyzed systematically and in accordance with its characteristics, different analytical approaches were applied to the outputs of the reflective interviews, classroom observations, and document analysis. Because the study relied entirely on qualitative data, the focus of the analysis was on identifying patterns, interpreting meanings, and understanding the teachers' experiences with game-based learning from multiple perspectives. Data were analyzed using thematic analysis following (Braun & Clarke, 2006) six-phase framework. Interview transcripts produced narrative data analyzed for themes related to perceptions and challenges. Observation field notes were analyzed descriptively to triangulate interview findings. Document analysis involved checking lesson plans against GBL.

Table 4 summarizes the specific data outputs produced by each instrument and the analytical frameworks used to analyze them, ensuring coherence between the nature of the data and the method of analysis.

Table 4. Instruments, data output, and analytical frameworks

Instrument	*Data Output*	*Analytical Framework / Theory Used*
Reflective Interview	*Qualitative content data: teachers' perceptions, reasoning, feelings, challenges, reflections, and decision-making related to game-based learning.*	***Thematic Analysis*** *(Braun & Clarke, 2006). Coding based on meaning units; themes developed to represent teachers' reflective experiences, aligned with Gibbs' Reflective Cycle.*
Classroom Observation	*Behavioral and interactional data: teaching actions, student engagement, interaction patterns (teacher–student, student–student), classroom dynamics, and fidelity of game implementation.*	***Interaction Analysis*** *(Jordan & Henderson, 1995). Focuses on identifying and mapping interaction patterns, communication flows, and engagement behaviors during game-based learning.*
Document Analysis (RPP & Materials)	*Artefact data: organization of lesson plans, instructional objectives, game integration, materials prepared, sequencing of activities, and alignment with curriculum.*	***Content Analysis*** *guided by lesson plan evaluation criteria. Coding focused on how games were planned, structured, and justified within instructional design.*

Table 5 provides illustrative examples of how raw interview statements, observation notes, and lesson-plan excerpts were transformed into initial codes (open coding), grouped into categories (axial coding), and refined into the final themes (selective coding).

Table 5. Sample coding excerpt

Data excerpt (Interview/Observation/Document)	***Initial code***	***Category (Axial)***	***Theme (Selective)***
"More intensive monitoring is needed, because the workload of each teacher is not the same in each school."	*Need for intensive monitoring, unclear deadlines, unequal workload*	*Implementation support need*	*Recommendations for More Effective Implementation*
"The only technical constraint is the duration of time to complete the assignment, because the workload for each teacher is not the same in each school."	*Limited practice time, workload pressure*	*Time/workload constraint*	*Challenges in the implementation of GBL*
"Overcoming challenges, collaborating with other teachers, and encouraging schools to further equip supporting infrastructure in the use of technology."	*Collaboration, advocating for facilities*	*Adaptive strategy*	*Teachers' Strategies for Overcoming Difficulties in Implementing Technology/GBL*

Trustworthiness

Trust is strengthened through triangulation between reflective interviews, classroom observations, and document analysis, allowing for cross-checking between teacher reflections, observed practices, and lesson plans. Reliability is supported by maintaining an audit trail of data collection and coding decisions. Where possible, summaries of key points are shared with participants to ensure accuracy of interpretation.

RESULT AND DISCUSSION

Result

This section presents findings addressing the three research questions. Given the small number of participants (n = 3), the results are reported using teacher identifiers (T1–T3) and simple counts (e.g., all three teachers, two of the three teachers).

The tables summarize key themes and include illustrative evidence from the interviews, supported where relevant by classroom observations and lesson-plan documents (see Table 6 Increased student engagement).

Table 6. Increased student engagement

Participants	***Illustrative statement (Interview)***	***Engagement indicator***	***Data source***
T1	*Increasing student engagement through interactive media*	*More active participant, healthy competition*	*Reflective interview*
T2	*Students are more active and enthusiastic, reducing their fear of learning*	*Reduced anxiety, increased participation.*	*Reflective interview*
T3	*Learning becomes more interesting, enjoyable, and effective*	*Enjoyable atmosphere, participation.*	*Reflective interview*

All three teachers reported increased student engagement when using GBL and other interactive digital media. Engagement was described as more active participation, greater enthusiasm, and a more enjoyable learning atmosphere. Teachers also noted that game-like tasks encouraged students to respond more confidently and participate in low-stakes practice (See Table 7).

Table 7. Challenges in the implementation of GBL

Participants	***Theme***	***Data resource***	***Examples***
T1	*Lack of practice time*	*Reflective interview*	*The duration of time to complete the task was relatively short*
T2	*Limited understanding of technology features*	*Reflective interview*	*Some speakers did not fully understand the features*
T3	*Lack of practice time*	*Reflective interview*	*insufficient practice time*

Two of the three teachers (T1 and T3) identified limited practice time as a key challenge, noting that class time and workload limited opportunities to explore digital features during implementation.

In contrast, T2 highlighted limited familiarity with specific application features. Overall, the challenges reported differed across teachers (see Table 8 in the next page).

Table 8. Infrastructure limitations

Participants	***Theme***	***Frequency***	***Examples***
T1	*Reliance on school facilities (projector/internet)*	*Reflective interview*	*Device availability and connectivity depend on school facilities.*
T2	*Unequal access to devices*	*Reflective interview*	*Technology-based tasks should not assume every learner can bring a smartphone or laptop.*
T3	*Unstable internet and device sharing*	*Reflective interview*	*The internet connection is unstable, and students take turns using devices during digital activities.*

All three teachers referred to infrastructure-related constraints. T1 reported reliance on school facilities (e.g., projector and internet), which sometimes limited the smooth use of digital media. T2 noted unequal access to devices and emphasized that technology-based activities should not assume every learner can bring a smartphone or laptop. T3 reported unstable internet and device-sharing during the Wordwall activity, which slowed access for some students (see Table 9).

Table 9. Curriculum integration difficulties

Participants	***Theme***	***Data resource***	***Examples***
T1	*Need for alignment with curriculum objectives*	*Reflective interview*	*Technology/GBL Integration, Digital video and interactive media, there are no digital games yet.*
T2	*GBL is not explicitly embedded in the lesson plan*	*Documents analysis*	*The lesson plan relied on video/PPT; no specific GBL activity was planned.*
T3	*GBL is embedded but requires consistent alignment*	*Observation classes & Documents analysis*	*Wordwall was planned and used for diagnostic/practice, requiring alignment with outcomes and assessment.*

Teachers described varying levels of success in aligning technology/GBL activities with curriculum objectives and assessment demands. T1 emphasized the importance of aligning technology use with learning objectives. Document analysis showed that only T3 explicitly embedded a digital game (Wordwall) in the lesson plan as a diagnostic and practice activity, while T1 and T2 primarily planned the use of videos and other digital media without a specific GBL element. Teachers also reported that designing assessments that capture both engagement and language outcomes remains challenging (see Table 10).

Table 10. Teachers' strategies for overcoming difficulties in implementing technology/GBL

Participants	***Strategy***	***Challenge addressed***	***Data resource***
T1	*Collaborate with other teachers, advocate for improved facilities, and increase the use of interactive practice.*	*Infrastructure and time/workload.*	*Reflective interview*
T2	*Adapt technology uses available resources, design interactive tasks without requiring every student to have a device.*	*Unequal device access.*	*Reflective interview & observations classes*
T3	*Use short, targeted Wordwall quizzes (diagnostic and practice), provide clear instructions and support, evaluate, and refine.*	*Time constraints, connectivity issues, and curriculum alignment.*	*Reflective interview & documents analysis*

Teachers reported practical strategies to manage time and infrastructure constraints, including adapting activities to available resources (e.g., using pair/group work or allowing device-sharing) and using short game-based tasks (e.g., diagnostic or practice quizzes) rather than extended game sessions. Teachers also emphasized collaboration with colleagues and advocacy for improved school facilities (see Table 11).

Table 11. Recommendations for more effective implementation

Participants	***Recommendation***
T1	*More intensive monitoring is needed because the workload of each teacher is not the same in each school.*
T2	*Provision of laptops during training.*
T3	*Continuous training, more time allocated for practice.*

Teachers proposed several practical recommendations: more intensive monitoring and clearer deadlines, provision of laptops during training, and continuous professional

development with sufficient time for hands-on practice. These suggestions highlight the need for ongoing support and adequate facilities to optimize the implementation of game-based learning (GBL).

Discussion

The results of the study indicate that teachers view GBL as a promising method for improving student motivation, participation, and confidence, while emphasizing that its continued use depends on careful pedagogical adjustments, adequate infrastructure, and realistic curriculum integration. These findings are in line with research by Wang and Kabilan (2024), which reported that teachers of English as a foreign language (EFL) generally view game-based learning as a supportive tool for increasing student engagement and interaction in the classroom. These findings reinforce existing research on the benefits of GBL while highlighting the practical realities of its implementation in the resource-constrained context of Indonesia.

In relation to RQ1, all three teachers reported that GBL made students more active, enthusiastic, and willing to participate in English lessons. Teachers' views on increasing student engagement are consistent with previous findings that game-based learning positively influences motivation and participation in language classes (Hwang et al., 2023). This aligns with recent evidence syntheses in digital game-based language learning, which generally report positive effects on L2-related outcomes and engagement, while also stressing that effects are shaped by design quality and contextual conditions. This aligns with prior studies showing that games can foster intrinsic motivation, emotional involvement, and persistence by embedding language practice in enjoyable activities; (Yu & Tsuei, 2023). Similarly, Tang et al., (2024) emphasizes that instructional games can facilitate meaningful language practice, which supports the effectiveness perceived by teachers in this study. Therefore, our findings extend the outcome-focused strand of prior research by showing how teachers interpret these engagement shifts and connect them to concrete pedagogical decisions after implementation.

Teachers' reflections also suggested that GBL lowered students' anxiety and reduced the perception of English as a "feared" subject, particularly when games were used to introduce or reinforce content in a low-stakes manner. This can be interpreted through Self-

Determination Theory, which posits that activities that support feelings of competence, autonomy, and relatedness enhance motivation and engagement (Deci & Ryan, 2000), as well Landers's (2014) gamified learning theory, which emphasizes the role of game elements as mediators of learning outcomes when they are meaningfully connected to instructional goals. From the teachers' perspective, GBL was most beneficial when games were not used as isolated entertainment, but when they clearly supported vocabulary learning, text structure awareness, or communicative tasks.

Importantly, teachers do not view all games as equally beneficial. They are wary of "aimless fun" and emphasize that games must be aligned with curriculum objectives, such as strengthening vocabulary, practicing text structure, or testing understanding of a topic. From a pedagogical perspective, the use of games in this study reflects innovative teaching practices that support active learning, as proposed by Lim and Toh (2024). This selective attitude is consistent with research showing that teachers tend to prefer academically meaningful games and remain skeptical of games that seem to distract from learning (Akram et al., 2022; Zou et al., 2021). Within the Technological Pedagogical Content Knowledge (TPACK) framework (Mishra & Koehler, 2006), teachers actively negotiate the intersection between content (what is taught), pedagogy (how to teach), and technology (which games or platforms to use). Their reflections show that they did not simply adopt GBL because of its novelty or fun factor, but because they believed that certain games could effectively facilitate specific language learning objectives.

Regarding RQ2, three main categories of challenges emerged: time constraints and workload, infrastructure constraints, and difficulties in curriculum integration. First, both T1 and T3 reported that the available class time was often insufficient for students to log in, explore digital tools, and complete GBL tasks without feeling rushed. Preparing activities, selecting platforms such as Wordwall, creating items, and testing links also add to teachers' workload. This experience is consistent with the findings of previous studies in which teachers described GBL as requiring additional preparation and planning time compared to traditional methods (Kokandy, 2021; Li et al., 2023). However, unlike many of these studies, this research uses (Gibbs, 1988) to organize teachers' thoughts about these challenges through

description, evaluation, analysis, and action planning, thereby revealing how they themselves view time pressure and workload, as well as the steps they plan to take in response.

Second, the three teachers highlighted infrastructure limitations. They relied on school facilities for projectors, laptops, and internet access, and often faced unstable connections or malfunctioning devices. Some students did not have personal devices and had to share with classmates or rely on the teacher's projection screen. The integration of games as learning tools reflects a broader trend in technology-supported learning, as emphasized by Crompton et al., (2024), who highlight the pedagogical potential of gamification. Previous GBL research in better-resourced environments often assumes easy access to technology (Sharma et al., 2025; Sun et al., 2023), whereas this study confirms that in resource-limited Indonesian schools, basic infrastructure remains a significant barrier. Based on the Technology Acceptance Model (TAM) by Davis (1986), these conditions interfere with perceptions of ease of use, even though teachers recognize the usefulness of GBL for engaging students; recurring technical barriers can make it difficult to maintain its use in daily practice.

Third, teachers face challenges in integrating GBL into a curriculum that is strictly regulated by competency standards, time allocations, and assessment requirements. Analysis of lesson plans shows that they attempt to incorporate games into existing lesson models and link them to specific objectives, but designing assessments that measure both engagement and language outcomes is not easy. For example, a teacher's project-based unit does not explicitly explain how language development will be measured beyond project completion. Previous research has also noted the tension between student-centered game-based approaches and rigid curriculum frameworks (Othman, 2025; Kokandy, 2021). Through the lens of TPACK, teachers are still in the process of developing integrated technological-pedagogical-content knowledge, which will enable them to design GBL activities and assessments that fully meet curriculum demands.

In relation to RQ3, teachers described and demonstrated adaptive strategies to sustain GBL despite contextual constraints. Teachers continue to use GBL despite these difficulties. They adopt adaptive strategies to make it applicable in their context. To enable all students to participate, they switch from individual games to team-based or whole-class games displayed on screen when devices are limited or internet connections are unstable. When time is limited,

they use games for specific purposes such as warm-up reviews, vocabulary checks, or quick formative assessments rather than as full activities**.** From a pedagogical perspective, the use of games in this study reflects innovative teaching practices that support active learning, as proposed by Lim and Toh (2024). In their reflections, they also express intentions to collaborate with colleagues, push for infrastructure improvements, and continue experimenting with new tools. These actions reflect a positive attitude toward GBL and a willingness to refine practices over time, in line with technology integration models that emphasize gradual and iterative adoption rather than one-time implementation**.** In the context of EFL, these findings reinforce the importance of adaptive teaching strategies, as also emphasized by Zhang and Hasim (2023) Gibbs' Reflective Model plays a role in this process by encouraging teachers to shift from identifying problems to formulating concrete action plans.

CONCLUSION AND IMPLICATION

Conclusion

This study addressed three research questions regarding EFL teachers' experiences with game-based learning (GBL) following professional development. Regarding RQ1, teachers held positive perceptions, viewing games as effective tools for increasing student engagement and motivation, particularly for students who are typically passive in traditional instruction, while emphasizing that success depends on selecting games aligned with learning objectives. Regarding RQ2, teachers encountered persistent implementation barriers, including time and workload constraints, infrastructure limitations (unstable internet and unequal device access), and difficulties integrating GBL with curriculum and assessment demands. Regarding RQ3, teachers reported adaptive strategies to sustain GBL under these constraints, such as team-based or whole-class gameplay, device sharing, and the targeted use of short game activities for review or formative assessment. This study's novel contribution lies in its systematic integration of reflective methodology (Gibbs' Reflective Cycle) with methodological triangulation to capture authentic teacher voices from resource-limited Indonesian EFL contexts, an area that has been significantly underrepresented in the predominantly Western-oriented GBL literature. By centering teacher experiences through

structured reflection while simultaneously documenting classroom realities through observation and curriculum artifacts, this research provides unique insights into the complex interplay of pedagogical intentions, contextual constraints, and adaptive strategies that characterize GBL implementation in developing educational contexts. The study thus extends our theoretical understanding of game-based learning while offering practical guidance for educators and policymakers working within similar constraints, demonstrating that effective GBL integration depends not merely on technological access but on teacher agency, creativity, and context-appropriate adaptation.

Limitation

This study has three primary limitations that should be considered when interpreting findings. First, the small sample size (n=3) limits the generalizability of results. While the depth of qualitative analysis provides rich insights into individual teacher experiences, the findings cannot be statistically generalized to all Indonesian EFL teachers or resource-limited contexts globally. The purposive sampling approach prioritized depth over breadth, which is appropriate for exploratory qualitative research but means that findings represent detailed case examples rather than representative patterns. Second, the relatively short implementation period (11 weeks) may not capture long-term sustainability challenges or the evolution of teacher practices over an extended time. GBL integration is a developmental process, and longer-term studies are needed to understand how teacher perceptions and strategies change across multiple semesters or academic years. Third, this study focused exclusively on teacher perspectives, without systematically collecting student outcome data or student perspectives on GBL. While teachers observed increased student engagement and motivation, we cannot definitively assess learning gains or students' own reflections on their experiences. Future research should incorporate student voices and learning outcome measurements to provide a more comprehensive picture of GBL effectiveness.

Implication

This research has important implications for pedagogical practice and further research development. *For teacher education and training programmers*, professional development related to game-based learning (GBL) should not only focus on technical skills but also include reflective practice components that help teachers critically evaluate the integration of

GBL in learning. In addition, training needs to provide explicit instruction on adaptive strategies for contexts with limited resources, practical experience in designing non-digital or low-tech game alternatives, and ongoing support to help teachers overcome implementation challenges after training is complete. *For schools and educational institutions*, the successful implementation of GBL in resource-limited environments requires investment in basic digital infrastructure, such as stable internet connections and adequate equipment, in line with increasing teacher capacity. Schools also need to provide flexible curriculum space so that teachers can experiment with game-based approaches without compromising students' readiness for evaluations and examinations. The formation of teacher learning communities is essential to encourage the sharing of resources and strategies, as well as to build realistic expectations that take contextual conditions into account, rather than adopting practices from more resource-rich educational environments. *Another implication is intended for curriculum designers*, who are expected to develop GBL materials and modules that are sensitive to contextual limitations. The materials should provide digital and analogue versions of learning activities, designed for group work or classroom projection rather than assuming one device per student, and integrate very short game segments so that they can be easily inserted into conventional learning. In addition, clear alignment with national curriculum standards and examination requirements is essential for GBL to be accepted and implemented on a sustainable basis. *From a methodological perspective*, this study demonstrates the effectiveness of combining Gibbs' Reflective Cycle with triangulation methods in examining the adoption of educational technology. This approach yields a richer and more nuanced understanding than research designs that use a single method, highlighting the importance of a reflective framework in educational technology research.

Further research should focus on longitudinal studies that monitor the implementation of GBL over a longer period to understand the sustainability and development of teaching practices. In addition, large-scale comparative research in various resource contexts, both interregional and international, is important to identify common patterns and contextual variations. Research focusing on the student perspective, including measuring learning outcomes and long-term impacts on language development, is also an important agenda. Furthermore, cost-benefit analyses related to infrastructure investment and the effectiveness

of GBL, as well as cross-cultural studies on differences in responses between collectivist and individualist cultures to competitive and collaborative game structures, are worthy of further exploration.

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