International Journal of Current Science Research and Review
ISSN: 2581-8341
Volume 09 Issue 03 March 2026
DOI: 10.47191/ijcsrr/V9-i3-02, Impact Factor: 8.048
IJCSRR @ 2026
www.ijcsrr.org

Exploring The Impacts of online Game-Based Applications on Enhancing Learning Motivation among Primary School Students

Nhung Hong Pham[1], Long Thanh Nguyen[2]
[1] Faculty of Foreign Languages, Binh Duong University, Vietnam
[2] Faculty of Foreign Languages, Nguyen Tat Thanh University, Vietnam

ABSTRACT: This study investigates the impact of online game-based applications (OGBA) on enhancing learning motivation among primary students in English as a Foreign Language (EFL) classrooms in Vietnam. Although digital game-based learning has been widely associated with increased engagement, limited research has systematically examined its motivational mechanisms within primary-level EFL contexts in developing countries. Drawing upon Self-Determination Theory and Flow Theory, this study employed a convergent mixed-methods design involving 50 Grade 5 students and three teachers over a 12-week instructional intervention. Quantitative data were collected through a validated Likert-scale questionnaire measuring five motivational dimensions, while qualitative insights were obtained from semi-structured interviews and classroom observations. Descriptive and thematic analyses revealed consistently high levels of student motivation, particularly in interest, participation, and perceived competence. Students reported increased concentration, confidence, and willingness to engage when OGBA platforms such as Kahoot and Wordwall were integrated into instruction. However, moderate challenges related to time constraints, competitive pressure, and technological issues were also identified. The findings suggest that OGBA can effectively strengthen intrinsic and identified forms of motivation when pedagogically aligned with learning objectives. This study contributes context-sensitive evidence to the growing literature on digital game-based learning in primary EFL education and offers practical implications for sustainable technology integration in similar educational settings.

KEYWORDS: Digital game-based learning, Online game-based applications, Learning motivation, Self-Determination Theory, Flow theory, Primary EFL learners.

1. INTRODUCTION

In the current educational context, the integration of Information and Communication Technology into teaching and learning has become an inevitable trend, particularly under the strong influence of the Fourth Industrial Revolution. Education today not only focuses on the transmission of knowledge but also on creating engaging, creative, and effective learning environments. ICT enables learners to access multidimensional sources of information while allowing them to take greater control over their own learning process (Pourhosein Gilakjani & Sabouri, 2014). In the field of foreign language education specifically, ICT has been widely adopted across different levels, from primary and secondary schools to higher education (Nguyen, 2015). One of the most prominent approaches to ICT integration is the use of online games in education, often referred to as Digital Game-Based Learning (DGBL). Recent studies have shown that DGBL not only improves learning outcomes but also plays a particularly important role in enhancing students' interest and motivation, especially at the primary level. For instance, a study in Indonesia with 150 primary students revealed that online games significantly increased motivation by stimulating curiosity, autonomy, and willingness to take on challenges (Susanti et al., 2024). Similarly, research in India demonstrated that students exposed to Game-Based Learning reported significantly higher motivation than those taught with traditional methods (Rani, 2024). A study in Turkey also indicated that digital games promoted participation and motivation, although they did not substantially alter learning attitudes (Yılmaz & Keser, 2020).

In addition, the use of gamification employing game elements such as points, badges, and leaderboards has gained increasing attention. Findings suggest that when designed appropriately and aligned with learning objectives, gamification can enhance educational effectiveness. However, when applied in a fragmented way, such as relying solely on badges, it may impose additional cognitive load without improving learning outcomes (Chen et al., 2025). Nevertheless, domestic studies also highlight several barriers to the adoption of game-based technologies, particularly from the teachers' perspective. Many teachers remain hesitant due to limited technological skills, insufficient training opportunities, and persistent perceptions that games in classrooms may reduce

International Journal of Current Science Research and Review
ISSN: 2581-8341
Volume 09 Issue 03 March 2026
DOI: 10.47191/ijcsrr/V9-i3-02, Impact Factor: 8.048
IJCSRR @ 2026
www.ijcsrr.org

seriousness (Duong & Vo, 2024). This indicates that the key issue is no longer whether online games should be used in teaching, but rather how to apply them effectively, sustainably, and in alignment with the primary education context in Vietnam.

2 LITERATURE REVIEW

2.1.1. Online Game-Based Applications

Game-Based Learning (GBL) refers to the integration of game elements and structures into an educational context with the aim of facilitating learning through interactive and engaging activities (Van Eck, 2006). Traditionally, games have been used in language classes in the form of vocabulary flashcards, role-playing, or simple competitive activities to support vocabulary acquisition and learner engagement. However, such traditional forms of GBL are often limited by scalability, preparation time, and a lack of immediate feedback, which can diminish their long-term effectiveness.

With the development of Information and Communication Technology, GBL has evolved into Digital Game-Based Learning (DGBL), in which learning activities are embedded in digital or online games accessible via computers and mobile devices (Prensky, 2001; Qian & Clark, 2016). DGBL combines instructional content with interactive multimedia, allowing learners to engage in purposeful gameplay while receiving immediate feedback, adaptive challenges, and visual or auditory reinforcement. Compared to traditional game-based learning activities, DGBL offers greater flexibility, repeatability, and the potential for personalizing the learning experience for a wider range of learners. A large body of research has examined the educational value of DGBL, particularly in the context of foreign language learning. Overall, previous studies consistently report that DGBL has a positive impact on learner motivation, engagement, and commitment. Meta-analysis evidence suggests that digital games tend to produce small to moderate improvements in both motivational and cognitive outcomes compared to traditional teaching methods, especially when the games are well-aligned with learning objectives and pedagogical design principles (Clark et al, 2014; Bai et al 2019). These findings suggest that DGBL is not merely an additional motivational tool, but a potentially effective teaching strategy when implemented systematically. Regarding learning outcomes, previous studies can be grouped into three main aspects. The first stream of research focused on motivational and emotional outcomes, showing that DGBL increased learner enjoyment, reduced anxiety, and increased willingness to participate in classroom activities (Hamari et al, 2016; Serrano, 2019). The second stream emphasized language-related outcomes, particularly vocabulary acquisition, pronunciation, and speaking fluency, with evidence suggesting that game-based learning environments support memorization and repetitive practice (Wu et al, 2020; Wang & Han, 2021). The third stream highlighted conditioned factors and constraints, noting that the effectiveness of DGBL is highly dependent on teaching design, teacher intervention, and learner characteristics. Some studies warn that poorly designed games can cause learners to prioritize entertainment over learning, leading to superficial engagement rather than meaningful language development (Hanus & Fox, 2015; Huang, 2023). While the findings are generally positive, the research literature also points to several unresolved issues. First, many studies focus on secondary or higher education, while empirical evidence at the primary school level remains relatively limited. Second, the majority of studies on DGBL focus on short-term achievement or test results, while few studies systematically consider learning motivation as a sustained psychological construct. Third, contextual factors such as infrastructure, teacher availability, and classroom constraints especially in developing educational environments or regions are often understudied. These limitations suggest that the effectiveness of DGBL cannot be assumed universally but must be examined within specific educational contexts. In summary, existing literature demonstrates that digital game-based learning offers clear advantages over traditional teaching methods in terms of engagement and motivational support. However, its effectiveness is not automatic and depends on pedagogical appropriateness, learner characteristics, and contextual conditions. These insights provide the conceptual foundation for the present research, which aims to examine how online game applications a specific form of DGBL affect the learning motivation of primary school students learning English as a foreign language in the Vietnamese educational context.

2.1.2. Motivation in EFL Learning

Motivation has long been recognized as a key factor influencing success in foreign language learning. In EFL contexts, where learners often have limited exposure to the target language outside the classroom, motivation plays a particularly crucial role in sustaining effort, engagement, and persistence. Previous research has approached motivation from multiple theoretical perspectives, examining its types, its relationship with instructional contexts, and the influence of pedagogical interventions such as technology-enhanced learning. Previous studies consistently indicate that technology enhanced learning can positively influence motivation in EFL settings by increasing interactivity, providing immediate feedback, and diversifying instructional methods. Digital tools and

International Journal of Current Science Research and Review
ISSN: 2581-8341
Volume 09 Issue 03 March 2026
DOI: 10.47191/ijcsrr/V9-i3-02, Impact Factor: 8.048
IJCSRR @ 2026
www.ijcsrr.org

online platforms have been associated with higher learner engagement and increased willingness to participate, particularly when traditional classroom activities are perceived as repetitive or monotonous. However, research also cautions that the motivational effects of technology are not automatic. Some studies suggest that technological novelty may lead to temporary increases in motivation that diminish over time if tools are not pedagogically integrated. Others note that technological challenges, such as limited access or insufficient teacher guidance, may reduce learners' confidence and engagement. While some studies emphasize the motivational benefits of gamified and interactive applications, others highlight the risk of learners focusing on superficial task completion rather than meaningful language learning. Overall, these findings indicate that technology influences motivation indirectly, mediated by factors such as task design, learner autonomy, and instructional support. This perspective underscores the need to examine specific forms of technology use such as online game-based applications and their relationship with motivational constructs in particular educational contexts.

2.2.3. Self-Determination Theory (SDT)

Self-Determination Theory (Deci & Ryan, 2013) is one of the most influential frameworks in educational psychology. It posits that human motivation is driven by the fulfillment of three basic psychological needs: autonomy, competence, and relatedness. When these needs are satisfied, learners are more likely to develop intrinsic motivation, leading to deeper engagement and sustained learning effort. In the context of GBL, digital games naturally support these needs. Autonomy is promoted through choices in gameplay, such as selecting avatars, levels, or strategies. Competence is reinforced by immediate feedback, points, badges, and leveling-up systems that provide learners with a sense of mastery. Relatedness is facilitated by interactive features such as multiplayer modes, leaderboards, and collaborative problem-solving, which foster social connection. Recent studies in EFL contexts (Ahmed et al., 2022; Chen, Liu & Huang, 2019) confirm that game-based activities aligned with SDT principles enhance motivation, reduce anxiety, and improve performance. Therefore, SDT provides a powerful theoretical foundation to explain how OGBA can meet learners' psychological needs and drive motivation in English language classrooms.

2.2.4. Flow Theory

Proposed by Csikszentmihalyi (1990), Flow Theory describes a state of deep concentration and immersion in an activity, where learners lose track of time and experience enjoyment from the task itself. Flow occurs when there is an optimal balance between challenge and skill level. In GBL, this balance is achieved through adaptive game mechanics that adjust difficulty levels, provide progressive challenges, and deliver instant feedback. For young EFL learners, reaching a state of flow during OGBA activities means that they are fully absorbed in practicing vocabulary, grammar, or communicative tasks without perceiving them as tedious drills. Empirical research (Gresalfi & Barnes, 2016) indicates that flow is positively associated with learning outcomes, persistence, and intrinsic motivation. Integrating Flow Theory into the present framework explains how well-designed OGBA can sustain attention and encourage learners to practice language skills more effectively.

2.3. Review of related studies

2.3.1. Studies in the world

International studies consistently indicate that online game-based applications (OGBA) exert strong influences on motivation through various psychological mechanisms. Self-Determination Theory (Deci & Ryan, 2013) emphasizes three basic psychological needs autonomy, competence, and relatedness which are widely addressed in online learning games. Learners experience autonomy when choosing avatars, levels, or modes of play; competence is reinforced through points, badges, and immediate feedback; and relatedness is enhanced via multiplayer features, leaderboards, and collaborative activities (Ahmed et al, 2019; Ahmed et al., 2022). Similarly, Flow Theory (Csikszentmihalyi, 1990) underscores the importance of achieving balance between challenge and skill. Gresalfi and Barnes (2016) demonstrated that flow in OGBA fosters deep concentration, reduces the sense of tedious learning, and strengthens intrinsic motivation. Moreover, the ARCS Model (Keller, 1987) provides a more practice-oriented framework, suggesting that games capture attention through multimedia features, ensure relevance when aligned with learning goals, enhance confidence by scaffolding difficulty, and promote satisfaction through rewards. Studies have shown that ARCS-based game design significantly increases learner engagement and enjoyment (Hamari et al., 2016; Huang, 2023). Taken together, these theoretical frameworks reveal that OGBA can satisfy psychological needs, sustain concentration, and foster positive emotions core components of long-term learning motivation. A large body of research has focused on quiz-based gamified platforms such as Kahoot!, Quizizz, Quizlet, and Liulishuo. For example, Khalilian, Hosseini, and Ghabanchi (2021) found that Kahoot! significantly improved grammar

International Journal of Current Science Research and Review
ISSN: 2581-8341
Volume 09 Issue 03 March 2026
DOI: 10.47191/ijcsrr/V9-i3-02, Impact Factor: 8.048
IJCSRR @ 2026
www.ijcsrr.org

performance and motivation among EFL learners through a competitive environment. Likewise, Wichadee and Pattanapichet (2018) reported that Kahoot! enhanced vocabulary and grammar learning outcomes while increasing enjoyment. Almusharraf (2021) also highlighted its effectiveness in boosting participation and engagement in online classes. Beyond Kahoot!, Quizizz and Quizlet have also proven effective. Zou (2024) observed that primary school students in China improved vocabulary retention with Quizlet, supported by rewards and competitive elements. Alhebshi and Gamlo (2022) confirmed that Quizizz enhanced motivation and long-term memory for Saudi learners, while learners also appreciated its user-friendliness. Similarly, Li (2021) demonstrated that a mobile vocabulary application in China increased academic performance and self-confidence compared to traditional methods. Sartika et al (2023) shows that leveraging students' electronic device usage habits, particularly through game-based learning strategies like "Blooket.com," is a novel way to improve their vocabulary mastery. Results show that using Blooket can enhance students' motivation to learn vocabulary because it creates enjoyment, competition, and helps them understand vocabulary more easily than traditional methods. Further evidence comes from Liulishuo, a mobile application, where Wang and Han (2021) reported significant improvements in fluency and complexity of English speech among Chinese university students. This highlights that OGBA extends beyond drill-and-practice to support communicative competence and out-of-class learning opportunities. Overall, these findings reinforce the argument that OGBA has diverse benefits enhancing achievement, improving skills, reducing anxiety, and transforming traditional learning into enjoyable and meaningful experiences. Despite the predominantly positive evidence, international studies also identify important limitations. First, game designs that overly emphasize entertainment may lead to surface-level engagement rather than meaningful learning (Huang, 2023). Chen et al. (2025) warned that applying isolated gamification elements, such as badges alone, may increase cognitive load instead of supporting learning outcomes. Second, issues of implementation conditions are repeatedly noted. While Almusharraf (2021) and Alim (2022) confirmed that Kahoot! boosts motivation, teachers often struggled with time constraints, unstable internet connectivity, and insufficient digital competence. Moreover, contextual and cultural differences shaped learning motivation differently: in Arab countries and Macau, instrumental motivation dominates, whereas integrative motivation is more salient in other contexts (Mohammed, 2015; Wallace & Leong, 2020). This variability makes it difficult to generalize findings across settings. Finally, methodological concerns persist. Many studies relied primarily on self-reported questionnaires, with limited triangulation through behavioral or log data, raising the risk of bias in measuring actual motivation. This limitation underscores the need for mixed-method designs to improve validity (Clark et al., 2014; Bai, Hew & Huang, 2019). The gaps identified in international research including inconsistent findings, game design limitations, technical challenges, and insufficient evidence from developing contexts underscore the significance of this study. In Vietnam, particularly at the primary school level, implementing OGBA is not only a matter of testing existing theoretical frameworks (SDT, Flow, ARCS) but also of examining contextual factors such as infrastructure readiness, teacher competence, and cultural learning characteristics. Therefore, this study will make both theoretical and practical contributions: clarifying which motivational mechanisms function effectively in real classroom practice, and providing context-specific evidence to inform teacher training, curriculum design, and educational technology policies in Vietnam.

2.3.2. Studies in the country

Early research in Vietnam had already acknowledged the role of games in education. For instance, Nguyen (2011) demonstrated the feasibility of incorporating games into teacher training programs and emphasized the necessity of a systematic design process before large-scale integration into primary education. Later, Pham and Ngo (2015) piloted math games for third graders with calculation difficulties, reporting improvements in computational ability and learning attitudes, while recommending task differentiation and visual support. Similarly, Pham (2018) investigated the development of Vietnamese language games for Grade 1 in Dong Thap and found that games enhanced engagement, although challenges remained due to time constraints, limited resources, and insufficient teacher skills. In 2019–2023, VVOB's Learning Through Play (LTP) guidelines introduced a framework of principles and observation–assessment methods, highlighting the role of school leadership in allocating time, space, and resources. Complementing this, the VVOB iPLAY report (2020) underscored that many teachers, parents, and administrators still regarded "play" and "learning" as separate, recommending teacher training, resource provision, supportive policies, and better infrastructure for effective adoption. More recent studies have provided a richer empirical base. Tran (2021) developed a system of math games for Grade 1, improving test scores, cooperation skills, and student interest, while also pointing out barriers related to time, curricular pressure, and teachers' limited design capacity. In 2022, Tran & Duong 2022 surveyed 84 students and interviewed 15 to examine attitudes toward gamified English learning, showing generally positive attitudes and stronger commitment, but also a need for clearer goal-

International Journal of Current Science Research and Review
ISSN: 2581-8341
Volume 09 Issue 03 March 2026
DOI: 10.47191/ijcsrr/V9-i3-02, Impact Factor: 8.048
IJCSRR @ 2026
www.ijcsrr.org

oriented design. Research in Vietnam has increasingly confirmed the positive impact of game-based learning across different contexts. For example, Nguyen et al (2024) designed and implemented math learning games for Grade 3 students, reporting improvements in mathematical performance and motivation, though preparation remained time-consuming. In another study, Le et al (2023) examined the integration of games into Grade 4 Vietnamese language lessons and found that they enhanced learning outcomes and interest, although teachers faced challenges in preparing materials. Luong et al (2023) indicates that applying software technology in teaching the Web Application Development course enhances students' learning interest and effectiveness. Initial trials in several classes demonstrated the feasibility and potential of this approach. The findings confirm that software technology is a valuable tool to improve motivation, engagement, and the overall learning experience of IT students. Besides, Viet et al (2024) reveals that enjoyment in gamification has a stronger impact than challenge in fostering learners' intrinsic motivation. This intrinsic motivation enhances learning effectiveness and engagement, while also indirectly improving student satisfaction. The findings confirm that gamification is an effective approach to enriching the learning experience in higher education. Based on the play-based learning approach, the study by Tran et al (2023) created guidelines and practices for creating math learning games for third-grade pupils. According to the findings, these kinds of games help children develop their critical thinking, social skills, and mathematical proficiency in addition to providing a fun, engaging, and interactive environment. According to the study, play-based learning offers a suitable framework for creating and executing educational games in the teaching of primary mathematics. The synthesis above demonstrates that research in Vietnam consistently confirms the benefits of games in education, from primary to higher levels. Key outcomes include enhanced interest, motivation, and learning effectiveness; improved collaboration skills, critical thinking, and computational ability; as well as the creation of a more engaging and less monotonous learning environment. However, challenges such as time constraints, limited resources, insufficient game design skills, and the perceptions of teachers remain significant barriers. Therefore, further research and development of models, design principles, and applications of educational games are essential, both to maximize proven benefits and to address practical obstacles, thereby contributing to the innovation of teaching methods in the current context of digital transformation and educational integration.

2.4. Research Gap

Despite growing enthusiasm for digital game-based learning, three critical gaps remain evident in the literature.

First, many studies treat motivation descriptively rather than analytically, often measuring engagement or enjoyment without grounding findings in established motivational frameworks. Second, empirical evidence focusing specifically on primary-level EFL learners in developing educational contexts remains limited. Third, methodological triangulation is often insufficient, as research frequently relies solely on self-reported data.

Addressing these gaps, the present study integrates SDT and Flow Theory to examine motivational mechanisms through a mixed-methods design within a Vietnamese primary school context.

2.5. Research Framework

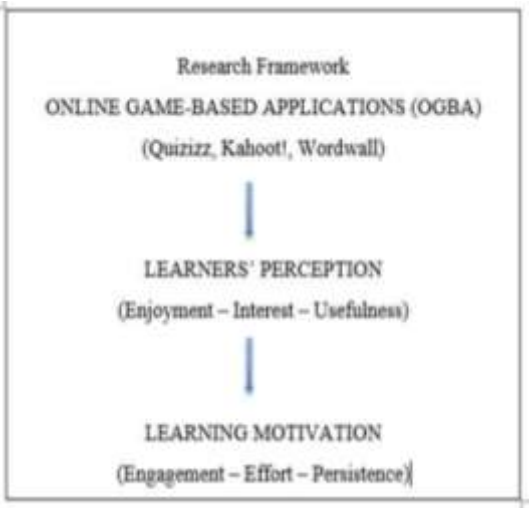

Figure 2.5. Research Framework

International Journal of Current Science Research and Review
ISSN: 2581-8341
Volume 09 Issue 03 March 2026
DOI: 10.47191/ijcsrr/V9-i3-02, Impact Factor: 8.048
IJCSRR @ 2026
www.ijcsrr.org

Based on this framework, the first research question examines students' perceptions of OGBA through questionnaire items measuring enjoyment, interest, and perceived usefulness. The second research question investigates the influence of OGBA on learners' motivation, using questionnaire items and interview data focusing on engagement, effort, and willingness to participate. The alignment between the framework, research questions, and instruments ensures methodological coherence and supports the validity of the study.

3. METHODOLOGY

3.1. Research Design

This study employed a convergent mixed-methods design to examine the impact of Online Game-Based Applications (OGBA) on primary students' motivation in English as a Foreign Language (EFL) learning. The use of mixed methods was considered appropriate because motivation is a multidimensional psychological construct that requires both quantitative measurement and qualitative interpretation (Creswell & Plano Clark, 2018).

Quantitative data were collected through a structured questionnaire to measure students' motivational perceptions across multiple dimensions. Qualitative data were gathered through semi-structured interviews and classroom observations to triangulate findings and provide deeper insights into learners' experiences and teachers' instructional practices.

The integration of these data sources enhanced methodological validity by allowing cross-verification of patterns and minimizing reliance on self-reported measures alone.

3.2. Research Context

The study was conducted at a private language center in Vietnam where English is taught as a foreign language to primary school students. The center has access to stable internet connectivity, digital projection equipment, and student mobile devices, enabling the regular integration of online game-based platforms such as Kahoot and Wordwall into classroom instruction.

The intervention lasted twelve weeks, during which online game-based activities were systematically incorporated into vocabulary and grammar lessons.

3.3. Participants

The participants consisted of 50 Grade 5 students (aged 10–11) and three English teachers responsible for teaching the class. Participants were selected through convenience sampling due to accessibility and classroom-based research constraints.

All students had learned English for at least three years and were familiar with basic digital tools. Prior to data collection, written informed consent was obtained from parents or legal guardians. Participation was voluntary, and confidentiality was guaranteed.

3.4. Research Instruments

3.4.1. Questionnaire

A structured questionnaire consisting of 20 items was developed to measure students' perceptions of OGBA and their learning motivation. The items were organized into five motivational dimensions:

1. Attitudes toward English learning
2. Interest and enjoyment
3. Participation and effort
4. Interaction and collaboration
5. Perceived challenges

All items were measured on a five-point Likert scale ranging from 1 (Strongly disagree) to 5 (Strongly agree).

To ensure clarity and age appropriateness, the instrument was piloted with 15 students of similar age prior to formal administration. Minor wording adjustments were made based on feedback.

Internal consistency reliability was examined using Cronbach's Alpha. The overall reliability coefficient was **α = 0.87**, indicating satisfactory internal consistency. Subscale reliability coefficients ranged from 0.79 to 0.85, demonstrating acceptable reliability levels.

Content validity was established through expert review by two EFL lecturers with experience in educational technology integration.

International Journal of Current Science Research and Review
ISSN: 2581-8341
Volume 09 Issue 03 March 2026
DOI: 10.47191/ijcsrr/V9-i3-02, Impact Factor: 8.048
IJCSRR @ 2026
www.ijcsrr.org

3.4.2. Semi-Structured Interviews

Semi-structured interviews were conducted with three teachers and three students selected through purposive sampling. Interview questions focused on:

- Perceived motivational changes
- Engagement levels
- Emotional experiences during gameplay
- Observed challenges
- Pedagogical effectiveness

Student interviews lasted 5–10 minutes, and teacher interviews lasted 10–20 minutes. All interviews were audio-recorded and transcribed verbatim.

3.4.3. Classroom Observations

Classroom observations were conducted throughout the 12-week implementation. An observation checklist was developed based on SDT and Flow Theory constructs, focusing on:

- Behavioral engagement
- Peer interaction
- Signs of concentration
- Emotional responses
- Competitive dynamics

Field notes were recorded after each observed session to complement survey and interview data.

3.5. Data Collection Procedure

The study was implemented over a twelve-week period. During this time, OGBA activities were systematically integrated into English lessons at least twice per week.

At the end of the intervention:

1. The questionnaire was administered to all 50 students.
2. Interviews were conducted with selected participants.
3. Observation records were consolidated for thematic review.

This sequencing minimized novelty effects and allowed participants to develop consistent exposure to the intervention before evaluation.

3.6. Data Analysis

Quantitative data were analyzed using SPSS version 26. Descriptive statistics (Mean and Standard Deviation) were calculated to determine central tendencies across motivational dimensions.

Qualitative data from interviews and observations were analyzed using thematic analysis (Braun & Clarke, 2006). The analysis followed a six-step procedure:

1. Familiarization with data
2. Initial coding
3. Theme identification
4. Theme review
5. Theme definition
6. Final reporting

Coding reliability was strengthened through peer debriefing with a second reviewer.

Triangulation across survey, interview, and observation data enhanced interpretive validity.

3.7. Ethical Considerations

Ethical approval was obtained from the institutional academic board. Parental consent was secured prior to student participation. Students' identities were anonymized using pseudonyms. Participation was voluntary, and participants could withdraw at any time without academic consequences.

International Journal of Current Science Research and Review
ISSN: 2581-8341
Volume 09 Issue 03 March 2026
DOI: 10.47191/ijcsrr/V9-i3-02, Impact Factor: 8.048
IJCSRR @ 2026
www.ijcsrr.org

3.8. Methodological Limitations

Despite its strengths, the study has several limitations. First, the use of convenience sampling limits generalizability. Second, the research relied primarily on self-reported data to measure motivation, which may be influenced by social desirability bias. Third, the study did not employ experimental control groups; therefore, causal conclusions cannot be established.
Future research adopting quasi-experimental or longitudinal designs would provide stronger causal evidence.

4. FINDINGS AND DISCUSSIONS

4.1. Students' Attitudes and Motivation toward English Learning

Descriptive statistical analysis indicates that students demonstrated consistently positive attitudes toward English learning, even prior to examining the specific effects of online game-based applications (OGBA). The mean scores across items measuring instrumental value, self-development orientation, and communicative aspirations ranged from 3.80 to 4.60, reflecting a generally favorable motivational disposition.

Table 4.1. Attitudes and Motivation toward English Learning

Question	Disagree		Neutral		Agree		Strongly agree		Mean	Std. D
	Quantity	%	Quantity	%	Quantity	%	Quantity	%		
Q1	1	2.0	4	8.0	9	18.0	36	72.0	4.60	0.728
Q2	3	6.0	10	20.0	11	22.0	26	52.0	4.20	0.969
Q3	3	6.0	14	28.0	14	28.0	19	38.0	3.98	0.958
Q4	4	8.0	16	32.0	16	32.0	14	28.0	3.80	0.948
Q5	4	8.0	9	18.0	9	18.0	28	56.0	4.22	1.016

The highest mean score (M = 4.60) corresponded to the item concerning the perceived future usefulness of English. This finding suggests that students already hold a strong instrumental orientation. From the perspective of Self-Determination Theory (SDT), such responses reflect *identified regulation*, where learners internalize the value of English for long-term academic and career goals. Although not purely intrinsic, identified regulation is considered a relatively self-determined and sustainable form of motivation (Deci & Ryan, 2013). Furthermore, relatively high agreement regarding self-improvement and confidence-building items indicates that students view English learning as personally meaningful rather than solely examination-driven. This is particularly important in primary education contexts where sustained motivation predicts long-term language attainment. Overall, the baseline motivational profile of students created favorable psychological conditions for the integration of OGBA, as game-based interventions tend to amplify existing motivational orientations rather than generate entirely new ones.

4.2. Interest and Enjoyment in Game-Based Activities

Table 4.2. Interest and Enjoyment in Game-Based Activities

Question	Disagree		Neutral		Agree		Strongly agree		Mean	Std. D
	Qty	%	Qty	%	Qty	%	Qty	%		
Q6	2	4.0	10	20.0	19	38.0	19	38.0	4.1	0.863
Q7	2	4.0	15	30.0	12	24.0	21	42.0	4.04	0.947
Q8	2	4.0	8	16.0	11	22.0	29	58.0	4.34	0.895
Q9	2	4.0	7	14.0	16	32.0	25	50.0	4.28	0.858
Q10	2	4.0	11	22.0	16	32.0	21	42.0	4.12	0.895

International Journal of Current Science Research and Review
ISSN: 2581-8341
Volume 09 Issue 03 March 2026
DOI: 10.47191/ijcsrr/V9-i3-02, Impact Factor: 8.048
IJCSRR @ 2026
www.ijcsrr.org

The integration of online game-based applications produced strong positive responses across items measuring enjoyment, interest, and emotional engagement (M = 4.04–4.34). These findings demonstrate that students perceived English lessons as more engaging when supported by interactive digital platforms such as Kahoot and Wordwall. From a Flow Theory perspective, this heightened engagement can be explained by the alignment between challenge level and learner competence. Online games provided clear goals, time-bound challenges, and immediate feedback—conditions that facilitate deep concentration and immersion (Csikszentmihalyi, 1990). Students reported increased focus and reduced boredom compared to traditional textbook-based instruction. Qualitative interview data reinforced these findings. Students consistently described English lessons incorporating games as "more enjoyable" and "less stressful." One participant noted feeling more confident when answering questions during gameplay. This increase in confidence aligns with SDT's competence need satisfaction mechanism, whereby immediate feedback and visible progress reinforce learners' sense of mastery. These findings are consistent with prior international studies. For example, Hamari et al. (2016) found that well-designed digital games enhance engagement and immersion. Similarly, Zou (2024) reported significant increases in vocabulary motivation among primary learners using gamified platforms. The present study extends these findings by situating them within the Vietnamese primary EFL context, thereby contributing localized empirical validation. Importantly, the data indicate that OGBA did not merely entertain students but facilitated affective and cognitive engagement simultaneously. Emotional positivity (enjoyment) co-occurred with increased attention and persistence, suggesting deeper motivational activation rather than superficial amusement.

4.3. Learning Strategies and Classroom Participation

Table 4.3. Learning Strategies and Classroom Participation

The most striking results emerged in the dimension measuring classroom participation and learning strategies (M = 4.42–4.56),

Question	Strongly disagree		Disagree		Neutral		Agree		Strongly agree		Mean	Std.D
	Qty	%	Qty	%	Qty	%	Qty	%	Qty	%		
Q11	0	0.0	2	4.0	4	8.0	15	30.0	29	58.0	4.42	0.81
Q12	0	0.0	2	4.0	3	6.0	14	28.0	31	62.0	4.48	0.789
Q13	1	2.0	1	2.0	2	4.0	12	24.0	34	68.0	4.54	0.838
Q14	0	0.0	1	2.0	3	6.0	13	26.0	33	66.0	4.56	0.705
Q15	1	2.0	2	4.0	4	8.0	10	20.0	33	66.0	4.44	0.951

with exceptionally high levels of agreement. These scores indicate that OGBA not only influenced emotional states but also promoted active behavioral engagement. Students reported greater willingness to answer questions, collaborate with peers, and practice English beyond formal classroom time. Such findings suggest that OGBA functioned as a catalyst for strategic learning behaviors. From the lens of SDT, these outcomes reflect the simultaneous fulfillment of:

- Autonomy: Students actively make responses during gameplay.
- Competence: Real-time scoring reinforces mastery.
- Relatedness: Group-based or leaderboard features enhance social connection. Interview data from teachers further corroborated these observations. Teachers noted that shy or low-confidence learners displayed increased participation during game-based sessions. This aligns with communicative language teaching principles, where reduced anxiety and increased interaction facilitate language output.

These findings resonate with previous research indicating that gamified environments enhance collaborative engagement (Wichadee & Pattanapichet, 2018; Li, 2021). However, unlike studies suggesting potential surface-level engagement (Hanus & Fox, 2015), the present study observed sustained strategic involvement, likely due to structured pedagogical mediation.

Thus, OGBA appears to influence not only affective motivation but also behavioral and strategic dimensions of learning, contributing to more self-regulated learning tendencies.

International Journal of Current Science Research and Review
ISSN: 2581-8341
Volume 09 Issue 03 March 2026
DOI: 10.47191/ijcsrr/V9-i3-02, Impact Factor: 8.048
IJCSRR @ 2026
www.ijcsrr.org

4.4. Challenges in Game-Based Activities

Table 4.4. Challenges in Game-Based Activities

Question	Strongly disagree		Disagree		Neutral		Agree		Strongly agree		Mean	Std.D
	Qty	%	Qty	%	Qty	%	Qty	%	Qty	%		
Q1	3	6.0	8	16.0	16	32.0	15	30.0	8	16.0	3.34	1.118
Q2	2	4.0	11	22.0	9	18.0	18	36.0	10	20.0	3.46	1.164
Q3	3	6.0	6	12.0	16	32.0	18	36.0	7	14.0	3.4	1.069
Q4	1	2.0	4	8.0	8	16.0	22	44.0	15	30.0	3.92	0.986
Q5	3	6.0	6	12.0	5	10.0	14	28.0	22	44.0	3.92	1.259

Although students generally expressed positive attitudes toward OGBA, moderate mean scores (M = 3.34–3.92) indicate awareness of certain challenges.

The most frequently reported issues included:

- Time pressure during gameplay
- Technical instability
- Overemphasis on competition
- Cognitive overload due to unfamiliar vocabulary

These findings highlight that game-based learning is not inherently beneficial without careful instructional design.

From a theoretical perspective, excessive competition may undermine intrinsic motivation if perceived competence is threatened. According to SDT, when learners repeatedly experience failure in competitive environments, autonomy and competence satisfaction may diminish. Some students acknowledged focusing more on winning than content retention, indicating the risk of performance orientation overshadowing mastery orientation. Teachers also reported challenges balancing entertainment with learning objectives. These insights align with Chen et al. (2025), who warned that isolated gamification elements (e.g., points, badges) may increase cognitive load without enhancing deep learning.Therefore, the effectiveness of OGBA depends largely on teacher mediation, pacing, and alignment with curricular objectives. Games must be embedded within structured instructional sequences rather than treated as stand-alone motivational tools.

4.5. Integrated Discussion

Overall, the findings demonstrate that Online Game-Based Applications exert a multidimensional positive influence on primary students' English learning motivation. First, OGBA strengthened existing instrumental and self-development orientations rather than creating artificial novelty-driven motivation. Second, they enhanced intrinsic motivation through enjoyment, competence reinforcement, and social interaction. Third, they stimulated observable behavioral engagement and collaborative learning. The results provide empirical support for the theoretical assumptions of Self-Determination Theory and Flow Theory, confirming that when digital game-based activities satisfy psychological needs and balance challenge with skill level, sustained engagement emerges. Importantly, the study contributes context-specific evidence to the literature by examining OGBA within a Vietnamese primary EFL setting—an area that remains underrepresented in international research. However, the findings also underscore the importance of pedagogical intentionality. Without appropriate design, competitive pressure and technical barriers may weaken motivational benefits. In sum, OGBA functions most effectively not as entertainment, but as a strategically integrated instructional mechanism capable of amplifying learner motivation when aligned with clear learning objectives.

5. CONCLUSION AND IMPLICATIONS

5.1. Conclusion

This study set out to examine the extent to which online game-based applications (OGBA) enhance learning motivation among primary school students in Vietnamese EFL classrooms. Drawing on Self-Determination Theory and Flow Theory, and employing a mixed-methods design, the study provides empirical evidence that structured integration of OGBA can positively influence multiple dimensions of learner motivation. The findings indicate that OGBA strengthened students' intrinsic and identified forms of

International Journal of Current Science Research and Review
ISSN: 2581-8341
Volume 09 Issue 03 March 2026
DOI: 10.47191/ijcsrr/V9-i3-02, Impact Factor: 8.048
IJCSRR @ 2026
www.ijcsrr.org

motivation, particularly in relation to interest, enjoyment, classroom participation, and perceived competence. Rather than generating superficial excitement, the motivational gains appear to be associated with deeper psychological processes, including autonomy support, competence reinforcement, and social connectedness. The consistently high mean scores across motivational dimensions, supported by qualitative data, suggest that digital game-based activities can foster both affective engagement and behavioral involvement in primary EFL learning contexts. At the same time, the study also highlights that the effectiveness of OGBA is contingent upon pedagogical mediation. Competitive pressure, time constraints, and technical challenges can undermine motivational benefits if not carefully managed. Therefore, online games should not be treated as autonomous motivational tools, but as instructional resources embedded within coherent pedagogical frameworks. Overall, this study contributes context-sensitive evidence to the growing body of research on digital game-based learning by demonstrating how motivational theories operate within a developing primary education context. It underscores the importance of theory-informed implementation and systematic instructional alignment in maximizing the motivational potential of educational technologies.

5.2. Pedagogical Implications

Several practical implications emerge from the findings. First, teachers should strategically align OGBA activities with clearly defined learning objectives. Game-based activities are most effective when integrated as structured reinforcement tools rather than isolated entertainment components. Pre-game explanation of goals and post-game reflection activities are essential to ensure that engagement translates into meaningful learning. Second, competition elements should be carefully regulated. While many students respond positively to competitive features such as leaderboards and scoring systems, excessive emphasis on ranking may generate anxiety among lower-proficiency learners. Flexible implementation strategies—such as small-group collaboration, team-based gameplay, or rotating competitive formats—can help maintain inclusive participation while minimizing psychological pressure.

Third, sustained teacher facilitation plays a central role in maintaining motivational quality. Educators function not merely as game moderators but as instructional designers who scaffold autonomy, monitor emotional responses, and guide reflection. Without such mediation, game-based learning risks fostering performance orientation rather than mastery orientation. Fourth, institutional support is necessary for sustainable implementation. Professional development programs focusing on digital pedagogical competence, classroom management strategies in gamified settings, and instructional design principles can enhance teacher readiness. Moreover, ensuring reliable technological infrastructure reduces disruptions that may negatively affect motivation. Taken together, these implications emphasize that successful integration of OGBA depends not only on technological access but also on pedagogical intentionality and institutional support systems.

5.3. Limitations and Directions for Future Research

Despite its contributions, this study has several limitations. First, the use of convenience sampling and the relatively small sample size limit the generalizability of the findings. Second, the absence of a control group prevents causal inference regarding the direct effect of OGBA on motivation. Third, motivational constructs were primarily measured through self-reported questionnaires, which may be subject to social desirability bias. Future research should consider longitudinal or quasi-experimental designs to examine the sustainability of motivational effects over extended periods. Comparative studies across different educational settings (e.g., public vs. private schools, urban vs. rural contexts) would further enhance contextual validity. Additionally, incorporating behavioral data from digital platforms such as response times or accuracy rates could complement self-reported measures and provide more robust evidence of motivational engagement. Further investigation into specific game design elements (e.g., competitive vs. cooperative formats, feedback intensity, adaptive difficulty levels) would also help refine pedagogical guidelines for primary EFL classrooms.

REFERENCES

1. Ahmed, A. A. A., Ampry, E. S., Komariah, A., Hassan, I., Thahir, I., Hussein Ali, M., & Zafarani, P. (2022). Investigating the effect of using game-based learning on EFL learners' motivation and anxiety. *Education Research International, 2022*, 6503139. https://doi.org/10.1155/2022/6503139
2. Akhtar, S., Nadeem, M., Rashdan, M., Hussain, B., Ansari, E., & Aslam, M. (2023). Online mode of teaching and learning process in engineering discipline: Teacher perspective on challenges faced and recommendations. *Education Sciences, 13*(2), 200. https://doi.org/10.3390/educsci13020200

International Journal of Current Science Research and Review
ISSN: 2581-8341
Volume 09 Issue 03 March 2026
DOI: 10.47191/ijcsrr/V9-i3-02, Impact Factor: 8.048
IJCSRR @ 2026
www.ijcsrr.org

3. Alexander, P. A., Murphy, P. K., Woods, B. S., Duhon, K. E., & Parker, D. (1997). College instruction and concomitant changes in students' knowledge, interest, and strategy use: A study of domain learning. *Contemporary Educational Psychology, 22*(2), 125–146. https://doi.org/10.1006/ceps.1997.0927
4. Alhebshi, A. A., & Gamlo, N. (2022). The effects of mobile game-based learning on Saudi EFL foundation year students' vocabulary acquisition. *Arab World English Journal, 13*(1), 408–425. https://doi.org/10.24093/awej/vol13no1.27
5. Almusharraf, N. (2023). Incorporation of a game-based approach into EFL online classrooms: Students' perceptions. *Interactive Learning Environments, 31*(7), 4440–4453. https://doi.org/10.1080/10494820.2021.1969953
6. Alshenqeeti, H. (2018). Motivation and foreign language learning: Exploring the rise of motivation strategies in the EFL classroom. *International Journal of Applied Linguistics & English Literature, 7*(7), 1–8. https://doi.org/10.7575/aiac.ijalel.v.7n.7p.1
7. Ames, C. (1992). Classrooms: Goals, structures, and student motivation. *Journal of Educational Psychology, 84*(3), 261–271. https://doi.org/10.1037/0022-0663.84.3.261
8. Anderson, C. A., & Dill, K. E. (2000). Video games and aggressive thoughts, feelings, and behavior in the laboratory and in life. *Journal of Personality and Social Psychology, 78*(4), 772–790. https://doi.org/10.1037/0022-3514.78.4.772
9. Bai, S., Hew, K. F., & Huang, B. (2019). Does gamification improve student learning outcomes? Evidence from a meta-analysis and synthesis of qualitative data in educational contexts. *Educational Research Review, 28*, 100291. https://doi.org/10.1016/j.edurev.2019.100291
10. Balat, G. U., Dağal, A. B., & Kanburoğlu, V. (2015). The effect of a computer-aided education program on concept development in children aged 48–60 months. *Procedia - Social and Behavioral Sciences, 176*, 20–26. https://doi.org/10.1016/j.sbspro.2015.01.439
11. Berns, A., Isla-Montes, J. L., Palomo-Duarte, M., & Dodero, J. M. (2016). Motivation, students' needs and learning outcomes: A hybrid game-based app for enhanced language learning. *SpringerPlus, 5*, 1305. https://doi.org/10.1186/s40064-016-2971-
12. Braun, V., & Clarke, V. (2006). Using thematic analysis in psychology. *Qualitative Research in Psychology, 3*(2), 77–101. https://doi.org/10.1191/1478088706qp063oa
13. Chen, C. M., Liu, H., & Huang, H. B. (2019). Effects of a mobile game-based English vocabulary learning app on learners' perceptions and learning performance. *ReCALL, 31*(2), 170–188. https://doi.org/10.1017/S0958344018000228
14. Chen, C. H., Law, V., & Huang, K. (2023). Adaptive scaffolding and engagement in digital game-based learning. *Educational technology research and development*, 71(4), 1785-1798.
15. Chen, H., Li, Y., & Zhang, X. (2025). The effects of digital gamification on learning outcomes: A systematic review. *Journal of Educational Technology, 15*(2), 45–62. https://doi.org/10.1007/s40692-025-00366-x
16. Deci, E. L., & Ryan, R. M. (2013). *Intrinsic motivation and self-determination in human behavior.* Springer.
17. Duong, T. H., & Vo, M. T. (2024). Barriers to digital gamification adoption in Vietnamese classrooms. *Psychology in Education, 6*(4), 85–102.
18. Fotaris, P., Mastoras, T., Leinfellner, R., & Rosunally, Y. (2016). Climbing up the leaderboard: Applying gamification techniques in a programming class. *Electronic Journal of e-Learning, 14*(2), 94–110.
19. Gresalfi, M. S., & Barnes, J. (2016). Designing feedback in an immersive videogame: supporting student mathematical engagement. *Educational Technology Research and Development*, 64(1), 65-86.
20. Hamari, J., Shernoff, D. J., Rowe, E., Coller, B., Asbell-Clarke, J., & Edwards, T. (2016). Challenging games help students learn: Engagement, flow and immersion in game-based learning. *Computers in Human Behavior, 54*, 170–179. https://doi.org/10.1016/j.chb.2015.07.045
21. Hanus, M. D., & Fox, J. (2015). Assessing the effects of gamification in the classroom: A longitudinal study on intrinsic motivation, social comparison, satisfaction, effort, and academic performance. *Computers & education*, 80, 152-161.
22. Keller, J. M. (1987). Development and use of the ARCS model of instructional design. *Journal of Instructional Development, 10*(3), 2–10. https://doi.org/10.1007/BF02905780
23. Li, R. (2021). Does game-based vocabulary learning influence Chinese EFL learners' achievement and motivation? *SAGE Open, 11*(1). https://doi.org/10.1177/21582440211003092

International Journal of Current Science Research and Review
ISSN: 2581-8341
Volume 09 Issue 03 March 2026
DOI: 10.47191/ijcsrr/V9-i3-02, Impact Factor: 8.048
IJCSRR @ 2026
www.ijcsrr.org

24. Plass, J. L., Homer, B. D., & Kinzer, C. K. (2015). Foundations of game-based learning. *Educational Psychologist, 50*(4), 258–283. https://doi.org/10.1080/00461520.2015.1122533
25. Qian, M., & Clark, K. R. (2016). Game-based learning and 21st-century skills: A review. *Computers in Human Behavior, 63*, 50–58. https://doi.org/10.1016/j.chb.2016.05.023
26. Sailer, M., Hense, J., Mayr, S. K., & Mandl, H. (2017). How gamification motivates. *Computers in Human Behavior, 69*, 371–380. https://doi.org/10.1016/j.chb.2016.12.033
27. Van Eck, R. (2006). Digital game-based learning: It's not just the digital natives who are restless. *EDUCAUSE Review, 41*(2), 16–30.
28. Wang, Y., & Han, J. (2021). Effects of a mobile game-based app on EFL learners' speaking performance. *Computer Assisted Language Learning, 34*(7), 833–856. https://doi.org/10.1080/09588221.2021.1880443
29. Wichadee, S., & Pattanapichet, F. (2018). Enhancement of performance and motivation through digital games. *Teaching English with Technology, 18*(1), 77–92.
30. Wu, Q., Zhang, J., & Wang, C. (2020). The effect of digital games on vocabulary learning: A meta-analysis. *International Journal of Emerging Technologies in Learning, 15*(17), 85–100. https://doi.org/10.3991/ijet.v15i17.14443
31. Zou, D. (2024). Gamified vocabulary learning with Quizlet: Effects on motivation and achievement in China. *British Journal of Educational Technology, 55*(2), 245–261. https://doi.org/10.1111/bjet.13321

Cite this Article: Pham, N.H., Nguyen, L.T. (2026). Exploring The Impacts of online Game-Based Applications on Enhancing Learning Motivation among Primary School Students. International Journal of Current Science Research and Review, 9(3), pp. 1072-1084. DOI: https://doi.org/10.47191/ijcsrr/V9-i3-02