

Gamified Pedagogy for Fostering Deep Learning in English as a foreign Language Higher Education

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Abstract

This study investigated the effectiveness of gamified pedagogy in fostering deep learning among undergraduate students in an English as a Foreign Language (EFL) teacher education program at ITP Markandeya Bali. Using a mixed-method quasi-experimental design, the study involved 32 third-semester students divided into an experimental group ($n = 15$) and a control group ($n = 17$). The experimental group received gamified instruction, while the control group was taught using conventional methods. Quantitative data were collected through pre-tests, post-tests, and a deep learning questionnaire, while qualitative data were obtained from classroom observations, reflective journals, and semi-structured interviews. The findings revealed that students exposed to gamified instruction achieved greater improvements in deep learning than those receiving conventional instruction. The most substantial gains were observed in cognitive engagement and conceptual understanding, indicating that gamified learning encouraged students to participate actively, think critically, collaborate, and apply English in authentic learning contexts. Qualitative findings further showed that students perceived the gamified activities as challenging, motivating, and intellectually engaging rather than merely entertaining. However, improvements in metacognitive awareness were relatively modest, suggesting that gamification alone may not sufficiently promote self-regulated learning without explicit reflective activities. The study concludes that gamified pedagogy is an effective instructional approach for fostering deep learning in EFL higher education when game elements are pedagogically aligned with authentic, collaborative, and cognitively demanding learning tasks. These findings contribute to the growing literature by extending the role of gamification beyond motivation and engagement toward the development of higher-order learning in English language teacher education.

Keywords: Deep learning; English as Foreign language; gamification; Higher Education; Indonesian EFL Students

INTRODUCTION

The rapid advancement of globalization, digital transformation, and artificial intelligence has fundamentally reshaped the mission of higher education worldwide. Universities are increasingly expected to prepare graduates who possess not only disciplinary knowledge but also the ability to think critically, solve complex problems, collaborate across diverse contexts, and continuously adapt to evolving social and professional demands. Accordingly, international educational frameworks have emphasized the development of twenty-first-century competencies, including higher-order thinking, creativity, communication, and lifelong learning, as essential outcomes of higher education (OECD, 2018; UNESCO, 2021; Trilling & Fadel, 2009). Within this evolving landscape, English as a Foreign Language (EFL) instruction has likewise undergone a significant pedagogical shift. Rather than focusing exclusively on linguistic accuracy and grammatical competence, contemporary EFL education is increasingly expected to cultivate learners who can construct knowledge, communicate meaningfully, evaluate information critically, and apply language in authentic academic and professional contexts (Richards, 2015; Mercer & Dörnyei, 2020). This paradigm shift reflects a broader transition from transmission-oriented teaching toward learner-centered pedagogies that promote

meaningful learning, cognitive engagement, and transferable knowledge, thereby positioning deep learning as a fundamental objective of contemporary EFL higher education.

Despite the growing international emphasis on learner-centered education, translating these educational aspirations into classroom practice remains a significant challenge, particularly in English as a Foreign Language (EFL) contexts. In Indonesia, numerous studies have reported that EFL instruction in higher education continues to be characterized by teacher-dominated classroom interaction, examination-oriented assessment, and instructional practices that prioritize grammatical accuracy and knowledge transmission over meaningful language use (Widodo, 2016; Lie, 2017; Zein, 2019). Although these approaches have contributed to the development of students' linguistic knowledge, they often provide limited opportunities for learners to engage in inquiry, collaboration, critical reflection, and authentic communication, all of which are essential for meaningful knowledge construction. Lamb et al. (2021) further argue that while Indonesian students generally demonstrate positive attitudes toward learning English, classroom learning frequently offers insufficient opportunities to develop critical thinking, learner autonomy, and communicative competence required for global academic and professional participation. As a consequence, many learners continue to adopt surface approaches to learning, emphasizing memorization and examination performance rather than conceptual understanding or the transfer of knowledge to real-world situations. This persistent mismatch between the intended goals of contemporary higher education and prevailing instructional practices indicates that improving EFL education requires pedagogical innovations capable of transforming not only what students learn but also how they construct, apply, and reflect upon their learning.

Addressing these pedagogical challenges requires a learning approach that moves beyond the acquisition of discrete linguistic knowledge toward the development of meaningful understanding and transferable competencies. In higher education, this objective is increasingly conceptualized as deep learning, which has become a central educational goal because it enables students to interpret information critically, integrate new knowledge with prior experience, and apply learning in unfamiliar situations rather than merely reproduce factual content (Biggs & Tang, 2011; Fullan et al., 2018). The concept of deep learning was first introduced by Marton and Säljö (1976), who distinguished between deep and surface approaches to learning based on learners' intentions during the learning process. Whereas surface learning emphasizes memorization and the reproduction of isolated information, deep learning involves an intentional effort to understand underlying meanings, establish conceptual relationships, and construct coherent knowledge structures. Building upon this foundation, Entwistle and Ramsden (1983) argued that deep learning is characterized by active knowledge construction, critical analysis, and reflective thinking, while Biggs and Tang (2011) further developed the concept through Constructive Alignment Theory, emphasizing that deep learning emerges when learning outcomes, instructional activities, and assessment are coherently aligned to promote meaningful cognitive engagement. Consequently, deep learning extends beyond academic achievement to encompass conceptual understanding, metacognitive awareness, critical thinking, and the transfer of knowledge across authentic contexts, making it particularly relevant to contemporary EFL higher education.

Although deep learning is widely recognized as a desirable outcome of higher education, creating learning environments that consistently foster deep cognitive engagement remains a persistent challenge, particularly in English as a Foreign Language (EFL) classrooms. Unlike many other academic disciplines, EFL learning requires students not only to acquire linguistic knowledge but also to actively construct meaning through authentic communication, collaborative interaction, critical reflection, and the application of language in diverse social and academic contexts (Richards, 2015; Mercer & Dörnyei, 2020). However, many EFL classrooms continue to emphasize teacher explanations, textbook-based instruction, and examination preparation, providing limited opportunities for learners to engage in higher-order cognitive processes such

as analysis, evaluation, and knowledge transfer (Biggs & Tang, 2011; Hattie, 2012). Moreover, learners frequently experience low confidence, communication anxiety, and fear of making linguistic errors, which may reduce their willingness to participate actively in cognitively demanding learning activities (MacIntyre, Gregersen, & Mercer, 2019). As a result, students often adopt passive learning strategies that prioritize task completion over conceptual understanding, thereby limiting the development of critical thinking, metacognitive awareness, and meaningful language use. These challenges suggest that fostering deep learning in EFL education requires instructional approaches that simultaneously enhance learners' motivation, sustain cognitive engagement, and create meaningful opportunities for knowledge construction through authentic learning experiences.

In response to these pedagogical challenges, gamification has emerged as a promising instructional approach capable of promoting meaningful learning experiences across diverse educational settings. Although gamification was initially defined as the application of game design elements in non-game contexts (Deterding et al., 2011), contemporary scholarship has expanded this perspective by conceptualizing gamification as a pedagogical design framework that strategically integrates motivational and cognitive principles into instructional practice rather than merely incorporating game mechanics such as points, badges, or leaderboards (Kapp, 2012; Hamari, Koivisto, & Sarsa, 2014). From this perspective, gamification aims to create learning environments that encourage learners to actively participate, persist through challenges, collaborate with peers, and engage in reflective problem solving. Landers (2014) further argues in the Theory of Gamified Learning that gamification does not directly improve learning outcomes; instead, game elements influence learners' behaviors, motivation, and cognitive engagement, which subsequently enhance the effectiveness of instructional activities. Consequently, the educational value of gamification lies not in the game elements themselves but in how these elements are pedagogically designed to support meaningful interaction, sustained engagement, and active knowledge construction. This theoretical perspective suggests that well-designed gamification has the potential to move beyond increasing learner motivation and function as a pedagogical approach that supports deeper cognitive processing and meaningful learning in EFL classrooms.

The potential of gamification to foster deep learning can be understood through the complementary perspectives of the theory of gamified learning, self-determination theory, and constructive alignment theory. According to Landers (2014), gamification enhances learning indirectly by influencing learners' motivation, persistence, and engagement, which subsequently improve the effectiveness of instructional activities. Rather than functioning as instructional content itself, game elements act as catalysts that encourage learners to invest greater cognitive effort in meaningful learning tasks. This explanation is further supported by Self-Determination Theory (Deci & Ryan, 2000), which posits that learning environments satisfying learners' needs for autonomy, competence, and relatedness promote intrinsic motivation and sustained engagement. Within gamified learning environments, opportunities to make meaningful choices, receive immediate feedback, accomplish progressively challenging tasks, and collaborate with peers can strengthen these psychological needs, thereby encouraging learners to participate more actively in complex cognitive processes. From the perspective of Constructive Alignment Theory (Biggs & Tang, 2011), however, increased motivation alone is insufficient to produce deep learning. Learners develop conceptual understanding only when instructional activities and assessments require them to analyse problems, integrate knowledge, reflect on their thinking, and apply learning to authentic situations. Consequently, the effectiveness of gamification depends not on the presence of game mechanics themselves but on how these mechanics are pedagogically aligned with cognitively demanding learning activities. When gamification is intentionally designed to support inquiry, collaboration, reflection, and authentic language use, it creates learning conditions that encourage conceptual understanding, metacognitive awareness, critical thinking, and the transfer of knowledge.

A growing body of international research has investigated the educational effects of gamification across diverse learning contexts, demonstrating generally positive outcomes while also revealing important theoretical and empirical inconsistencies. Existing studies can be broadly categorized into three interrelated research streams. The first stream consistently reports that gamification enhances learners' motivation, engagement, participation, and persistence by creating enjoyable and interactive learning environments (Hamari et al., 2014; Zainuddin et al., 2020; Sailer & Homner, 2020). The second stream extends this perspective by suggesting that gamification can improve academic achievement and collaborative learning, particularly when instructional activities encourage learners to solve problems, exchange ideas, and actively construct knowledge rather than merely complete game-based tasks (Landers & Armstrong, 2017; Suh et al., 2017). However, a third stream presents more nuanced findings, indicating that increased motivation and engagement do not automatically result in meaningful learning or higher-order cognitive development. For example, Hanus and Fox (2015) reported that although gamification initially increased students' motivation, its effects on long-term learning outcomes diminished over time, suggesting that game mechanics alone are insufficient to promote sustainable learning. Consequently, recent scholarship has shifted its attention from asking whether gamification is effective to examining how pedagogically designed gamification facilitates meaningful cognitive engagement and deep learning, emphasizing that instructional design rather than game elements determines educational effectiveness (Landers, 2014; Dehghanzadeh et al., 2021).

Within the Indonesian EFL context, empirical findings generally mirror international trends. Previous studies have consistently reported that gamification improves learners' motivation, classroom participation, vocabulary acquisition, and learning achievement through digital platforms such as Kahoot!, Quizizz, Wordwall, and other game-based applications (Rahmawati & Latief, 2021; Salsabila et al., 2022; Rahmani, 2020). More recent literature reviews further conclude that Indonesian gamification research has predominantly focused on motivational outcomes, vocabulary learning, and technology integration, while investigations into higher-order cognitive outcomes remain limited. Consistent with these findings, Wedayanthi, Sueca, and Putra (2024) demonstrated that gamification effectively optimized English learning during the implementation of the Merdeka Curriculum by increasing learners' participation and classroom engagement, while Wedayanthi and colleagues also reported positive outcomes from technology-supported English learning through interactive instructional media and bilingual learning resources in Indonesian educational settings. Although these studies collectively confirm the pedagogical value of gamification and digital innovation for improving engagement and language learning, they primarily evaluate affective and instructional outcomes rather than examining whether gamified pedagogy promotes deep learning, including conceptual understanding, metacognitive awareness, critical thinking, and knowledge transfer. Furthermore, only limited attention has been given to the pedagogical mechanisms through which gamification facilitates these higher-order cognitive processes. This unresolved issue indicates that the relationship between gamification and deep learning remains theoretically underdeveloped and empirically underexplored, particularly within Indonesian EFL higher education.

The foregoing review demonstrates that although the educational benefits of gamification have been widely documented, significant gaps remain in understanding its potential to foster deep learning within EFL higher education. Previous studies have predominantly examined motivational, behavioral, and short-term academic outcomes, whereas comparatively little attention has been devoted to investigating how gamified pedagogy facilitates conceptual understanding, critical thinking, metacognitive awareness, and knowledge transfer. Moreover, existing research has seldom integrated established theories of deep learning and gamified learning to explain the pedagogical mechanisms through which gamification supports higher-order cognitive processes. These limitations are particularly significant in higher education, where students are expected to

progress beyond acquiring linguistic knowledge to developing reflective, autonomous, and professionally relevant competencies. In this regard, undergraduate students enrolled in the English Language Education Program at Markandeya University provide a meaningful context for investigation because they are preparing to become future English teachers who must demonstrate not only communicative competence but also pedagogical reasoning, critical thinking, and the ability to design meaningful learning experiences for diverse learners. As an emerging English Language Education program, Markandeya University is committed to strengthening technology-enhanced pedagogy and innovative instructional practices to improve the quality of English language teaching. Investigating gamified pedagogy within this context therefore offers valuable insights into how instructional innovation can support the development of deep learning competencies among prospective English teachers. Accordingly, this study examines the effectiveness of gamified pedagogy in fostering deep learning among undergraduate EFL students at Markandeya University. By integrating Constructive Alignment Theory (Biggs & Tang, 2011) with the Theory of Gamified Learning (Landers, 2014) within a mixed-method quasi-experimental design, this study contributes theoretically by clarifying the relationship between gamified pedagogy and deep learning, methodologically by combining quantitative and qualitative evidence to examine higher-order learning processes, and contextually by providing empirical evidence from an Indonesian EFL teacher education program, thereby extending the growing body of international research on gamified pedagogy in higher education.

METHOD

Research Design

This study employed a quasi-experimental design with a mixed-methods approach to investigate the effectiveness of gamification as a pedagogical strategy in fostering deep learning in English as a Foreign Language (EFL) higher education. A quasi-experimental framework was selected because random assignment of individual participants was unfeasible within existing intact classroom structures, while the mixed-methods approach enabled a holistic evaluation by synthesizing quantitative learning outcomes with qualitative process insights (Creswell & Plano Clark, 2018; Fraenkel et al., 2012).

Participants and Setting

The research was conducted over a three-month period from March to May 2025 at ITP Markandeya Bali. The sample comprised 32 third-semester students from the English Language Education program, selected because this transitional academic stage requires a shift from foundational language skills to higher-order cognitive processing. Participants were assigned by intact classes into two groups:

1. Experimental Group: 15 students who received gamified EFL instruction.
2. Control Group: 17 students who were taught using conventional instructional methods.

Instructional Interventions

The instructional design for the experimental group systematically integrated digital gamification mechanics including points, badges, levels, challenges, leaderboards, and real-time feedback with core deep learning principles such as collaborative problem-solving, reflective tasks, and authentic language engagement (Biggs & Tang, 2011; Landers, 2014). Conversely, the control group followed a standard curriculum delivered via conventional lecture- and textbook-based instruction over the same timeframe.

Data Collection and Instruments

Data collection was executed across three sequential phases using complementary quantitative and qualitative instruments:

1. Quantitative Data: Administered via pre-tests and post-tests to evaluate academic achievement gains, alongside a deep learning questionnaire adapted from the Revised Two-Factor Study Process Questionnaire (R-SPQ-2F; Biggs et al., 2001) to measure changes in student learning approaches.
2. Qualitative Data: Collected through structured classroom observations, student reflective journals, and semi-structured interviews to capture nuanced student engagement, cognitive processing, and perception dynamics (Merriam & Tisdell, 2016).

Data Analysis

Quantitative data from tests and survey scales were analyzed using descriptive and inferential statistics to test for significant differences in performance and learning approaches between the experimental and control groups. Qualitative data from observations, journals, and interview transcripts were analyzed thematically following the framework of Braun and Clarke (2006) to identify recurring patterns related to cognitive depth, motivation, and classroom engagement.

Ethical Considerations

Ethical standards were strictly maintained throughout the study in accordance with educational research guidelines (Israel & Hay, 2006). Formal informed consent was obtained from all participants prior to data collection. Participant anonymity and data confidentiality were strictly safeguarded, and students were informed of their right to withdraw from the study at any point without academic penalty.

RESULTS AND DISCUSSION

Results

This study investigated the effectiveness of gamified pedagogy in fostering deep learning among third semester students in English Language Education program at ITP Markandeya Bali. The participants consisted of 32 students, including 15 students in the experimental group, and 17 students in the control group. The findings were presented according the research objectives were (1) comparing students' deep learning outcomes following gamified instruction, and (2) examining how gamification influenced students' cognitive engagement and learning experiences.

Baseline Deep Learning Score

To examine the equivalence of the two groups before the intervention, students completed a pre-test measuring their initial level of deep learning

Table 1. Pre-Test Deep Learning Scores

Group	n	Mean	SD	Category
Experimental	15	62.41	6.83	Moderate
Control	17	61.97	7.12	Moderate

The results indicate that both groups demonstrated comparable levels of deep learning prior to the intervention. The similarity of the mean scores suggests that students in both classes possessed relatively similar learning characteristics before receiving different instructional treatments. Therefore, the two groups were considered sufficiently equivalent for comparing the effects of gamified and conventional instruction.

Effects of Gamified Pedagogy on Deep Learning

After around six weeks of instruction, both of groups showed improvement in their deep learning scores. However, the experimental group demonstrated substantially greater gains than control group.

Table 2. Post test Deep Learning Scores

Group	n	Mean	SD	Mean Gain	Category
Experimental	15	78.63	6.21	16.22	High
Control	17	70.14	6.94	8.17	High

Students who participated in gamified learning achieved a higher post-test mean score (78.63) than those who experienced conventional instruction (70.14). The experimental group improved by 16.22 points, almost twice the gain observed in the control group (8.17 points). These findings suggest that gamified pedagogy contributed more effectively to improving students' deep learning than conventional classroom instruction.

Students' Cognitive Engagement and Learning Experiences

To further understand how gamification influenced deep learning, quantitative data from the deep learning questionnaire were integrated with qualitative findings obtained from classroom observations, reflective journals, and interviews.

Table 3. Deep Learning Dimensions

Dimension	Pre-test	Post-test	Gain
Cognitive Engagement	3.12	4.21	1.09
Conceptual Understanding	3.05	4.08	1.03
Metacognitive Awareness	3.01	3.47	0.46

The quantitative findings indicate that cognitive engagement showed the greatest improvement, followed by conceptual understanding, whereas metacognitive awareness demonstrated a comparatively smaller increase. These results suggest that gamification primarily enhanced students' active participation, analytical thinking, and conceptual learning.

Table 4. The Qualitative Findings Result

Data Source	Major Findings
Classroom Observation	Students remained on task longer, participated actively in discussions, collaborated with peers, and used English more confidently during learning activities.
Reflective Journals	Students perceived the learning activities as challenging, requiring critical thinking, problem-solving, and collaboration rather than simple memorization.
Interviews	Approximately 82% of students described the activities as <i>challenging but motivating</i> , while only 27% primarily associated the activities with enjoyment.

Discussion

The findings of this study demonstrate that gamified pedagogy can make a meaningful contribution to deep learning in an EFL teacher education context. Students who learned through gamified activities showed greater improvement than those who experienced conventional instruction. More importantly, the improvement was not limited to classroom participation or motivation. Students became more cognitively engaged, developed stronger conceptual understanding, and were more willing to participate in authentic English learning activities. These findings suggest that the value of gamification lies not simply in making learning enjoyable, but in creating learning experiences that encourage students to think more deeply about what they are learning.

The improvement in students' overall deep learning supports Landers' (2014) Theory of Gamified Learning, which explains that game elements do not directly produce learning. Instead, they influence learners'

behaviours, persistence, and engagement, which subsequently improve learning outcomes. This perspective was evident in the present study. Rather than using points and badges as rewards, the gamified activities required students to solve problems, work collaboratively, and complete authentic language tasks. As students progressed through increasingly challenging activities, they became more actively involved in constructing knowledge instead of simply receiving information from the lecturer.

These findings are also consistent with Biggs and Tang's (2011) Constructive Alignment Theory. Throughout the intervention, learning activities, learning outcomes, and classroom assessment were designed to complement one another. Students were expected not only to understand English concepts but also to analyse situations, discuss ideas with classmates, and apply language in meaningful contexts. Such alignment appears to have encouraged students to adopt deeper approaches to learning instead of relying on memorisation or passive learning strategies.

The findings are in line with previous research conducted in Indonesia, which has consistently shown the educational benefits of gamification in English language learning. Rahmani (2020) reported that gamification improves students' motivation and participation in English classrooms, while Rahmawati and Latief (2021) as well as Salsabila et al. (2022) found that digital platforms such as Kahoot! and Quizizz increased classroom engagement and learning achievement. However, these studies mainly focused on motivation, participation, or academic performance. The present study extends those findings by demonstrating that gamification also contributes to deep learning, particularly by strengthening students' cognitive engagement and conceptual understanding.

The present findings also reinforce our previous studies on gamification. Wedayanthi, Sueca, and Putra (2024) found that gamification supported the implementation of the *Merdeka Curriculum* by increasing students' participation and engagement during English learning. The current study builds on that work by showing that increased engagement is not an end in itself. Instead, engagement becomes educationally valuable when students are challenged to analyse problems, collaborate with peers, and construct meaning through authentic learning activities. In this sense, the current study provides further evidence that gamification can support higher-order learning outcomes rather than simply making classroom activities more enjoyable.

Similarly, previous studies conducted by Wedayanthi and colleagues on technology-supported English learning demonstrated that interactive instructional media and bilingual learning resources created more engaging learning environments for Indonesian students. The present findings complement those studies by suggesting that technology should be viewed as a pedagogical tool rather than the primary source of learning improvement. Technology becomes effective when it is combined with instructional activities that require students to think critically, communicate meaningfully, and solve authentic problems.

Among the three dimensions of deep learning, cognitive engagement showed the greatest improvement. This finding suggests that gamification encouraged students to become more actively involved throughout the learning process. Classroom observations revealed that students spent more time discussing ideas, asking questions, and working collaboratively to complete learning tasks. Their reflective journals also showed that they viewed the activities as intellectually challenging rather than merely entertaining. These qualitative findings strengthen the quantitative results by illustrating how students experienced the learning process in practice.

A similar pattern was found in students' conceptual understanding. Students were able to connect new knowledge with prior learning and apply English in meaningful situations instead of simply remembering vocabulary or grammar rules. This finding supports the argument of Biggs and Tang (2011) that deep learning develops when learners actively construct understanding and transfer knowledge to authentic contexts. In the

present study, the gamified activities required students to negotiate meaning, justify their ideas, and solve contextual language problems, all of which contributed to stronger conceptual understanding.

An interesting finding concerns how students perceived the gamified learning activities. Most participants described the activities as "challenging but motivating" rather than simply fun. This perception is important because it suggests that students valued the opportunity to solve problems and work collaboratively more than the game elements themselves. It also differs from much of the existing Indonesian literature, where gamification is commonly discussed as a strategy for increasing motivation and classroom participation. The present findings indicate that when carefully designed, gamification can become a meaningful learning approach that encourages students to engage intellectually with learning tasks.

Despite these positive outcomes, improvements in metacognitive awareness were less pronounced than improvements in cognitive engagement and conceptual understanding. Although students became more actively involved in learning, they did not consistently demonstrate stronger abilities to evaluate or regulate their own learning processes. This finding suggests that gamification alone may not be sufficient to develop self-regulated learning. Reflective journals, self-assessment activities, and structured feedback should therefore be incorporated into future gamified instruction to strengthen students' metacognitive development.

Overall, this study contributes to the growing body of Indonesian research on gamification by offering evidence that its educational benefits extend beyond motivation and engagement. While earlier Indonesian studies, including those conducted by Wedayanthi, Sueca, and Putra (2024), have demonstrated the value of gamification for increasing classroom participation, the present study shows that gamification can also foster deep learning when it is supported by meaningful instructional design. The findings highlight that successful gamification depends not on the use of game mechanics alone but on how those mechanics are integrated into learning activities that promote inquiry, collaboration, reflection, and authentic language use. This insight is particularly relevant for teacher education programs, where future English teachers are expected not only to master language content but also to design learning experiences that encourage students to think critically and learn meaningfully.

CONCLUSION

This study demonstrates that gamified pedagogy is an effective instructional approach for fostering deep learning among undergraduate EFL students. Students who participated in gamified learning showed greater improvement in deep learning than those receiving conventional instruction, particularly in terms of cognitive engagement and conceptual understanding. These findings indicate that gamification can support meaningful learning when game elements are integrated with authentic, collaborative, and cognitively challenging learning activities rather than being used solely to increase motivation. The study contributes to the growing body of research on gamification by providing evidence that its educational value extends beyond engagement to the development of higher-order cognitive processes. It also supports the view that the effectiveness of gamification depends on thoughtful pedagogical design that aligns instructional activities with deep learning objectives. Despite these positive findings, metacognitive awareness showed only modest improvement, suggesting that reflective activities and self-regulated learning strategies should be incorporated into future gamified instruction. Future research involving larger samples and different educational contexts is recommended to further examine the long-term impact of gamified pedagogy on deep learning in EFL education.

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REFERENCES

- Biggs, J., Kember, D., & Leung, D. Y. P. (2001). The revised two-factor Study Process Questionnaire: R-SPQ-2F. *British Journal of Educational Psychology*, 71(1), 133–149. <https://doi.org/10.1348/000709901158433>
- Biggs, J., & Tang, C. (2011). *Teaching for quality learning at university* (4th ed.). Open University Press.
- Braun, V., & Clarke, V. (2006). Using thematic analysis in psychology. *Qualitative Research in Psychology*, 3(2), 77–101. <https://doi.org/10.1191/1478088706qp063oa>
- Creswell, J. W., & Plano Clark, V. L. (2018). *Designing and conducting mixed methods research* (3rd ed.). SAGE Publications.
- Deci, E. L., & Ryan, R. M. (2000). The "what" and "why" of goal pursuits: Human needs and the self-determination of behavior. *Psychological Inquiry*, 11(4), 227–268. https://doi.org/10.1207/S15327965PLI1104_01
- Dehghanzadeh, H., Fardanesh, H., Hatami, J., Talaei, E., & Noroozi, O. (2021). Using gamification to support learning in higher education: A systematic review. *Educational Research Review*, 33, Article 100389. <https://doi.org/10.1080/09588221.2019.1648298>
- Deterding, S., Dixon, D., Khaled, R., & Nacke, L. (2011). From game design elements to gamefulness: Defining gamification. *Proceedings of the 15th International Academic MindTrek Conference*, 9–15. <https://doi.org/10.1145/2181037.2181040>
- Entwistle, N., & Ramsden, P. (1983). *Understanding student learning*. Croom Helm.
- Field, A. (2018). *Discovering statistics using IBM SPSS statistics* (5th ed.). SAGE Publications.
- Fraenkel, J. R., Wallen, N. E., & Hyun, H. H. (2012). *How to design and evaluate research in education* (8th ed.). McGraw-Hill.
- Fullan, M., Quinn, J., & McEachen, J. (2018). *Deep learning: Engage the world, change the world*. Corwin.
- Hanus, M. D., & Fox, J. (2015). Assessing the effects of gamification in the classroom. *Computers & Education*, 80, 152–161. <https://doi.org/10.1016/j.compedu.2014.08.019>
- Hidayati, N., & Diana, S. (2019). Digital game-based learning in EFL classroom. *Journal of English Language Teaching and Linguistics*, 4(2), 183–195.
- Hung, H. T. (2017). Clickers in the flipped classroom. *Interactive Learning Environments*, 25(8), 1–16. <https://doi.org/10.1080/10494820.2016.1240090>
- Israel, M., & Hay, I. (2006). *Research ethics for social scientists*. SAGE Publications.
- Landers, R. N. (2014). Developing a theory of gamified learning. *Simulation & Gaming*, 45(6), 752–768. <https://doi.org/10.1177/1046878114563660>
- Landers, R. N., & Armstrong, M. B. (2017). Enhancing instructional outcomes with gamification. *Computers in Human Behavior*, 71, 499–507. <https://doi.org/10.1016/j.chb.2015.07.031>
- Lie, A. (2017). English and identity in multicultural contexts. *TEFLIN Journal*, 28(1), 71–92. <https://doi.org/10.15639/teflinjournal.v28i1/71-92>
- Merriam, S. B., & Tisdell, E. J. (2016). *Qualitative research: A guide to design and implementation*. Jossey-Bass.
- OECD. (2018). *The future of education and skills: Education 2030*. OECD Publishing.

- Pratiwi, N. P. A., & Purnomo, M. E. (2023). Gamification in blended EFL learning. *Journal of English Education and Teaching*, 7(1), 45–58.
- Rahmawati, E., & Latief, M. A. (2021). The use of Kahoot! in EFL classrooms. *JEELS*, 8(2), 173–192.
- Richards, J. C. (2015). *Key issues in language teaching*. Cambridge University Press.
- Salsabila, U. H., Lestari, A. W., & Habibi, A. (2022). Quizizz as a gamification-based assessment tool. *Journal of Language and Linguistic Studies*, 18(1), 497–511.
- Suh, A., Wagner, C., & Liu, L. (2018). Enhancing user engagement through gamification. *Journal of Computer Information Systems*, 58(3), 204–213. <https://doi.org/10.1080/08874417.2016.1229143>
- Trilling, B., & Fadel, C. (2009). *21st century skills: Learning for life in our times*. Jossey-Bass.
- Wedayanthi, L. M. (2024). Optimalisasi pembelajaran bahasa Inggris berbasis gamifikasi dalam implementasi kurikulum merdeka. *SELAPARANG: Jurnal Pengabdian Masyarakat Berkemajuan*, 8(4), 3959–3965. <https://garuda.kemdiktisaintek.go.id/documents/detail/4662691>
- Wedayanthi, L. M., Sueca, I. N., & Putra, I. P. A. S. (2024). Optimalisasi pembelajaran bahasa inggris berbasis gamifikasi dalam implementasi kurikulum merdeka. *SELAPARANG: Jurnal Pengabdian Masyarakat Berkemajuan*, 8(4), 3959–3965. <https://doi.org/10.61132/fonologi.v2i4.1125>
- Widodo, H. P. (2016). Teaching English in Indonesia. *Journal of English Education*, 5(1), 1–14.
- Zainuddin, Z., Chu, S. K. W., Shujahat, M., & Perera, C. J. (2020). The Impact of Gamification on Learning and Instruction: A Systematic Review of Empirical Evidence. *Educational Research Review*, 30, Article 100326. <https://doi.org/10.1016/j.edurev.2020.100326>