



Gamified Digital Environments to Foster Motivation in Advanced English Grammar Learning

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Abstract. *This theoretical article examines how gamified digital environments can foster motivation and engagement in advanced English as a Foreign Language (EFL) grammar learning at the university level. Drawing on Self-Determination Theory (SDT), Flow Theory, and Second Language Acquisition (SLA) frameworks, the study analyzes how game-based strategies enhance both intrinsic and extrinsic motivation in the mastery of complex grammatical structures. Core gamification elements — points, badges, leaderboards, leveling systems, immediate feedback loops, and narrative progression — are examined for their roles in satisfying learners' psychological needs for autonomy, competence, and relatedness, as well as for their alignment with the challenge-skill balance identified by Flow Theory as the condition for optimal engagement. The analysis demonstrates that gamification has the potential to transform traditionally abstract and decontextualized grammar instruction into interactive, learner-centered experiences by embedding practice in meaningful, goal-oriented contexts. The article also critically addresses potential limitations including novelty-dependent engagement, risks of overemphasis on competitive rather than collaborative dynamics, and the conditions under which gamification produces shallow rather than deep learning. The article concludes by proposing pedagogically grounded principles for the strategic integration of gamified tools into advanced EFL grammar curricula, arguing that such integration, when theoretically informed and instructionally coherent, can sustain long-term engagement and foster deeper grammatical awareness.*

Keywords: *gamification, grammar instruction, learner motivation, digital learning, EFL, self-determination theory, flow theory, advanced grammar*

1. Introduction

In recent years, gamified digital learning environments have become increasingly prominent in English language teaching, particularly in promoting learner engagement and motivation. This pedagogical shift is especially significant for teaching advanced grammar — a traditionally challenging domain characterized by abstract rules, decontextualized drills, and frequently diminished learner interest. The integration of gamification, understood as the systematic

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application of game design elements in non-game educational contexts, offers a dynamic framework for reinvigorating grammar instruction, aligning with contemporary learners' digital fluency and evolving motivational profiles (Flores, 2015; Boudadi & Gutiérrez-Colón, 2020).

Motivation plays a critical and well-documented role in second language acquisition (SLA), and its absence has been consistently linked to decreased performance, reduced persistence, and premature disengagement from the learning process (Dörnyei, 2001; Gardner, 2010). Within this framework, Self-Determination Theory (SDT) provides a robust theoretical lens for understanding how gamified features may satisfy learners' psychological needs for autonomy, competence, and relatedness — the three basic psychological needs whose fulfillment, according to Deci and Ryan's foundational account, is necessary for the development and maintenance of intrinsic motivation (Niemi & Ryan, 2009; Guay, 2022). Digital platforms incorporating elements such as choice-driven tasks, progression tracking, leaderboards, and narrative frameworks create environments where students can engage with grammar content in a more meaningful, personalized, and interactive manner (Shortt et al., 2023; Wulantari et al., 2023).

While the benefits of gamification in language learning have been widely discussed in the research literature, its specific application to advanced grammar instruction in EFL university settings remains comparatively underexplored. The majority of existing gamification studies in language education have focused on vocabulary acquisition and general communicative skills rather than on the grammatical accuracy and metalinguistic awareness that advanced learners need to develop. This article addresses this gap by theoretically examining how gamified digital environments can foster learner motivation and facilitate the mastery of complex grammatical structures. The analysis draws on SLA research, gamification studies, and motivational psychology to propose pedagogically grounded principles for grammar instruction in digitally mediated classrooms.

2. Theoretical Framework

2.1 *Self-Determination Theory and Gamification*

Understanding the intersection between gamification and advanced grammar instruction requires robust theoretical grounding across second language acquisition, motivation theory, and digital pedagogy. Self-Determination Theory (SDT), developed by Deci and Ryan, provides the central motivational framework for this analysis. According to SDT, three basic psychological needs — autonomy, competence, and relatedness — must be fulfilled to sustain intrinsic motivation and support deep, self-regulated learning (Niemi & Ryan, 2009; Guay, 2022). In gamified digital environments, specific design elements map directly onto these needs: choice-driven tasks and branching scenarios support autonomy; progression tracking, leveling systems, and scaffolded challenge support the development of competence; and collaborative or competitive dynamics, social leaderboards, and community features address relatedness.



The theoretical significance of this mapping lies in its explanation of why well-designed gamification produces motivational effects beyond those achievable through conventional reward systems alone. When game mechanics satisfy underlying psychological needs rather than merely offering extrinsic incentives, they create conditions for what Deci and Ryan term autonomous motivation — internalized, self-directed engagement that is qualitatively superior to externally regulated compliance in its effects on persistence, depth of processing, and long-term retention (Niemiec & Ryan, 2009).

2.2 Flow Theory and Optimal Engagement

Complementing SDT, Csikszentmihalyi's Flow Theory (1990) provides an account of the conditions under which learners experience optimal engagement — the state of deep, effortless concentration known as flow. Flow occurs when the challenge level of a task is appropriately matched to the learner's current skill level: tasks that are too easy generate boredom, while tasks that are too difficult generate anxiety, and neither state is conducive to learning. Gamified learning environments, when well-designed, operationalize this principle through adaptive difficulty mechanisms that continuously calibrate task challenge to individual learner proficiency, creating the conditions for sustained flow states (Ishaq et al., 2021).

For advanced grammar instruction specifically, Flow Theory's challenge-skill balance principle is particularly relevant because advanced grammatical structures present a genuine cognitive challenge that typical motivational strategies fail to sustain. Learners who have achieved basic communicative competence in English often experience a motivational plateau with respect to grammatical accuracy, perceiving further grammatical refinement as less meaningful and rewarding than the communicative gains of earlier learning stages. Gamification addresses this plateau by recontextualizing grammatical accuracy within goal-oriented, competitively or narratively structured tasks where accuracy has instrumental consequences within the game environment (Reynolds & Kao, 2021).

2.3 SLA Frameworks and Affective Dimensions

Dörnyei's (2001) L2 motivation theory and Gardner's socio-educational model (2010) further illuminate the significance of integrative and instrumental motivations in language learning. These models emphasize that learners are more likely to persist in language study when they find personal relevance, emotional engagement, or clear utility in the learning process — outcomes that gamified systems can produce by embedding grammatical practice within narratives, challenges, and social interactions that carry personal meaning for learners. The concept of the affective filter, introduced by Krashen (1982), is equally relevant: learners whose anxiety levels are elevated acquire language less effectively, and gamified environments have been shown to reduce grammar-related anxiety by shifting the cognitive and emotional framing of grammatical practice from error avoidance to goal-oriented exploration (Gamlo, 2019; Reynolds & Kao, 2021).



3. Methodology

This article adopts a theoretical-analytical methodology grounded in a systematic review of the research literature on gamification in language learning and advanced grammar instruction. Sources were identified through searches of Scopus and Web of Science using the terms "gamification AND language learning", "gamification AND grammar instruction", "self-determination theory AND EFL", and "game-based learning AND second language acquisition". The theoretical analysis integrates findings from this review within the SDT, Flow Theory, and SLA frameworks described above, identifying both the empirical support for gamification's motivational effects and the conditions and limitations that qualify this support.

4. Gamification Elements and Their Pedagogical Functions

4.1 Core Game Mechanics and Motivational Alignment

Gamified learning environments deploy specific design elements that mirror those of digital games, each contributing distinctly to learner motivation and engagement. Points and badges provide immediate recognition and foster a sense of achievement by making progress visible and rewarding — a function that aligns with SDT's competence need (Flores, 2015; Shortt et al., 2023). Leaderboards introduce competitive social dynamics that can enhance extrinsic motivation, though their effects are context-dependent: leaderboards that expose low performers publicly without supportive scaffolding risk undermining rather than supporting motivation, particularly among learners with high grammar anxiety. Progress bars and leveling systems reinforce the sense of competence development by visually mapping the learner's trajectory through increasingly complex grammar tasks, making the gradual accumulation of grammatical knowledge tangible and rewarding (Wulantari et al., 2023).

Narrative and role-play elements offer qualitatively different motivational affordances by providing immersive contexts where learners interact with grammar in functionally rich, semantically meaningful scenarios rather than decontextualized drills (Lin et al., 2018). When learners must use the passive voice, conditional structures, or reported speech in order to complete a narrative challenge or achieve a goal within a game environment, the grammatical forms are encountered in conditions that approach those of authentic communicative use — conditions that SLA research identifies as more conducive to deep acquisition than those produced by mechanical form-focused practice (Bikowski, 2018; Richards & Reppen, 2014).

4.2 Alignment with Bloom's Taxonomy and Higher-Order Grammar Learning

A critical insight emerging from the literature is that the pedagogical effectiveness of gamification depends fundamentally on how well game mechanics are integrated with instructionally principled task design. Over-reliance on surface-level reward systems without meaningful linguistic challenge risks reducing grammar instruction to shallow performance on recognition-level tasks — addressing only the lower-order levels of Bloom's taxonomy (remembering and understanding)



while leaving the higher-order processes of application, analysis, synthesis, and evaluation unaddressed. Effective gamified grammar instruction should therefore incorporate tasks that require learners not only to recognize and recall grammatical forms but to analyze syntactic patterns in authentic texts, construct grammatically complex utterances in context-specific scenarios, and evaluate the appropriateness of grammatical choices relative to communicative purpose (Ishaq et al., 2021).

When game mechanics are designed to scaffold cognitive effort progressively — introducing structural complexity gradually, providing contextual prompts and branching feedback loops, and rewarding qualitative improvement in grammatical precision rather than speed alone — they create conditions for the kind of deep grammatical processing that produces durable, transferable competence rather than transient performance. Gamified tools further offer distinctive formative assessment affordances: built-in feedback systems that identify patterns of repeated errors in real time provide both learners and instructors with diagnostic information that can guide instruction and direct learner attention to specific grammatical gaps (Ahmed et al., 2022).

5. Motivational Outcomes and Learner Engagement

The impact of gamification on learner motivation is multidimensional, simultaneously affecting intrinsic and extrinsic motivational processes in ways that interact with learner characteristics, task design, and instructional context. Research on gamified language learning platforms has consistently documented reduced language learning anxiety, increased willingness to engage with challenging grammatical content, and greater persistence in the face of difficulty when grammar instruction is delivered through adaptive, interactive gamified formats (Ahmed et al., 2022; Hung et al., 2015). These effects are theoretically explicable through SDT: when learners feel genuinely autonomous in their choices, experience concrete evidence of growing competence through visible progress indicators and skill-calibrated challenges, and perceive themselves as part of a social learning community through collaborative or competitive game dynamics, the conditions for sustained intrinsic motivation are established.

Several studies have specifically examined gamification's effects on grammar learning at the advanced level. Reynolds and Kao (2021) found that digital game-based grammar instruction produced superior accuracy gains on English article usage compared to both traditional teacher instruction and direct corrective feedback, attributing this advantage to the combination of immediate feedback, repeated exposure in varied contexts, and the motivational effects of the game format. Boudadi and Gutiérrez-Colón's (2020) systematic review of gamification in higher education language learning confirmed significant positive effects on motivation and engagement across multiple studies, while also identifying moderating variables including learner age, proficiency level, and the specific design quality of the gamified intervention.

At the same time, the research literature identifies important nuances and limitations. Novelty effects — the temporary motivational boost produced by any new instructional format — can



inflate estimates of gamification's long-term effectiveness, and studies that track motivational outcomes over extended periods show more mixed results than those measuring immediate engagement (Boudadi & Gutiérrez-Colón, 2020). The motivational effects of competitive game mechanics are moderated by individual differences in competitiveness and social anxiety: learners who consistently occupy lower positions on public leaderboards may experience demotivation rather than the competitive spur that the design intends. And the distinction between engagement with the game itself and engagement with the grammatical content it is designed to develop — the risk of what might be termed ludic displacement — requires careful instructional management to ensure that motivational energy is channeled into linguistic learning rather than game-playing per se.

6. Challenges and Critical Considerations

A balanced account of gamification's potential in advanced EFL grammar instruction must engage substantively with the challenges and risks that the research literature has identified. The most fundamental of these is the risk of superficial engagement driven by extrinsic reward systems that fail to generate genuine grammatical processing. When learners orient primarily toward maximizing points or badges rather than attending to the grammatical form-meaning-use connections that the tasks are designed to teach, gamification produces behavioral engagement without cognitive engagement — a distinction that is critical for learning outcomes (Deterding et al., 2011). Instructional design that prioritizes deep grammatical engagement over surface reward-seeking requires careful alignment of game mechanics with linguistic learning objectives, regular redirection of learner attention to the grammatical dimensions of performance, and assessment practices that reward quality and accuracy rather than speed and frequency alone.

Collaborative versus competitive dynamics present a further design consideration. While competitive elements can enhance motivation for some learners, they risk undermining the collaborative learning relationships that sociocultural SLA theory identifies as particularly productive for grammatical development. Peer interaction, collaborative problem-solving, and co-construction of grammatical knowledge through dialogue are well-evidenced mechanisms of grammatical acquisition (Vygotsky, 1978) that purely competitive game structures may discourage. Effective gamified grammar environments should therefore integrate both competitive and collaborative elements, creating spaces for both individual challenge and collective meaning-making.

Finally, the effective implementation of gamified grammar instruction requires teacher competence in both game-based pedagogy and advanced grammar instruction — a combination of expertise that is not universally available in EFL university contexts. Teachers who lack confidence in grammatical analysis may be unable to design or select gamified tasks that target specific grammatical structures with appropriate precision; and teachers who lack experience with digital tools may implement gamified platforms in ways that underexploit their motivational and



pedagogical affordances. Teacher professional development is therefore a necessary condition for realizing the potential of gamification in advanced grammar instruction.

7. Pedagogical Implications and Recommendations

The theoretical analysis and research synthesis presented in this article support several specific pedagogical recommendations for the integration of gamification into advanced EFL grammar curricula. First, gamified grammar tasks should be selected and designed on the basis of clearly specified grammatical learning objectives, ensuring that each game mechanic serves a defined instructional purpose and is aligned with target grammatical structures at the appropriate level of complexity. Grammar-focused games should provide repeated exposure to target forms in varied, functionally meaningful contexts, supporting the kind of distributed, elaborated practice that SLA research identifies as necessary for accurate and fluent grammatical use (Richards & Reppen, 2014).

Second, adaptive difficulty mechanisms should be used to calibrate task challenge to individual learner proficiency, creating the conditions for Flow Theory's optimal engagement zone and preventing both boredom through insufficient challenge and anxiety through excessive difficulty. Platforms that track individual error patterns and adjust task presentation accordingly — prioritizing structures where individual learners show persistent difficulties — are particularly valuable for advanced learners whose grammatical profiles are highly differentiated and whose learning needs are therefore difficult to address through uniform whole-class instruction.

Third, immediate, specific, and form-focused feedback should be an integral feature of gamified grammar platforms. Research consistently demonstrates that corrective feedback enhances grammatical accuracy when it is timely, specific, and presented in a manner that directs learner attention to the form-meaning-use connection rather than merely indicating error presence (Bikowski, 2018). Gamified platforms that provide this type of feedback within the flow of the game — rather than interrupting the activity to deliver pedagogical explanations — are more likely to maintain motivational engagement while supporting grammatical learning. Fourth and finally, gamification should be positioned as one component within a broader, integrative curriculum rather than as a standalone pedagogical approach. Its motivational effects are most durable when gamified practice is embedded within coherent instructional sequences that also include explicit grammar instruction, authentic communicative task performance, and reflective metalinguistic activity.

8. Conclusion

This article has examined the theoretical foundations and pedagogical implications of gamified digital environments for motivation and engagement in advanced EFL grammar learning. The analysis has demonstrated that gamification, when theoretically grounded in SDT and Flow Theory and instructionally aligned with sound SLA principles, offers genuine potential for addressing the motivational challenges that have historically characterized advanced grammar instruction. By



satisfying learners' psychological needs for autonomy, competence, and relatedness while creating the conditions for optimal engagement through calibrated challenge, well-designed gamified grammar platforms can transform grammatical practice from an abstractly obligatory exercise into a meaningfully motivated pursuit.

At the same time, the analysis has identified important conditions and limitations that qualify gamification's effectiveness: the risk of superficial engagement, the moderating effects of competitive dynamics on learner wellbeing, the necessity of deep alignment between game mechanics and grammatical learning objectives, and the requirement for teacher professional development. The most defensible conclusion is that gamification's potential in advanced EFL grammar instruction is real but conditional — dependent on the quality of instructional design, the coherence of curricular integration, and the professional competence of the teachers who implement it. Future empirical research should examine gamification's longitudinal effects on grammatical accuracy and retention in university EFL contexts, investigate the differential responses of advanced learners with different motivational profiles and grammatical difficulty areas, and develop evidence-based design principles for gamified grammar platforms at the advanced proficiency level.

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