

## TEACHING A FOREIGN LANGUAGE WITH GAMIFICATION METHODS

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**Abstract:** This article synthesizes recent systematic reviews and empirical evidence to explore the use of gamification methods in foreign language teaching (FLL). The review identifies key gamification elements, their integration into instructional designs, and the challenges and limitations in deploying gamification for FLL. The synthesis informs educators, policymakers, and researchers in leveraging modern gamification techniques to enhance foreign language acquisition.

**Keywords:** Gamification, foreign language learning, engagement, motivation, academic performance, systematic review.

## Introduction

Modern foreign language teaching has increasingly turned to innovative methods to enhance learner engagement, sustain motivation, and improve academic performance. Among these educational innovations, gamification—defined as the use of game design elements in non-game contexts—has emerged as a promising approach in foreign language learning (FLL). In both English as a Foreign Language (EFL) and English as a Second Language (ESL) instruction, gamification methods are employed with the aim of transforming traditional classroom experiences into dynamic, interactive, and learner-centered environments. As mobile technology and digital platforms become ubiquitous, educators are exploring how game-like elements can stimulate long-term commitment and reduce the monotony of language drills, thereby addressing well-known issues of disengagement and limited interaction in conventional FLL settings.

The appeal of gamified learning tools lies in their ability to provide immediate feedback, clear learning pathways, and competitive as well as collaborative opportunities that mimic the inherent human desire for challenge and reward. However, despite these promising claims, the literature reveals mixed evidence regarding the effectiveness of gamified instruction in foreign language contexts. For instance, while several empirical studies report significant improvements in academic achievement, engagement, and emotional responses when gamification is integrated into FLL tools, other investigations reveal limitations such as technical constraints, sub-optimal measurement techniques, and even negative outcomes when gamification elements are poorly integrated or mismatched with instructional content.

Furthermore, critical challenges have been identified in prior research. These include methodological weaknesses (such as small sample sizes and short experimental durations), biases in experimental settings (for example, the novelty effect), and issues related to the improper selection or integration of gamification elements. The influence of cultural, individual, and contextual differences on the effectiveness of gamified tools also contributes to an overall lack of consensus in the literature. Moreover, while gamification is typically segmented into three central concepts—game dynamics, game mechanics, and game components—there is ongoing debate about the optimal combination and deployment of these elements in language learning contexts.

## Methods

This synthesis article is based on a systematic review of empirical studies and reviews concerning gamification in foreign language teaching, with a particular focus on EFL/ESL instruction.

## Data collection and selection criteria

The systematic reviews analyzed herein employed rigorous search strategies across various academic databases. For instance, one review searched 10 major academic databases—including Elsevier, Taylor & Francis Online, Sage, Wiley, Springer, JSTOR, ACM Digital Library, Scopus,

ERIC, and IEEE Xplore—using key terms such as “gamification,” “effectiveness,” “language learning,” and “mobile application”. A similar search strategy was applied in the EFL/ESL review, where the databases Web of Science and Scopus were queried with terms including “gamification,” “EFL,” “ESL,” “L2,” and “instruction”.

In both reviews, inclusion criteria mandated that studies must be (a) empirical in nature, (b) published in English, (c) available in peer-reviewed journals, and (d) focused on digital gamification (as opposed to full-scale educational games) in language learning contexts. Studies that were conference papers, non-peer-reviewed sources, or solely theoretical in nature were excluded. These selection criteria ensured the inclusion of robust, high-quality evidence relevant to modern gamified instruction in foreign language teaching.

### **Data analysis**

Once the relevant articles were identified, a quantitative synthesis was performed. The studies were evaluated based on their substantive features (e.g., target language, learning content, learner demographics), methodological features (e.g., experimental design, participant sample sizes, duration of study), and measures of effectiveness (e.g., academic achievement, behavioral engagement, emotional engagement, and cognitive engagement). Frequency counts and qualitative thematic analysis were used to identify common gamification elements and discern patterns regarding their effectiveness and associated challenges.

Furthermore, many studies addressed common variables such as the role of technical limitations, individual differences among learners, and the fidelity of gamification implementations. Researchers then categorized effectiveness data into five primary measurement domains: behavioral engagement, emotional or affective engagement, cognitive engagement, academic achievement, and miscellaneous outcomes (e.g., motivation, usability).

### **Synthesis approach**

This article synthesizes findings from the aforementioned systematic reviews by collating and comparing their results. The approach is both descriptive and analytical, allowing for a discussion that spans overarching trends, detailed gamification elements deployed in FLL/EFL contexts, methodological strengths and weaknesses, and the implications of disparate outcomes. Visual data representations, including summary tables and flowcharts, have been incorporated to facilitate systematic comparisons and highlight relationships among key variables.

### **Results**

In synthesizing data from the two systematic reviews, several key findings emerge regarding the application and effectiveness of modern gamification methods in teaching foreign languages.

**Overall effectiveness and mixed outcomes.** The reviewed literature reflects a heterogeneous set of outcomes regarding the effectiveness of gamification in foreign language teaching. Some studies found that gamified learning tools significantly improved learners’ engagement, academic achievement, and language proficiency. For example, pre- and post-test comparisons in several experiments indicated that tools such as Duolingo and Kahoot! yielded positive gains in vocabulary and grammatical skills when compared to traditional instruction.

Conversely, a number of studies reported mixed or even negative outcomes. Several empirical investigations noted that while learners exhibited increased behavioral and emotional engagement, these did not always translate into marked improvements in academic achievement or long-term retention. Key factors influencing these variations include methodological limitations (such as short study duration, small sample sizes, and absence of rigorous control groups) and technical challenges that compromised the depth of the gamified experience. In some cases, the novelty of gamification temporarily boosted participation, but this effect diminished rapidly over time, suggesting that mere superficial incorporation of game elements—often referred to as “pointsification”—is insufficient to sustain meaningful learning outcomes.

**Gamification elements employed.** The analysis of the specific game design elements used across these studies reveals considerable variability. The most frequently employed elements include feedback, points, quizzes, digital badges, leaderboards, and rewards. These elements were

generally integrated within digital platforms, such as mobile applications and online learning environments, to create an experience that is both interactive and motivational. For instance, in a study involving gamified English vocabulary learning, participants were awarded points for correct responses and could monitor their progress via digital badges and leaderboards, which enhanced both individual and social aspects of learning.

The categorization of gamification elements used in these studies can be summarized in the following table:

Gamification Component	Commonly Used Elements	Description
Feedback & Rewards	Immediate feedback, digital badges, rewards	Provide instant correction and reinforcement to encourage correct responses
Performance Metrics	Points, leaderboards, progress bars	Quantify learner performance and facilitate self-assessment and competition
Interactive Mechanisms	Quizzes, challenges, time limits, adaptive tasks	Engage learners through interactive tasks and competitive elements that adjust to learner ability
Narrative Elements	Storytelling, avatars	Introduce contextual stories and personalized characters to enhance engagement

Table 1: Summary of common gamification elements used in foreign language learning studies. This table, compiled from the systematic review by *Frontiers in Psychology*, illustrates how diverse gamification elements are tailored to address specific educational outcomes.

Methodological characteristics. A considerable body of the literature relies on empirical studies employing experimental and quasi-experimental designs. In one comprehensive review, 21 studies were analyzed, where the distribution of research methods included true experiments (12 studies), quasi-experiments (6), field experiments (2), and action research (1). Participants in these studies ranged from elementary school students to adult learners, with university students being the most frequently studied demographic. The duration of interventions varied widely, with some studies being conducted as on-spot experiments lasting only one to two hours, while others extended over several weeks to months.

Studies consistently utilized multiple instruments to measure effectiveness. Academic achievement was the most common outcome variable, often measured via standardized tests and quizzes. Engagement was bifurcated into behavioral, emotional, and cognitive dimensions. Behavioral engagement was typically captured through log analysis, self-report surveys, and observation, while emotional engagement was derived from self-reported measures of interest, motivation, and enjoyment. Cognitive engagement, however, was relatively underexplored, with only a single study incorporating a direct measure.

#### Factors Influencing Effectiveness

The extent to which gamification benefits foreign language learners is subject to several moderating factors. Key influencing variables include:

- Methodological limitations: Many studies suffered from limitations such as insufficient control groups, short durations, and constrained sample sizes that limit the generalizability of findings.
- Technical constraints: Several studies noted that immature or overly simplistic technical designs in gamified platforms inhibited the creation of a genuinely engaging, immersive environment.
- Individual differences: Variability in learner characteristics (e.g., language proficiency, motivation levels, and personal preferences) often mediated the effectiveness of gamified instruction. For instance, some learners thrived under competitive gamified conditions, whereas others were demoralized by leaderboards and excessive competition.

- Integration of pedagogical content: A major criticism emerged regarding the “pointsification” approach—where educational content is accompanied by superficial game elements without genuine integration of pedagogical principles. This approach often resulted in increased behavioral engagement without corresponding improvements in academic outcomes.

#### Benefits and drawbacks in EFL/ESL contexts

When specifically examining EFL/ESL contexts, the systematic review from *Frontiers in Psychology* indicated several notable benefits:

- Enhanced language skill acquisition: Empirical data showed improvements in vocabulary, grammar, listening, speaking, and even reading comprehension when gamification was applied.
- Increased Learner Engagement: Both students and teachers reported that gamified environments tended to foster heightened motivation, interest, and overall positive emotional responses, thereby creating a more authentic and interactive learning experience.
- Promotion of Self-Learning and Autonomy: Gamification was associated with the cultivation of self-directed learning habits as learners tracked their progress via gamified feedback systems.

Conversely, several drawbacks were also reported:

- Technical and Implementation Challenges: Limited technological infrastructure, especially in regions with less developed digital resources, and poorly designed gamified systems can impede effective learning. Technical glitches and poorly executed user interfaces were frequently cited issues.
- Transient Engagement Effects: The novelty effect was observed in some studies: initial enthusiasm eventually waned, leading to diminished engagement if gamification elements were not regularly updated or varied.
- Negative Impacts of Competitive Elements: In some settings, especially where high-stakes examinations are central to the educational system (e.g., Chinese secondary schools), excessive competition induced by leaderboards and rankings may increase anxiety and hamper learning outcomes.

**Discussion.** The synthesis of systematic reviews and empirical research reveals the vast potential of modern gamification methods in teaching foreign languages, even as it underscores significant challenges and areas for further refinement. In this discussion, we elaborate on the central findings, critically assess their implications for instructional practice, and present suggestions for future research.

#### The Multifaceted Nature of Gamification in Language Learning

The dual nature of gamification—its capacity to both enhance engagement and, at times, detract from academic performance—highlights the complexity inherent in its implementation. On one hand, the structured use of game elements such as immediate feedback, rewards, and performance metrics has been shown to significantly boost engagement, motivation, and, in many cases, language acquisition. On the other hand, the phenomenon of “pointsification,” wherein gamification features are superficially added without deep pedagogical integration, may only lead to transient increases in participation without corresponding long-term learning gains. From a theoretical standpoint, the classification of gamification elements into dynamics, mechanics, and components offers an important framework for instructional designers. When applied judiciously, these elements can create immersive environments that align closely with pedagogical objectives. However, the review of empirical studies indicates that merely including gamified features is insufficient; their design must be informed by sound educational theory and tailored to the learners’ specific needs and contexts.

#### Implications for foreign language instruction

The findings from the reviewed studies have several concrete implications for educators and curriculum designers:

1. Customization of gamification tools: In many cases, researchers opted for the development of customized gamified tools tailored to the specific needs of FLL. Such bespoke systems enable

tighter control over key variables and allow for the integration of subject-specific content, thereby enhancing the pedagogical value of the gamified experience. Educators may benefit from designing or selecting tools that integrate language instruction directly with gamification mechanics, rather than resorting to generic, commercially available solutions.

2. Balanced use of competitive and collaborative elements: While competition (e.g., through leaderboards) can drive motivation, it may also increase anxiety, particularly among learners in high-stakes environments. A balanced design that incorporates collaborative elements alongside competitive features may help mitigate these issues and promote a more inclusive learning atmosphere. For instance, gamified tasks can be structured so that learners work in teams to achieve common goals, thereby reducing pressure on any single individual and fostering positive social interactions.

3. Integration of pedagogical content in gamification: The effectiveness of gamified learning hinges on how well game elements are integrated with core pedagogical content. Instructional designers should focus on creating learning activities where the game mechanics not only reflect traditional teaching methods but actively reinforce core language skills such as vocabulary, grammar, pronunciation, and conversation. For example, digital board games that simulate authentic communication scenarios have been shown to improve students' speaking skills by providing realistic practice contexts.

4. Sustaining engagement through adaptive challenges: To combat the decline of initial enthusiasm due to the novelty effect, gamified systems should incorporate adaptive challenges that evolve based on the learner's progress. By dynamically adjusting the level of difficulty and providing continuous, meaningful feedback, gamified tools can sustain engagement over a longer period and lead to improved educational outcomes. Adaptive systems that personalize challenges in real time are particularly promising avenues for future development.

**Conclusion.** In conclusion, modern gamification methods offer innovative and promising avenues for teaching foreign languages. The synthesis of systematic reviews indicates that integrating game design elements—when executed with careful attention to both technology and pedagogy—can significantly enhance learner engagement, improve language skills, and foster autonomy. Nonetheless, the mixed outcomes observed across various studies point to a need for more refined research designs, holistic assessment frameworks, and thoughtful integration of competitive versus collaborative elements.

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