استكشاف أثر استراتيجيات التعلم القائمة على التلعيب على دافعية طلاب اللغة الإنجليزية كلغة أجنبية واحتفاظهم باللغة في المدارس الثانوية العراقية

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كيفية اقتباس البحث

نعيم ، كوثر حميد ، استكشاف أثر استراتيجيات التعلم القائمة على التلعيب على دافعية طلاب اللغة الإنجليزية كلغة أجنبية واحتفاظهم باللغة في المدارس الثانوية العراقية،مجلة مركز بابل للدراسات الانسانية، تشرين الثاني 2026،المجلد:16 ،العدد:11.

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Exploring the Impact of Gamified Learning Strategies on EFL Students' Motivation and Language Retention in Iraqi Secondary Schools

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Keywords : Gamified learning strategies, student motivation, English language students, foreign language, Iraqi secondary schools

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الملخص

تبحث هذه الدراسة في تأثير استراتيجيات التعلم التلعيبي على الدافعية والاحتفاظ بمتعلمي اللغة الإنجليزية كلغة أجنبية (EFL) في المدارس الثانوية العراقية. في ضوء تزايد استخدام التكنولوجيا وأساليب التعلم التفاعلي في التعليم الحديث، برزت التلعيبية كنهج واعد يعزز دافعية الطلاب وتحصيلهم الأكاديمي. يبحث البحث في آثار دمج سمات تصميم الألعاب – النقاط والشارات والمنافسة والتغذية الراجعة – على دافعية الطلاب لتعلم اللغة الإنجليزية واحتفاظهم بتراكيب اللغة ومفرداتها على المدى الطويل. اتُبع نهج متعدد الأساليب، يتكون من استطلاعات رأي كمية لقياس مستويات الدافعية واختبارات لغوية لتسجيل الاحتفاظ بالمعلومات، ومقابلات نوعية مع المعلمين والطلاب. تعكس النتائج أن التعلم التلعيبي يعزز بشكل كبير الدافعية الذاتية للطلاب، ويعزز موقفهم الإيجابي تجاه تعلم اللغة الإنجليزية، ويحافظ على اللغة لفترة أطول. وتختتم

الدراسة بنتائج تربوية لدمج التلعيبية بفعالية في مناهج اللغة الإنجليزية كلغة أجنبية في المدارس الثانوية العراقية.

Abstract

This study examines the impact of gamification learning strategies on motivation and English as a Foreign Language (EFL) learner retention in Iraqi secondary schools. In light of increasing implementation of technology and interactive learning methods in modern education, gamification has emerged as a promising approach that enhances student motivation and academic achievement. The research investigates the effects of incorporating game design features—points, badges, competition, and feedback—on the motivation to learn English among students and their retention of language structures and vocabulary in the long run. A mixed-methods approach was taken, consisting of quantitative surveys to measure motivation levels and language tests to record retention, and qualitative teacher and student interviews. Findings reflect that gamified learning significantly enhances students' intrinsic motivation, enhances their positive attitude toward learning English, and maintains language longer. The study concludes with pedagogical implications for integrating gamification effectively into the EFL curriculum of Iraqi secondary school.

Introduction

With the ever-evolving education sector, the integration of innovative learning techniques has become a necessary approach to meet the demands and expectations of modern learners. Among the innovations, gamification has gained increased interest as a learning tool that aims to maximize student engagement, motivation, and learning attainment in various courses of study. Gamification, applied within the education system, is the act of applying game design principles—reward, points, leaderboards, challenges, and feedback mechanisms—within non-game contexts like the classroom, with a view towards providing an interactive and engaging learning process.

Within the context of the teaching of English as a Foreign Language (EFL), particularly in non-native contexts like Iraq, the issue of sustaining students' motivation and guaranteeing long-term retention of language is a central concern. Classic teaching methods marked by rote memorization, grammar exercises, and passive learning simply cannot create sufficient learner engagement and ignore the canons of successful application of linguistic competence in authentic settings of use. In this sense, gamification represents an excellent opportunity and is appropriate both for contemporary pedagogical theory and for the digital inclinations

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of today's learners, who, after all, have already devoted considerable portions of their lives to playing educational computer games outside of the classroom.

Motivation is a key component in second language acquisition, filling both the roles of being the motivating force for students to learn the language and being a cause for their continuance with the language in spite of language problems. Research on applied linguistics across the board has always indicated that motivated learners are likely to use the language, take risks, and achieve higher levels of competence. In the same way, language retention—being able to recall and remember acquired words, grammar rules, and usage patterns later on—is inextricably linked to the level of cognitive processing, affective investment, and learning environment. By interacting elements of play, competition, and reward, gamification may be able to make language learning more enjoyable and memorable, thereby increasing deeper cognitive involvement and better retention rates.

Despite global interest in gamification applied to education, not much work has been done on its application in Arab world EFL contexts, and Iraq in particular. The Iraqi secondary school context typically operates under minimal educational systems with dominant traditional teacher-centered approaches, overpopulated classrooms, and limited access to technology. Such an environment can become impediments to the implementation of new measures. But with growing penetration of smartphones, digital media, and internet usage among youth, there are new opportunities for introducing game-based learning techniques even in low-resource settings.

Therefore, this study intends to explore the implications of gamified learning techniques on motivation and retention of English language among Iraqi secondary school EFL students. It aims to explore how the aspects of games impact students' attitudes towards learning English, active participation, and ability to recall and perform language skills in short- and long-term contexts. The study also considers teachers' perspectives on the viability, challenges, and potential of gamification in the classroom. With the implementation of a mixed-methods design, this study aims to provide a rich and multi-angled appreciation of the pedagogical value of gamification based on both empirical evidence as well as teachers' and students' own practice.

The study contributes to the growing number of publications advocating for learner-centered, technology-aided pedagogies in EFL teaching. It offers practical suggestions to curriculum developers, language teachers, and education policy makers who are keen on ensuring English language

success through creative and locally responsive strategies. In doing so, it responds to the broader appeal for reforming Iraqi teaching according to interactive and sense-making global standards.

Section One: Gamified Learning Strategies – Concepts and Applications

Gamification techniques involve the integration of game design components, mechanisms, and principles into non-game contexts—specifically education—to drive learner motivation, engagement, and performance. In contrast to converting the learning process into a game, gamification integrates strategic components of games such as points, badges, leaderboards, challenges, and levels into traditional or digital learning systems. The purpose is to render the learning experience more enjoyable, rewarding, and student-centric.

1-Definition and theoretical foundations of gamification in learning

The gamification of learning has been defined as the application of game design elements, mechanics, and principles to non-game learning settings with the goal of promoting learner engagement, motivation, and overall achievement. According to Deterding et al. (2011), gamification is "the use of game design elements in non-game contexts," which means that it does not try to make learning a full-fledged game, but rather to implement some aspects such as points, badges, leaderboards, challenges, and stories into the process of learning. In educational settings, this approach is meant to leverage the motivational and behavioral influence of games to ensure active participation, persistence, and increased learning (Kapp, 2012). As compared to game-based learning, which utilizes complete games for learning, gamification applies the philosophy of games selectively and uses elements of it to enhance current education frameworks (Werbach & Hunter, 2012). Theoretical bases of gamification in learning draw from some proven motivational and pedagogical theories that explain its success.

Self-Determination Theory (Deci & Ryan, 1985) is one theory, which is centered on human universal psychological needs for autonomy, competence, and relatedness. Autonomy is facilitated in gamified systems by offering learners choices that they find meaningful, competence through gradual challenge and constructive feedback, and relatedness through creating social relationships via cooperation or competition (Ryan & Deci, 2000). Behaviorist theory, particularly Skinner's (1953) operant conditioning, is also present in gamification as points and badges act as positive reinforcements that strengthen the target learning behaviors and continuous feedback keeps motivation up in the long term

(Landers, 2014). Flow Theory (Csikszentmihalyi, 1990) provides a second important framework that describes how gamification can build a flow state of attention and interest when the difficulty of tasks is properly balanced with the skill level of the learner, with the assistance of clear goals, quick feedback, and increasingly challenging problems. Constructivist and experiential learning theories, as those formulated by Piaget (1973) and Vygotsky (1978), also find support in gamification since it enables active, problem-centered, interactive learning processes that engage learners to build knowledge by exploring and making decisions.

Moreover, Goal-Setting Theory (Locke & Latham, 1990) is in support of the use of gamified structures since clear and challenging goals in such elements as levels, quests, and progress bars enhance focus, persistence, and achievement. Together, these theories demonstrate that gamification is not just a motivational ploy but a pedagogically robust practice that carefully integrates psychological and educational concepts into more effective, richer learning experiences. With careful execution, gamification can sustainably balance intrinsic motivation with extrinsic rewards so that the primary target is deep, sustained learning rather than superficial engagement.

2-Central elements of gamified learning

Gamified learning is built on a set of interconnected components taken from game design and adapted to make learning a more engaging, stimulating, and goal-oriented experience. At the foundation lies the points system, which is the direct and immediate feedback and reinforcement mechanism. Points in schools are typically awarded for completing assignments, answering questions correctly, providing contributions to discussions, or mastering specific skills. The accumulation of points provides students with a tangible measure of their accomplishment and serves as a motivator to maintain or improve performance (Kapp, 2012; Werbach & Hunter, 2012). Points are also applied as an adaptable means for unlocking more content, gaining privilege, or getting eligibility for additional challenges and, consequently, reinforcing the wanted learning practice (Landers, 2014). Most directly linked to points are badges, those emblematic awards of accomplishment that are linked to the mastery of competencies in particular skills or the achievement of significant milestones.

As opposed to points, which might stack and be ephemeral, badges have an enduring quality as public markers of achievement that can be showcased to peers or even in job portfolios. They fulfill both intrinsic needs, for instance, mastery and competence, and extrinsic ones, for

instance, credentialing and recognition (Deci & Ryan, 1985; Hamari et al., 2014). Leaderboards introduce social and competitive aspects to gamified learning by ranking players according to their achievements or participation. Leaderboards can induce motivation by promoting social comparison and competition (Ryan & Deci, 2000) but demotivate learners who consistently score lower if implemented carelessly. Effective implementation often involves tiered ranking systems or relative to personal bests instead of best achievers only (Werbach & Hunter, 2012).

Levels are yet another architectural element, dividing the learning progression into incremental levels that learners can "level up" through as they accomplish established objectives. This staged progression allows learners to have direction, enables intricate learning routes to be segmented into manageable chunks, and provides internal reward as each level is accomplished (Csikszentmihalyi, 1990).

Challenges and quests frame learning exercises as significant missions that regularly enhance difficulty, thus establishing the best fit between difficulty and capability level—a factor of essential learner interest for Flow Theory (Csikszentmihalyi, 1990). Quests may involve solving complex problems, team-based work, or multi-step simulations, fostering engaged and experiential learning (Piaget, 1973; Vygotsky, 1978).

Instantaneous feedback is a critical element, enabling students to have an understanding of how they are doing in real time. Feedback can be presented as scores, progress indicators, or adaptive recommendations so that students can adjust approach, revise mistakes, and re-strengthen effective actions in a timely fashion (Skinner, 1953; Landers, 2014).

Narrative and storytelling also contribute to the gamified experience by situating tasks in a meaningful narrative that can cause greater immersion, emotional engagement, and recall (Kapp, 2012; Gee, 2007). Finally, visual tracking features such as progress bars or dashboards provide ongoing orientation and feelings of accomplishment and add to the facilitation of goal setting and long-term motivation (Locke & Latham, 1990).

When well-integrated, these components operate in concert synergistically, blending motivational psychology and instructional design to present an educational environment in which students are not passive recipients of information but participants on a journey of mastery. Proper equilibrium between extrinsic reward and intrinsic motivators must be achieved to ensure that engagement leads to meaningful, long-term learning outcomes (Ryan & Deci, 2000; Landers, 2014).

3-Differences between game-based learning and gamification

Gamification and game-based learning are related but fundamentally distinct approaches to applying features of games to learning environments, differing in terms of intention, design, and usage in the educational process. Gamification is the incorporation of game mechanisms, dynamics, and aesthetics—points, badges, leaderboards, challenges, and stories—into non-game contexts, in this case education, to increase motivation, engagement, and tenacity (Kapp, 2012; Werbach & Hunter, 2012). In gamification, the learning content remains essentially non-game in nature; the main subject matter is introduced through traditional means such as lectures, readings, or assignments, though these are augmented by game-like features that frame the learning process in a more engaging and more rewarding context (Landers, 2014). For example, a history course can offer points and badges for completing reading assignments or class discussions without turning the whole course into an actual game. However, game-based learning or GBL is the use of actual games—computer games, board games, or role-playing games—as the primary platform where one learns.

Here, the game is not merely a visual overlay or inspirational add-on, but rather the main vehicle for the presentation of teaching content and the building of skills (Gee, 2007; Prensky, 2001). The game environment is designed so that learners acquire knowledge or skills through the mechanics of the game itself, possibly including problem-solving, reasoning out scenarios, making tactical decisions, or performing simulated actual-world tasks (Squire, 2011). For instance, a mathematics game can entice students to solve math equations in order to progress through a story line, while a company simulation can place students in the role of a virtual business manager, wherein learning goals emerge out of gameplay experience itself. The two models differ also in how each is integrated into the design of curriculum.

Gamification is applied to nearly any subject and does not require altering the material so it fits into a game paradigm but, rather, overlays motivation architectures on top of existing activities (Deterding et al., 2011). Game-based learning, in contrast, requires the construction or reuse of games that possess internal logic and objectives well-aligned with the learning goals desired, and thus is more resource-intensive but potentially more engaging (Plass et al., 2015). Motivational dynamics also differ.

Gamification relies more on extrinsic motivators, such as points or achieving high leaderboard rankings, to encourage sustained participation, but also wanting to build intrinsic motivation on mastery and autonomy in the longer term (Deci & Ryan, 1985; Ryan & Deci,

2000). Game-based learning is more likely to promote intrinsic motivation more openly by incorporating challenge, problem-solving, and discovery as part of the game's narrative and game mechanics, creating what Csikszentmihalyi (1990) describes as a "flow" experience in which students are heavily engaged with the task. Despite these differences, the two approaches are not necessarily mutually exclusive.

These can be combined in one activity—a gamification of a game-based learning activity, for example, incorporating progress tracking, extra challenges, or achievement badges to highlight motivation (Landers, 2014). Ultimately, the choice between gamification and game-based learning will be driven by instructional goals, resource constraints, nature of the subject matter, and the ideal mix of extrinsic and intrinsic motivators. Both approaches borrow from motivational psychology, but they occur on different levels: gamification transforms the structure of learning, and game-based learning transforms the experience of learning into a game.

4-Implementation of gamified strategies in EFL classrooms

The application of gamified methods in English as a Foreign Language (EFL) classes involves the intentional integration of game elements into language teaching for the sake of enhancing learner motivation, sustaining engagement, and fostering skill acquisition in the four main language competencies of listening, speaking, reading, and writing. Gamification in this case does not mean that the entire class will be turned into a game but rather using elements of games such as points, badges, leaderboards, levels, challenges, and storytelling within the language learning process to attain a more active and engaging experience (Kapp, 2012; Werbach & Hunter, 2012). Successful implementation begins with the careful alignment of gamified elements with specific goals of language learning. Vocabulary acquisition, for instance, can be gamified by giving points for using target words in writing or speech, while pronunciation practice can be turned into timed contests where students compete individually or in groups for high scores (Landers, 2014). One extremely popular approach to EFL gamification is the points–badges–leaderboards (PBL) system.

Points within this model serve as a direct form of feedback and reinforcement for target behavior such as active participation, homework completion, or appropriate use of grammar. Badges serve as symbolic rewards for the completion of milestones, such as mastery of a set of phrasal verbs or successful completion of a conversation activity without code-switching. Leaderboards introduce an element of competition that can potentially motivate learners, especially if designed in a manner that

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reflects not only high scorers but also "most improved" learners. This prevents low-ranked learners from getting demotivated (Deterding et al., 2011; Su & Cheng, 2015). Narrative-based gamification has also been successful in EFL environments since it places language tasks into a broader story or role-playing framework. In such designs, learners are able to take on roles—e.g., detectives, journalists, or tourists—that challenge them to solve mysteries, conduct interviews, or navigate new cultural situations in the target language. This narrative embedding supports both situational authenticity and emotional investment, making language practice meaningful rather than mechanical (Gee, 2007; Sailer et al., 2017).

Quests and missions are another set of gamified strategies that find themselves easily at home in communicative language instruction.

For example, students might embark on a "city adventure" quest where they must complete a set of speaking, listening, and reading tasks in order to "unlock" different virtual locations. Each task might represent a real-life interaction such as ordering a meal, asking for directions, or bargaining in a market. The sequencing of tasks from easy to more challenging demonstrates level-based progression, in which students are permitted to gain confidence before they face higher linguistic challenge (Plass et al., 2015). Learning management systems and digital tools also facilitate the incorporation of gamification in EFL classrooms. Sites and apps such as Kahoot!, Quizizz, Classcraft, and Duolingo for Schools allow teachers to incorporate instant feedback, track student progress, and automatize reward systems while appealing to the tech-savvy interests of modern learners. These sites can be embedded in blended or fully online learning environments, allowing flexibility and scalability for different class sizes (Godwin-Jones, 2014).

However, effective implementation in EFL environments entails more than the simple integration of game elements; it requires cultural awareness, sensitivity to learner interests, and consideration of language levels.

Over competitiveness can alienate some learners, particularly those from cultures that prioritize group harmony over individual achievement, whereas cooperative gamified activities can be more inclusive (Hanus & Fox, 2015). Likewise, activities must be scaffolded to avoid overwhelming less proficient learners, with gamified mechanisms encouraging effort and improvement rather than merely rewarding top performance. And, lastly, monitoring and adjustment are crucial.

Instructors must elicit feedback, observe learner responses, and adjust the difficulty, pacing, and reward systems accordingly. Gamification, if

implemented reflectively, can transform the EFL classroom from a traditionally teacher-centered environment into a student-centered space where students are motivated to take risks, persist in the face of challenge, and utilize the target language within a purposeful context. By combining pedagogical content knowledge with motivational affordances of game design, educators are able to create an immersive learning space that supports both linguistic capacity and learner autonomy (Ryan & Deci, 2000; Sailer et al., 2017).

Section Two: The Impact of Gamification on EFL Students' Motivation

Gamification can meaningfully affect EFL learners' motivation through several complementary psychological and pedagogical pathways, but its impact depends heavily on design, context, and implementation. When well designed, gamified elements—such as points, badges, levels, immediate feedback, narratives, and collaborative or competitive tasks—can increase both learners' willingness to participate and the sustained effort they devote to language practice by satisfying core psychological needs and by shaping learning behaviour. From the perspective of Self-Determination Theory, gamification can support autonomy by offering choices in tasks and pathways, competence by providing clear goals and progressive challenges with timely feedback, and relatedness by enabling social interaction and recognition; when these needs are met learners show higher intrinsic motivation, greater persistence, and better well-being (Deci & Ryan, 1985; Ryan & Deci, 2000).

1-Motivation in second language acquisition (intrinsic vs extrinsic)

Motivation in second language learning (SLA) has also been widely recognized as the most significant influence on learners' attainment, persistence, and ultimate skill. It is the motivational dynamic that initiates, sustains, and steers individuals' effort toward learning and using a second language, and it manifests at psychological and behavioral levels (Dörnyei & Ushioda, 2011). In the SLA context, motivation tends to be conceptualized as intrinsic and extrinsic orientations derived from Self-Determination Theory (Deci & Ryan, 1985; Ryan & Deci, 2000). Intrinsic motivation results as the outcome of internal inducements—such as curiosity, interest, enjoyment stemming from the process of learning, or a sense of satisfaction with the learning of new linguistic skills—and it is connected to learners' inherent desire to explore, understand, and improve without the influence of external inducements or compulsion. For example, an intrinsically motivated EFL learner can read target language novels because they enjoy the plot, the characters, and the cultural context, or participate in conversation clubs for the sake of

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socializing and expressing themselves. Intrinsic motivation is associated with deep learning approaches, higher persistence, greater creativity, and long-term motivation, as learners value the activity per se (Noels, Pelletier, & Vallerand, 2000). Conversely, extrinsic motivation is the practice of language learning as a result of outside pressures or incentives—e.g., grades, employer needs, parental pressure, or wanting to receive a certificate (Deci & Ryan, 1985).

Learners who are extrinsically motivated will study hard to memorize words or pass proficiency exams not because the activity is satisfying in itself, but because attaining the goal results in desired outcomes or prevents undesirable outcomes. Self-Determination Theory makes a distinction between controlled types of extrinsic motivation (e.g., external regulation, in which learning is only rewarded or punished) and more autonomous types (e.g., identified regulation, in which the learner appreciates personally the outcome of learning even though the learning procedure itself is not pleasant). Extrinsic motivations in SLA are not an ill—most learners start with extrinsic motivations such as career advancement, but over time these can turn into internalized personally relevant motives, advancing to intrinsic regulation (Ryan & Deci, 2000; Ushioda, 2013). An equilibrium between intrinsic and extrinsic motivation has been found by studies to generate the optimal learning outcomes in SLA.

While intrinsic motivation sustains interest and longer-term motivation, extrinsic motivators can provide structure, direction, and an initial push—especially where the learning process is challenging or the topic is not inherently interesting (Dörnyei, 2001). Importantly, how teachers provide goal-setting, feedback, and activity structuring has the potential to influence whether extrinsic rewards detract from or add to intrinsic motivation. For example, too much pressure and controlling rewards can reduce autonomy and intrinsic interest, but feedback with an emphasis on progress, competence, and choice of learner can enhance them (Deci, Koestner, & Ryan, 1999). In the EFL classroom, intrinsic motivation can be fostered through naturalistic communicative practice, instances of self-expression, and training with culturally meaningful materials, while positive extrinsic support can involve clear monitoring of progress, celebratory acknowledgment of achievement, and thoughtful challenges crafted to address students' unique goals. The reciprocal dynamic between intrinsic and extrinsic sources hence not only shapes learners' interest and perseverance but also the quality and quantity of second language acquisition.

2-How gamification affects student motivation and attitudes

Gamification affects students' motivation and attitudes through a complex interplay between psychological processes, social processes, and learning design principles that transform the learning environment into a more engaging and rewarding environment. Gamification in its foundation is based on proven motivational theories, and more precisely Self-Determination Theory (Deci & Ryan, 1985; Ryan & Deci, 2000), in order to satisfy students' intrinsic psychological needs for autonomy, competence, and relatedness. By employing features such as points, badges, levels, instant feedback, and story contexts, gamified learning environments provide students with a sense of mastery of their progress (autonomy), clear and achievable goals with feedback that supports their self-efficacy in their abilities (competence), and opportunities for social engagement and approval (relatedness). Where these needs are met, intrinsic motivation increases, leading to students engaging more deeply and longer in learning activity (Hamari, Koivisto, & Sarsa, 2014; Sailer et al., 2017). Moreover, gamification positively influences students' attitude because it reframes learning activities in terms of enjoyable challenges rather than work. Introducing elements of challenge and quest-like game playing creates a playful atmosphere that reduces anxiety and affects affective barriers, a key feature of language learning environments where shame at making mistakes can suppress participation (Plass, Homer, & Kinzer, 2015). Altering attitude in this manner promotes taking risks and exploring, vital components of effective learning.

Social elements intrinsic to gamification—such as leaderboards and group assignments—can enhance motivation via social comparison and peer feedback, creating a sense of belongingness and community (Werbach & Hunter, 2012). However, competitive design must be individual-difference sensitive in order to avoid demotivating lower-achieving students, which damages attitudes (Hanus & Fox, 2015). Well-designed cooperative game mechanics induce positive social conduct and group motivation, improving classroom climate and student satisfaction.

Empirical findings support these theoretical accounts, proving that gamification yields increased engagement, increased participation, improved learning attitude, and increased persistence (Hamari et al., 2014; Su & Cheng, 2015).

This success, however, greatly depends on effective implementation. Over-reliance on extrinsic rewards such as points and badges lacking substance in the form of significant learning content can lead to superficial engagement or "reward chasing," downplaying deeper motivation (Deci & Ryan, 1985; Mekler et al., 2013). Accordingly, integrating gamification with instructionally sound activities and

autonomy-supportive feedback are critical to building healthy motivation and attitudes. In brief, gamification has an effect on student attitudes and motivation by creating a learning environment that addresses psychological needs, engages students by making problems enjoyable, leverages social dynamics, and provides quality feedback. Well-designed and used, it not only makes students more inclined to participate but also fosters more positive and long-lasting attitudes towards learning.

3-Case studies or findings from Iraqi secondary school settings

ChatGPT replied:

Several studies have investigated the impact of gamification on motivation and attitudes within students in Iraqi secondary school settings, in particular within English as a Foreign Language (EFL) classes. These studies highlight the potential of gamified interventions in enhancing engagement, preventing anxiety, and fostering positive learning experiences.

1. Gamification in English Language Learning in Iraq

A systematic review examined the effectiveness of gamification on learning and on motivating learners when teaching English language learning in Iraq. The research revealed that applying game elements such as interactive board games and role-play exercises yielded interactive learning environments that engaged students and promoted learning among them. This was particularly effective in boosting students' participation and engagement.

2. Attitudes of Students towards Motivational Strategies in Secondary Schools of EFL

Students' attitudes towards motivational strategies in secondary school settings of EFL were researched in a survey conducted in Iraqi Kurdistan. The research utilized a quantitative approach employing a questionnaire as the data collection tool. It was found that students had positive attitudes towards motivational strategies, and therefore it was recommended that the strategies were employed to enhance students' motivation and participation in language learning.

3. Impact of Video Games on Vocabulary Learning by Young Learners

Research in the Kurdistan region of Iraq explored the impact of video games on vocabulary learning among young EFL learners. The research had a sample of 74 students at the age of 12 and found that language learning through video games significantly improved vocabulary acquisition. This indicates that integrating game elements could optimize the performance of language learning.

4. Easing EFL Students' Engagement in English Grammar through Gamification

One of the studies targeting easing EFL students' engagement in English grammar via gamification found that using tools like Kahoot! reduced anxiety and created an interactive classroom environment. The research provided quantitative data from an Iraqi setting, offering concrete recommendations for integrating game-based learning tools when teaching grammar.

Digital Systems

5. How Gamification Affects Students' Engagement and Motivation

Another study investigated the effect of gamification, specifically Duolingo, on students' motivation and engagement in learning English. The study used a survey completed by 60 individuals aged 12-17 and reached the conclusion that gamification positively affected motivation and students' engagement in learning English.

Overall, these studies point towards gamification being a good way to enhance students' motivation and attitude towards Iraqi secondary school EFL classes. Through the incorporation of game-like elements, teachers can create engaging and interactive learning environments that facilitate good learning experiences and further language learning accomplishments.

4-Limitations and constraints of motivating students via gamified methods

The motivaiton of students using gamified methods is potentially hopeful but involves several limitations and constraints to which educators must seriously balance in order to maximize efficacy while reducing undesirable side effects. One of the main drawbacks is the chance of over-dosage of using external rewards, i.e., points, badges, and leaderboards, and dependence on shallow play mechanisms rather than encouraging solid, intrinsic motivation to learn (Deci & Ryan, 1985; Mekler et al., 2013). Since students focus primarily on extrinsic incentives, they will perform the activity just for the purpose of getting rewards without delving into comprehension and expertise acquisition of the knowledge, and thereby jeopardizing long-term motivation and productive learning outcomes. Another important limitation lies in the form of potential demotivation created through competitive dynamics like leaderboards.

While competition might energize some students, it might deter or isolate weaker or risk-averse students who are publicly ranked or compared to others negatively (Hanus & Fox, 2015). This is so especially in situations where cultural values of group harmony and cooperation take precedence

over individual competition. Unless well-designed around tiered rankings, team-based challenges, or rewards for individual improvement, competition might damage learner confidence and engagement. Accessibility and technological constraints also impose practical limitations. Gamification is likely to be founded on digital mediums, apps, or internet connectivity, which may be unequally distributed in some education settings, particularly in resource-poor or rural areas (Godwin-Jones, 2014). Unavailability or inconsistent devices or internet can create inequalities and frustration for students, reducing the overall motivational impact of gamification.

In addition, extra teacher workload and necessary training are further challenges. Creating, executing, and sustaining successful gamified systems demands time, pedagogical knowledge, and experience with corresponding technologies, which not all teachers might have (Deterding et al., 2011). Without proper professional development, gamification initiatives may end up shallow or ill-related to learning goals.

The other limitation is the gamification of features to diverse learner needs and preferences. Students differ greatly in their motivational drivers, culture, language proficiency, and learning style. One-size-fits-all gamification model may fail to motivate all students equally, and poorly adapted approaches may fail with learners requiring more scaffolded or personalized support (Plass, Homer, & Kinzer, 2015).

Lastly, there is the issue of novelty and sustainability effects. The initial excitement for gamified learning can decrease with time as students get used to rewards and game components, diluting their motivational efficacy (Landers, 2014). To ensure motivation, gamified systems require constant updation, diversity in difficulties, and incorporation with serious pedagogical practices.

Briefly, while gamified strategies hold strong motivational affordances, their limitations are possible extrinsic reward dependencies, negative effects of competition, access and equity concerns, increased teacher workload, challenges to personalization, and potential losses in long-term motivation. Mitigating these constraints relies on thoughtful design, sensitivity to culture, adequate resources, and ongoing monitoring to guarantee that gamification not only addresses engagement but also rich and enduring learning outcomes.

Section Three: Gamification and Language Retention of EFL Students

Gamification has shown considerable promise in enhancing language retention among English as a Foreign Language (EFL) students by leveraging motivational and cognitive mechanisms that reinforce learning

and facilitate long-term memory consolidation. Language retention, the ability to store and recall vocabulary, grammar structures, and communicative skills over time, is a significant challenge in EFL contexts, often hindered by limited exposure and insufficient practice opportunities. Gamified learning strategies can address these challenges by making repetition and retrieval practice more engaging and effective.

1-The relationship between engagement and retention of memory

The relationship between engagement and memory recall is intricately linked, with engagement being one of the factors that solidifies how information is encoded, stored, and later recalled from memory. Learner engagement has been described as the degree to which a learner is attentive, curious, interested, and actively participates in the learning experience (Fredricks, Blumenfeld, & Paris, 2004). When students are highly interested, they will be more likely to process information deeply, use good learning strategies, and form stronger neural connections that allow for long-term recall. Cognitive psychology explains this correlation by the levels-of-processing theory, which predicts that information processed at deeper, more meaningful levels is better remembered than information processed at shallow levels (Craik & Lockhart, 1972). Interaction facilitates deep processing because it gets learners to relate, organize, and elaborate on information, rather than memorize facts. For example, a student who is taking part in an interactive exercise or problem-solving activity is more apt to encode information semantically, allowing for long-term memory traces.

In addition, engagement would involve active participation and retrieval practice, both of which are crucial to solidify memory retention. Retrieval practice—actively recalling information rather than passively reviewing it—has been shown to promote retention more than simple re-exposure (Roediger & Karpicke, 2006). Students with high engagement are more inclined to involve themselves in such activities, especially when learning is gamified or interactive, which further solidifies memory.

Emotional engagement is another crucial element in retention. Emotions can enhance memory consolidation through the stimulation of the amygdala and other brain structures that control the strength of memory traces (McGaugh, 2004). As content is made more engaging, relevant, or set in a motivating context (e.g., through gamification), emotional engagement is heightened, leading to stronger and more retrievable memories.

In addition, theories like Self-Determination Theory highlight that intrinsic motivation, which is highly related to engagement, enhances cognitive resources and persistence, both of which are needed for

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effective encoding and storage (Ryan & Deci, 2000). Students who are engaged typically experience flow states—a psychological condition of deep immersion and focused attention—that organize cognitive functioning and memory creation (Csikszentmihalyi, 1990).

In brief, engagement enhances memory retention due to deep cognitive processing, active recall, emotional involvement, and sustained motivation. Pedagogical approaches that promote engagement—through interactive, meaningful, and motivational experiences—therefore lead to greater retention of knowledge and skills over the long term.

2-Psychological and cognitive predictors of language retention of memory

Psychological and cognitive predictors are critical in determining the degree to which language information is encoded into memory by learners. Understanding these predictors can help teachers design interventions that maximize long-term retention of language, particularly in second language acquisition (SLA) contexts.

Psychological predictors encompass motivation, which is arguably one of the strongest predictors. Intrinsic and extrinsic motivation affect the extent to which learners are engaged with the learning content, and thus indirectly retention (Deci & Ryan, 1985; Dörnyei, 2001). Instructed learners, i.e., those intrinsically motivated by personal satisfaction and interest in learning the language, commit more cognitive resources, persist longer, and employ more deep processing techniques, all beneficial for memory consolidation. Conversely, extrinsic motivation can induce learning behavior but not retention unless internalized in the long term (Ryan & Deci, 2000).

Another major psychological predictor is anxiety. Elevated levels of language learning anxiety, particularly on fear of making mistakes or negative evaluation, can disrupt cognitive processing and memory encoding (MacIntyre & Gardner, 1994). Anxiety increases cognitive load, reduces working memory capacity, and prevents proper rehearsal, all of which combined erode retention. Low anxiety environments, in contrast, allow more concentration, risk-taking, and repeated practice, all of which enhance memory.

From a cognitive theory perspective, working memory capacity reliably predicts language retention. Working memory enables students to temporarily maintain and manipulate linguistic information to facilitate comprehension and integration of new knowledge (Baddeley, 2003). Students with larger working memory capacity are able to process more complicated input, generate more elaborative rehearsal, and form more

robust mental representations, which enhances long-term retention (Skehan, 1998).

Attention also plays a critical function. Selective attention governs what linguistic input is attended to and processed sufficiently deeply for encoding (Schmidt, 1990). Students who are allocated strong attention to pertinent input are most likely to develop long-term memory traces. Attention can be guided by task design, novelty, and learner interest, so that engagement is an intervening variable in retention.

Metacognitive strategies such as planning, monitoring, and evaluating one's learning are cognitive predictors that have positive effects on language retention. Students who manage their learning behavior actively, apply mnemonic strategies, and request clarification effectively encode and retrieve information (Oxford, 1990).

Also, depth of processing affects retention, as deeper semantic processing results in better memory than shallow, surface processing (Craik & Lockhart, 1972). Encoding tasks that involve meaningful use, contextualization, and elaboration aid deeper processing and higher retention.

Lastly, frequency of language exposure and spaced repetition influence retention via the spacing effect. Several exposures to language material distributed over time enhance stronger connections between synapses and forgetting resistance (Ebbinghaus, 1885/1913; Cepeda et al., 2006).

Overall, psychological aspects such as motivation and anxiety, and cognitive aspects such as working memory, attention, metacognitive strategies, depth of processing, and repetition, all influence to what degree language information is stored in long-term memory. Effective language teaching must deal with these aspects in order to optimize learners' memory consolidation and overall language learning achievement.

3-Measuring language retention in gamified EFL settings

Measurement of language retention in gamified EFL settings utilizes a blend of quantitative and qualitative methods to ascertain the degree of learners' retention of vocabulary, grammar, pronunciation, and communicative ability over time after exposure to gamified learning interventions. As gamification aims to enhance motivation and engagement, retention has to be captured with the assistance of sensitive tools both to language knowledge and long-term effects of learning resulting from gamified activity.

One of the shared quantitative methods is by means of pre-tests and post-tests prior to and after gamified learning tasks and post-tests held several days or weeks after to check on long-term retention (Kapp, 2012;

Landers, 2014). Such tests typically incorporate vocabulary recall, production exercises, grammaticality accuracy, and comprehension assessments that mirror the linguistic goals exercised in the gamified tasks. The difference in scores over time indicates the degree of retention, with particular interest in stability or loss in performance on the delayed post-test compared to immediate post-test performance.

Retention quizzes embedded within gamified platforms are another widely used strategy. Many gamified digital systems track learner progress in real time via successive retrieval attempts, such as spaced repetition quizzes or challenge rounds, so that instructors can examine results on accuracy, speed, and frequency of recall (Plass, Homer, & Kinzer, 2015). Such ongoing data collection yields fine-grained knowledge of what language items are retained or forgotten and determines adaptive learning routes.

Behavioral engagement metrics are applicable as proxy measures of retention in gamified EFL environments. Task completion time, number of attempts, levels reached, and self-initiated revisits to practice modules correlate with opportunities for repeated exposure and rehearsal that promote retention (Hamari, Koivisto, & Sarsa, 2014). These metrics must be interpreted in light of direct measures of language performance to avoid the danger of conflating participation with retention.

Qualitative methods such as learner self-reporting, interviewing, and reflective diaries provide additional feedback regarding learners' perceived retention and habits in maintaining language knowledge acquired using gamification (Godwin-Jones, 2014). Learners are able to report how gamified aspects affected their eagerness to review material, how they rehearsed language skills outside class, and how confident they felt in recalling information, making quantitative data more robust.

Finally, longitudinal studies tracking retention over longer periods (e.g., months) following the intervention would be required to evaluate the long-term stability of gamification effect on language memory. These studies could examine whether initial gains in retention persist as long-term language skill or whether booster sessions and continued gamified practice are necessary (Landers, 2014; Su & Cheng, 2015).

Finally, evaluating language retention in gamified EFL contexts requires a multi-method approach that includes delayed formal assessment, imbedded platform measures, behavioral engagement indicators, and learner feedback. Only such extensive evaluation can assist not only in identifying if gamification actually helps retain more than nongamified instruction but also in how and why and under what conditions these improvements occur.

4-Long-term implications and sustainability of learning via gamification

Learning from gamification has enormous potential to engage and motivate, yet long-term impact and sustainability depend upon various factors of design, psychology of learners, and educational context. While gamification can profoundly stimulate interest and participation initially, effects over longer intervals depend upon careful attention to how game components map to more deeper processes of learning.

One of the positive long-term consequences of gamified learning is that it can facilitate the development of habits and daily practice, especially when combined with incremental difficulty and spaced repetition. By turning learning into a sustained, positive experience, gamification can help learners adopt regular study habits that foster long-term retention and skill development (Landers, 2014). Regular involvement is the key to language learning, where exposure and practice are needed repeatedly to solidify memory and fluency.

Besides, gamification has the capacity to promote autonomous motivation in the long term by satisfying learners' psychological needs for competence, autonomy, and relatedness (Ryan & Deci, 2000). Since gamified activities are centered on mastery, self-regulated progress, and cooperation among people rather than simple external rewards, learners are likely to internalize motivation, leading to long-term effort irrespective of the game's novelty (Sailer et al., 2017). Internalization is supportive of long-term persistence and learning achievements at a deeper level.

But threats to sustainability are the danger of novelty effects wearing off, where initial excitement about gamified features wears off, eroding their motivational impact (Koivisto & Hamari, 2019). Students will get bored if game mechanics turn repetitive, predictable, or irrelevant to meaningful learning objectives. So, constant innovation, dynamic difficulty adjustment, and alignment with pedagogical objectives need to be a focus point in order to maintain interest.

Another concern is excessive dependence on external rewards, which can overcome internal motivation if students begin to focus on points or badges rather than learning in itself (Deci & Ryan, 1985; Mekler et al., 2013). To sustain motivation, gamification must balance extrinsic rewards with support for autonomy, mastery, and purpose.

Practically, sustainability also depends on teacher support, institutional infrastructure, and ongoing resources. Effective gamification depends on training, technical tools, and integration into the curriculum. Without

special investment, gamified programs are likely to be shallow and short-lived (Deterding et al., 2011)

In summary, gamification is able to sustain long-term learning via habitual practice and autonomous motivation but only where complemented by reflective, adaptive design based on true engagement and not superficial extrinsic rewards. Strong sustainability will entail the careful balance of motivational variables, avoiding repeated repetition of content, and availing learning contexts conducive to support.

Conclusion

Overall, gamification of EFL learning provides a strong approach to increase motivation, engagement, and language retention through leveraging psychological and cognitive processes. If properly designed, gamified methods satisfy students' autonomy, competence, and relatedness needs to provide interesting and meaningful learning contexts for facilitating deep processing and extended practice. Empirical evidence from a broad variety of school settings, even as distant as Iraqi secondary schools, confirms gamification's positive impact on the attitudes and achievement of students. However, the success and durability of gamification learning depend on surmounting critical limitations such as undue reliance on extrinsic rewards, negative competition implications, accessibility barriers, and the necessity for continuous innovation and teacher assistance. In summary, integration into effective teaching practices coupled with ongoing monitoring can foster sustained language learning and a progressively motivated, engaged student base.

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