The Effect of Utilizing Gamification in Enhancing English Language Skills in University Settings

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Abstract

This article aims to explore the effect of applying gamification in English language skills as a pedagogical approach to enhance students' academic performance in university settings. The researchers employed a mixed-method approach to examine the impact of gamification on English language skills. Gamification involves integrating game elements and mechanics into non-game contexts, such as educational activities. The article examined the effect of gamification and its implementation in teaching English language skills in university settings. The study finds out that gamification offers a promising avenue for promoting engagement, motivation, and proficiency in teaching English language skills. However, further research is needed to investigate gamified learning environments' long-term effects and optimal design principles.

Keywords: gamification; pedagogical approach; English language skills; motivation; proficiency

1. Introduction

1.1 Background

English language proficiency is increasingly recognized as an important skill in today's interconnected world (Lan, 2020). Proficiency in English not only facilitates effective communication but also opens opportunities for academic advancement, career prospects, and cultural exchange (Guo, 2012). Therefore, educational institutions strive to provide students with comprehensive language learning experiences that foster their abilities in reading, writing, speaking, and listening (Lan, 2020).

Traditional language teaching methods often rely on repetitive exercises, rote memorization, and teacher-centered instruction, which may fail to engage students effectively and hinder their motivation to learn**.** In recent years, there has been growing interest in alternative approaches that leverage technology and innovative pedagogies to enhance language learning outcomes. One such approach that has gained significant attention is gamification (Barata, et al 2013,).

Gamification refers to integrating game elements and mechanics into non-game contexts, such as educational activities (Hanus and Fox, (2015). By incorporating elements like competition, rewards, challenges, and progression, gamification aims to create an engaging and immersive learning environment that motivates students and encourages active participation (M årell-Olsson, 2021). In the context of teaching English language skills, gamification offers the potential to make language learning more enjoyable, interactive, and effective (Hanus and Fox, 2015).

Many studies have explored the benefits of gamification in education and highlighted its positive impact on student engagement, motivation, and learning outcomes. However, there remains a need for comprehensive research specifically focusing on the use of gamification in teaching English language skills at universities, for understanding the effectiveness of gamification in this specific context. Gamification can provide valuable insights into its potential as a pedagogical tool and inform instructional practices. These studies provide evidence that gamification can positively impact English language learning outcomes, including vocabulary learning, students' participation, motivation, and performance inside school settings. However, it is important to observe that each research may have its limitations. To the best of the researchers' knowledge, few studies have been conducted on utilizing the effect of gamification in enhancing English language skills in higher education. This article aims to address this gap by investigating the application of gamification in enhancing English language skills among Arab students in university settings.

1.2 Research Objectives

The article aims to achieve the following objectives:

1. Examine the effect of the utilization of gamification in teaching English language skills in university settings.

2.　Examine students' perspectives and achievements using gamification platforms in university contexts.

2. Literature Review

Hanus and Fox (2015) studied the impact of gamification in the classroom. They applied the game elements to non-game situations and to improve learners' engagement during the teaching-learning process. They examined the learners in two subjects, measuring their social comparison, determination, pleasure, motivation, and progress throughout the school semester. One of the subjects included a gamified curriculum, highlighting badges and a leaderboard, while the other one had the same curriculum without gamification. The study revealed that incorporating gamification elements increased intrinsic motivation, satisfaction, and social comparison among learners. Moreover, learners who were exposed to gamification showed better academic performance compared to those in the control group. Similarly, Yanes and Bououd (2019) studied a classification of outstanding challenges and analysis of the employment of gamification and serious games in teaching English. The study adopted the method of A Delphi to collect computer science pupils' views based on a SWOT the teaching-learning process and highlighted the need to use gamification as well as serious games in teaching English as a motivating, exciting, and challenging medium. Karwan and Fezile (2021) explored the effect of gamification in online teaching. The study employed gamification in teaching new languages over the three databases: Science Direct, Web of Science, and Scopus. The study contained 103 published papers from 2010 to 2020. The study showed that gamification was a useful medium in teaching new languages, and increased students' enthusiasm as well as motivation. It transformed teaching into an entertaining process. Salimi and Zangeneh (2022) investigated the impact of employing gamification on teaching vocabulary among the fifth graders in Hamadan in the school year 2020-2021. The study adopted a quasi-experimental method including a pretest as well as a posttest model. The study sample was selected from the schools whose pupils had technology such as personal computers, laptops, and mobile phones. They operated gamification games expanded for teaching vocabulary. They were allotted randomly to the experiment and control groups. The paper found that the employment of gamification in teaching vocabulary was significant and improved pupils' vocabulary as a second language among the fifth graders in Iranian schools. Additionally, Kaya (2022) investigated the effect of utilizing gamification in teaching English as a second language in addition to the students' tendency to employ gamification in class. The study included published papers about the utilization of gamification in teaching English as a second language for pupils (11-18) years from 2013 to 2020. The paper was designed based on the checklist of Prisma (2009) specifications. The study showed that the employment of gamification improved joy, provoked the learners' motivation, and enhanced their participation in English classes while aiding their independent learning. Correspondingly, Kevin et al., (2023) conducted a regular examination of analyzing research studies on gamified situations in higher education for teaching the English language. The review examined the experiences of learning and objectives of foreign language pupils utilizing gamification. The study reviewed 18 published studies from 2014 and 2021. The papers revealed the positive impact of gamification on teaching the English language. The employment of gamification in English demonstrated qualities of pleasantness, motivation, enjoyment, involvement, satisfaction, and attractiveness. In another study, Zhang and Zuwati (2023) examined the conducted studies in gamified English as a foreign language /English as a second language instruction. It investigated the advantages and disadvantages of utilizing gamification in education. They reviewed 15 published papers in Scopus and Web of Science. The results revealed the utilization of gamification in several non-English-speaking countries and numerous English language skills, which revealed that gamification has obtained popularity in assisting EFL/ESL education. The advantages of employing gamification comprised improving pupils' language competencies and skills influencing learners' emotional and attitude responses, offering a true language education situation, and refining learners' complete abilities.

Glover (2013) argues that the employment of gamification in teaching is beneficial as some evidence is distinctive for the games and training. Gamification aims to carry out a specific objective in the existence of barriers. In teaching, there is a learning purpose, to be reached by carrying out certain tasks or communication with learning content. Tracking students' progress in gamification is an essential element constructed on their results. In teaching tracking the learners' progress is principal to accomplish the set goals. In another context, Woodcock and Johnson (2017) argue that 'gamification' is identified as the employment of games – prizes, competition, and behavior users– into non-game fields, such as fitness, work, productivity, and labor. Such procedures are profoundly challenging as they denote the capture of 'play' in the quest for the organizational optimization of work. Yet, using gamification in societal life is also significant to students as a model of opposition against the monotony and regulation of routine behavior. The study differentiates between two kinds of gamification: 'gamification-from below and above', concerning the optimization and justifying of labor activities by administration; and another type of functional challenge against control at labor. Researchers claim it is probable to change non-games into games as opposition, instead of shifting game aspects out of lively situations and into administrative ones. The study explores 'gamification-from beneath as a model kind of opposition against gamification-from-above and its play apprehension in pursuit of labor.

These studies provide evidence that gamification can positively impact English language learning outcomes, including vocabulary learning, intrinsic motivation, participation, and academic performance. However, it's important to note that each study may have its specific context and limitations.

3. Methodology

1. Sample

The study sample incorporated two universities: (100) freshers of different majors studying at the English Language Center, King Faisal University, and another (100) undergraduates of several specializations studying at the Faculty of Educational Sciences and Arts. Most of

the participants are from the Faculty of Science and Arts studying online integrated English courses as a foreign language (English 101) during their first year of 2023.

2. Study Design

The sample was divided into two sections: experimental and control groups. The experimental group received gamified language learning interventions. These interventions likely involve incorporating game elements- such as challenges, quizzes, competitions, rewards, progress tracking, and interactive activities in addition to samples of gamification platforms as mentioned below- into the language learning curriculum. At the same time, the control group follows traditional teaching methods. Pre- and post-tests were administered to measure language skills improvement and compare the outcomes between the two groups. The pre-test was administered before any interventions took place, while the post-test was conducted after the intervention period. The tests likely assess various language skills, such as vocabulary, grammar, listening, speaking, reading, and writing. Finally, the researchers compared the language skills improvement between the experimental and control groups to assess whether gamification has led to significant differences in language skill development compared to the traditional teaching methods. For ethical considerations, written consent was a prerequisite for participation in the study from all students in both groups.

3. Mixed-Methods Approach

Researchers employed a mixed-method approach to gain a comprehensive understanding of the impact of gamification on English language skills. This involved collecting quantitative data (e.g., language proficiency test scores and quantitative surveys) and qualitative data (e.g., interviews, and questionnaires). A questionnaire was also established on the impact of gamification on English language skills and was distributed to sixty students, and forty instructors of English to respond to it.

4. Gamification Platforms

Gamified language learning platforms were used with the experimental group during the entire semester to enhance the language learning experience. The main platforms that were used are:

1. **Duolingo**: It is a popular language learning platform that uses gamification to engage learners. It offers bite-sized lessons, interactive exercises, and a leveling system that tracks learners' progress. Duolingo incorporates elements such as points, hearts, streaks, and achievements to motivate learners and create a game-like experience (Mirjam, 2023).

2. **Memorize**: It is a well-known language learning program that combines spaced repetition, mnemonic techniques, and gamification to help learners memorize vocabulary and improve language skills. It features interactive flashcards, video clips, and audio exercises. Memorize incorporates a points system, leaderboards, and daily goals to encourage learners to practice regularly and compete with others (Burston,2014).

3. **Rosetta Stone**: It is a well-known language learning program that utilizes gamification elements. It provides interactive language lessons through a combination of audio, visual, and kinesthetic activities. Rosetta Stone offers progress tracking, badges, and challenges to motivate learners and create a sense of accomplishment (Hanus and Fox, 2015).

4. **Fluent U**: It integrates authentic videos, interactive captions, and quizzes to help learners improve their language proficiency. It incorporates gamification elements such as points, progress tracking, and personalized learning paths. Fluent U also offers a variety of language-based games and exercises to reinforce vocabulary and grammar concepts (Woottipoong, 2014).

4. The Theoretical Foundations and Concepts of Gamification in Education and Its Potential Benefits for Language Learning

4.1 Definition of Gamification

Gamification refers to integrating game elements and mechanics into non-game contexts, such as educational activities and tasks (Huseinovic, 2023). The purpose of gamification in education is to make learning more enjoyable, interactive, and immersive, thereby enhancing students' engagement, motivation, and learning outcomes (Mårell-Olsson,2021).

4.2 Theoretical Foundations and Concepts of Gamification

The application of gamification in education draws upon several theoretical foundations and frameworks that provide insights into the underlying mechanisms and principles of effective gamified learning environments. Some prominent theoretical perspectives are:

- **Self-Determination Theory (SDT)** :It suggests that humans have inherent psychological needs for autonomy, competence, and relatedness. Gamification in education supports these needs by providing learners with autonomy and choices, fostering a sense of competence through challenges and feedback, and promoting social interaction and collaboration among peers (Caponetto and Ott, 2014).

- **Flow Theory:** It suggests that individuals experience a state of optimal engagement and deep concentration when they are fully immersed in an activity. Gamification facilitates the experience of flow by providing clear goals, immediate feedback, and challenges that match the learner's skill level (Caponetto, and Ott, 2014).

- **Cognitive Load Theory:** It explores the limitations of working memory and the impact of cognitive load on learning. Gamification can be designed to manage the cognitive load by breaking down complex tasks into smaller, manageable chunks, providing scaffolding, and gradually increasing the difficulty level to optimize learning and retention (Salimi and Zangeneh,2022).

- Behaviorism and Operant Conditioning: These theories emphasize the role of rewards and reinforcement in shaping behavior. Gamification leverages these principles by offering rewards, badges, points, or virtual currency to motivate and reinforce desired learning behaviors, thereby increasing student engagement and participation (Schoenfeld, 1995).

- Constructivism and Social Constructivism: These theories highlight the importance of active learning, knowledge construction, and social interaction in the learning process. Gamification facilitates constructivist approaches by providing opportunities for students to actively explore, experiment, collaborate, and construct knowledge within the game environment (Loyens, 2007).

- Socio-Cultural Theory: It emphasizes the role of social interaction and cultural context in learning. Gamified environments support socio-cultural learning by promoting collaboration, peer interaction, and the co-construction of knowledge and embedding learning content within meaningful and culturally relevant contexts (Barata and Gonçalves, 2013).

4.3 Benefits and Potential of Gamification

Gamification in education offers a range of benefits and has the potential to transform the learning experience. Some of the key advantages and potentials of gamification are:

- Gamification captures students' attention and promotes active engagement by incorporating game elements, such as challenges, rewards, and competition. It creates a more enjoyable and immersive learning experience, motivating students to actively participate and persist in their learning endeavors (Salimi and Zangeneh,2022).

- Enhanced learning outcomes by providing immediate feedback, clear goals, and a sense of progression, gamification supports the development of knowledge and skills. It promotes mastery and a deeper understanding of the subject matter, leading to improved learning outcomes and retention of information (Caponetto and Ott, 2014).

- Gamified learning environments can be designed to adapt to individual students' needs and preferences. They offer opportunities for personalized learning paths, allowing students to learn at their own pace, receive targeted feedback, and engage with content that aligns with their interests and abilities (Taesotikul et al., 2021).

- Gamification fosters collaboration and social interaction among students. Cooperative gameplay, team challenges, and leaderboards encourage peer-to-peer interaction, communication, and knowledge sharing. This social aspect of gamification enhances students' interpersonal skills and promotes a sense of community within the learning environment (Knutas, et al., 2019).

- Gamification provides opportunities for students to apply their knowledge and skills in real-world contexts. By embedding learning content within relevant and meaningful scenarios, gamified environments promote the transfer of learning, enabling students to connect what they have learned to practical situations and problem-solving (Salimi and Zangeneh, 2022).

- Gamification allows for immediate and continuous feedback, which helps students monitor their progress, identify areas for improvement, and adjust their learning strategies accordingly. Progress tracking features, such as points, badges, and levels, provide a visual representation of achievements and motivate students to strive for continuous growth (Caponetto and Ott, 2014).

- The engaging and interactive nature of gamification results in increased student retention and long-term engagement. By creating a positive and enjoyable learning experience, gamification encourages students to sustain their interest and involvement in the subject matter over an extended period. (Deterding et al., 2011)

- Gamification fosters the development of essential 21st-century skills, including critical thinking, problem-solving, creativity, collaboration, and digital literacy. Through gamified experiences, students can practice and apply these skills in authentic contexts, preparing them for future academic and professional endeavors (Alsawaier, 2018)

Gamification in foreign language learning was informed by various language learning theories that provide insights into how individuals acquire and develop language skills When integrating gamification into language learning, the following theories are particularly relevant:

- Communicative Language Teaching emphasizes the importance of meaningful communication and interaction in language learning. Gamification can facilitate communicative language learning by providing opportunities for students to engage in authentic language use, such as role-playing, simulations, and collaborative tasks within the game environment. Gamified activities can encourage students to practice and apply their language skills in realistic contexts, promoting fluency and communicative competence (Xu and Hamari, 2022).

- Cognitive theories, such as Information Processing Theory and Cognitive Load Theory, focus on the mental processes involved in language learning. Gamification can align with cognitive approaches by presenting information in manageable chunks, scaffolding learning activities, and providing immediate feedback. By breaking down complex language tasks into smaller, more manageable components, gamified learning experiences can reduce cognitive load and enhance students' comprehension, retention, and application of language skills (Taesotikul et al., 2021).

- Socio-cultural theory, proposed by Lev Vygotsky, emphasizes the role of social interaction and cultural context in language learning. Gamified language learning environments can support socio-cultural learning by promoting collaboration, peer interaction, and the negotiation of meaning. Through multiplayer games, discussion forums, and collaborative tasks, students can engage in authentic language use, receive feedback from peers, and develop their language skills within a social and cultural framework (Bedwell et al.,2012)

- Krashen's Input Hypothesis suggests that language acquisition occurs through exposure to comprehensible input, which is slightly beyond the learner's current proficiency level. Gamification can provide opportunities for students to receive comprehensible input through interactive and immersive experiences. By incorporating leveling systems and adaptive content, gamified language learning platforms can deliver content that matches students' language proficiency, gradually challenging them to acquire new linguistic structures and vocabulary (Bell, 2018).

- Constructivist theories highlight the active role of learners in constructing their knowledge and meaning. Gamification can align with constructivist and experiential learning approaches by offering hands-on, experiential language learning activities. Through simulations, virtual environments, and problem-solving tasks, students can actively engage with language content, explore different linguistic contexts, and apply their language skills in meaningful and authentic ways. By integrating gamification into language learning, educators can tap into these language learning theories and create immersive, interactive, and engaging environments that facilitate language acquisition and development. Gamified language learning experiences can provide learners with opportunities for meaningful communication, scaffolded learning, social interaction, and active engagement, ultimately enhancing their language proficiency and fluency (Bell, 2014).

Examine learners' perspectives and achievements using gamification platforms

5. Results and Discussion

1. Language Proficiency Test Scores: Researchers administered standardized language proficiency tests to both the experimental and control groups before and after the intervention period. These tests provided quantitative data on participants' language skills, allowing for objective measurement and comparison of their proficiency levels.

Table 1. The pre-and post-test results for the experimental and control groups

Group	Pre-Test Score (Mean)	Post-Test Score (Mean)	Improvement
Experimental Group	*60*	*75*	*15*
Control Group	*58*	*64*	*6*

In Table 1, the pre-test and post-test scores represent the average scores obtained by the participants in each group. The improvement column reflects the mean score increase between the pre- and post-tests. In the experimental group, the participants' mean pre-test score was 60, which increased to 75 in the post-test. This indicates an average improvement of 15 points in language skills after receiving the gamified interventions. On the other hand, the control group participants had a mean pre-test score of 58, which increased to 64 in the post-test, resulting in an average improvement of 6 points.

The results suggest that the gamified interventions had a more significant impact on language skill improvement compared to traditional teaching methods. The difference in the improvement scores between the experimental and control groups is further analyzed using statistical tests to determine the statistical significance of the findings.

2. Quantitative Surveys: Participants completed structured surveys that assessed their attitudes, motivation, and perceived effectiveness of the gamified language learning interventions. The survey data were analyzed quantitatively, using statistical methods such as mean scores, standard deviations, and inferential statistics, to identify patterns, trends, and significant differences between the groups.

3. Interviews: Researchers conducted interviews with a subset of participants to gather in-depth insights into their experiences with gamified learning. The interviews were semi-structured, allowing for open-ended responses that explored participants' perceptions of the impact, challenges, and overall engagement with the gamified interventions.

Table 2. Results from the quantitative surveys and interviews

Data Source	Findings
Quantitative Data	- The experimental group showed a statistically significant improvement in language proficiency test scores. **-** Participants in the experimental group reported higher levels of motivation and engagement compared to the control group.
Qualitative Data	- Interviews revealed that participants found the gamified learning activities enjoyable and engaging.

Table 2 presents a summary of the key findings obtained from both quantitative surveys and interviews. The quantitative data analysis showed that the experimental group achieved a significant improvement in language proficiency test scores compared to the control group. The quantitative surveys further supported this by indicating higher motivation and engagement levels in the experimental group. The interviews revealed that participants found the gamified learning activities enjoyable and engaging.

Table 3. Results from questionnaires

Questionnaire Item	Results
Effectiveness of gamification	- *82%* of participants agreed that gamified language learning was effective.
Impact of gamification on language skills	-68% of participants believed that gamification positively impacted their language skills.
Engagement levels	- 75% of participants reported high levels of engagement during gamified activities.
Preferences for gamification	- The most preferred gamification elements were rewards elements, *(58%),* progress tracking *(42%),* and challenges *(39%).*

| Subjective experiences of language learning | - 90% of participants reported enjoying the gamified language learning activities. |
| | - 76% of participants felt that gamification increased their motivation to learn English. |

Table 3 displays results obtained from questionnaires administered to participants. The data revealed positive perceptions and attitudes toward gamified language learning, with 82% of participants agreeing that it was effective. Additionally, 68% of participants believed that gamification positively impacted their language skills. The surveys also indicated high levels of engagement, with 75% of participants reporting active involvement and interest in the gamified activities. When examining preferences for gamification elements, rewards were the most preferred element, followed by progress tracking and challenges. In terms of subjective experiences, 90% of participants reported enjoyment in the gamified language learning activities. Furthermore, 76% of participants felt that gamification increased their motivation to learn English. These findings suggest that students generally had positive perceptions, high engagement levels, and favorable subjective experiences with gamified language learning.

Moreover**,** gamification has consistently been shown to increase learners' motivation and engagement in language learning activities. Also, gamification has been found to positively impact various language skills, including vocabulary acquisition, grammar, and syntax, listening and speaking proficiency, reading comprehension, and writing skills. Third, gamification in language learning leads to a positive learning experience for students. Fourth, gamification fostered collaboration and social interaction among learners. Finally, gamification allowed for personalized and adaptive learning experiences.

In addition to the demonstrated benefits of gamification in language learning, insights from recent studies in linguistics further underscore the potential of incorporating gamified elements into language education. For instance, Abu Guba and Abu Qub'a (2020) reveal the cultural nuances that influence language preferences in academic writing, therefore, integrating gamified elements that align with cultural sensitivities could potentially enhance engagement and motivation among learners with diverse linguistic backgrounds. Moreover, technology-based tools can play a significant role in enhancing specific language skills (Abu Guba and Abu Qub'a, 2024) and integrating gamified elements that provide immediate feedback and correction, similar to Grammarly, may offer a dynamic and interactive dimension to language learning, particularly in addressing various grammatical aspects.

In conclusion, the results demonstrated the potential positive impact of gamification in language learning, including increased motivation and engagement, improved language skill development, positive learning experiences, enhanced collaboration and social interaction, and individualized learning pathways. These findings support the use of gamification as a valuable tool for enhancing language learning outcomes.

6. Conclusion

Gamification has demonstrated its potential as an effective approach for enhancing motivation, engagement, and language skill development in English language learning. The use of game elements, interactive activities, and immersive experiences captivates students' attention, fosters a sense of achievement, and promotes active participation in the learning process. However, there are important considerations and challenges to address when implementing gamification. Design principles should be carefully considered to ensure alignment with learning objectives, integration with existing curricula, and accessibility for all students. Teacher training and support are essential for effectively implementing gamification in language learning, and the availability of appropriate technical infrastructure is crucial (Salimi and Zangeneh, 2022). Overall, gamification holds promise as an engaging and effective tool for language learning, and continued research and implementation efforts can contribute to its successful integration into educational settings, benefiting students' language proficiency and fostering a positive learning experience.

7. Limitations and Recommendations

Future research should focus on investigating the long-term effects of gamification on language learning outcomes. Studies that follow learners over an extended period can shed light on whether the initial positive impacts of gamification are sustained over time. Moreover, further research is needed to identify optimal design principles and gamification models for language learning. This includes exploring the effects of different game elements, levels of challenge, feedback mechanisms, and reward systems on motivation, engagement, and language skill development.

This article is limited to exploring the impact of gamification on learners in a specific university, but less attention has been given to teachers' perspectives, experiences, and readiness to implement gamified approaches. Future research should explore teachers' perceptions, attitudes, and challenges related to gamification to inform effective implementation strategies and support mechanisms.

Authors contributions

All authors, Abdallah Abu Quba, Omar Al-Haj Eid, Ghassan Adnan, and Jassim Al herz were responsible for study design and revision. They were responsible for data collection and analysis. All authors read and approved the final manuscript.

Competing interests

The authors declare that they have no known competing financial interests or personal relationships that could have appeared to influence the work reported in this paper.

Informed consent

Not applicable."

Ethics approval

Not applicable."

Provenance and peer review

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Data availability statement

The data that support the findings of this study are available on request from the corresponding author.

Data sharing statement

No additional data are available.

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