



RESEARCH PAPER

Exploring the Impact of Gamification on Language Learning Performance among Intermediate College Students: The Role of Motivation, Engagement, and Self-Reliance

Dr. Sahib Khatoon*¹ Muhammad Usman Thaheem² Ume Rubab Shah³

1. Assistant Professor, Center of English Language and linguistics (CELL) Mehran University of Engineering & Technology Jamshoro, Sindh, Pakistan
2. Lecturer, department of English, National University of Modern Languages, Hyderabad, Sindh, Pakistan
3. Lecturer, Center of English Language and linguistics (CELL) Mehran University of Engineering & Technology Jamshoro Sindh, Pakistan

***Corresponding Author** | sahib.khatoon@faculty.muht.edu.pk

ABSTRACT

This study examines the effect of gamification on the language learning performance of ESL learners, specifically looking at how gamification can enhance motivation, engagement, and self-reliance. A sample of 178 female intermediate college students completed a questionnaire adapted from a previous study, measuring gamification variables such as motivation, engagement, and self-reliance. Descriptive statistics and inferential statistics, including regression analysis, were used to analyse the data. Results showed that gamification significantly predicts language learning performance, with motivation, engagement, and self-reliance being important predictors. These findings suggest that gamification can enhance ESL learners' language learning performance by increasing motivation, engagement, and self-reliance, highlighting the potential benefits of incorporating gamification in ESL instruction. Future recommendations include designing language learning activities that promote self-reliance and increasing motivation and engagement using gamification. Pedagogical implications of this study emphasize the importance of gamification in ESL instruction and its potential to improve language learning performance.

KEYWORDS Engagement, ESL, Gamification, Language Learning, Motivation, Self-Reliance

Introduction

English as a Second Language (ESL) learners often face challenges in acquiring and using English language skills effectively, which can hinder their academic and professional success (Kashefian-Naeeni & Fotovatnia, 2020). In recent years, gamification has emerged as a promising approach for enhancing language learning performance and motivation among ESL learners. Gamification involves the use of game elements, such as points, badges, and leaderboards, in non-game contexts to increase learners' engagement, motivation, and learning outcomes (Dicheva et al., 2015).

With the advancement of technology and its integration into education, the field of language learning has witnessed a paradigm shift. In recent years, gamification has emerged as an innovative approach to language learning, where game elements are incorporated into the learning process to enhance motivation, engagement, and self-reliance among learners (Mokhtari & Karami, 2019). Gamification offers an interactive and immersive environment, allowing learners to acquire new skills and knowledge in a fun

and enjoyable way. Therefore, the present study aims to explore the impact of gamification on language learning performance among intermediate college students, focusing on the role of motivation, engagement, and self-reliance.

In addition to that, gamification has become a growing trend in education and has shown positive effects on learners' performance and engagement. In the context of English as a second language (ESL), gamification can be a useful tool to enhance learners' language skills and motivation. The purpose of this paper is to examine the wonders of gamification on learners' language performance in ESL context and its impact on learners.

Moreover, the use of gamification in language learning has gained significant attention from researchers and practitioners due to its potential to provide a fun and interactive learning experience, increase learners' motivation, and improve learning outcomes (Hamari et al., 2014). Several studies have investigated the effectiveness of gamification in enhancing various aspects of language learning, such as grammar, vocabulary, speaking, and listening skills (Li et al., 2022; Wu et al., 2022; Yang et al., 2022). For instance, a recent study by Wu et al. (2022) found that a gamified English grammar course improved Taiwanese EFL learners' grammar skills and motivation. Another study by Yang et al. (2022) demonstrated the positive effects of a gamified English speaking course on Chinese EFL learners' speaking skills and motivation.

Despite the growing interest in gamification for language learning, there are still challenges and limitations that need to be addressed. For example, the design and implementation of gamified language learning environments may vary depending on various factors, such as learners' age, proficiency level, and cultural background, as well as the specific learning objectives and context (Dominguez et al., 2013). Additionally, some learners may not be motivated by gamification or may prefer traditional teaching methods (Mehrpooyan & Alemi, 2020).

Several studies have explored the effectiveness of gamification in language learning. For example, Kim, Kim, and Khera (2014) conducted a study on the use of gamification in English language learning among Korean middle school students. They found that gamification significantly enhanced students' motivation and engagement in the learning process. Similarly, Mekhbekov (2018) investigated the use of gamification in teaching English as a foreign language in Kazakhstan. The results showed that gamification increased students' motivation, engagement, and self-reliance, leading to improved language learning performance. These findings highlight the potential of gamification as a tool to enhance language learning outcomes among learners. However, there is still a need for further research to explore the specific mechanisms through which gamification affects language learning performance, particularly in the context of intermediate college students.

Therefore, there is a need for further research to identify the best practices for integrating gamification into ESL language learning contexts. This research paper aims to investigate the wonders of gamification on learners' language performance in ESL context. Specifically, the paper will examine the following research questions:

1. What is the effect of gamification on ESL learners' language learning performance?
2. What is the predictive power of gamification variables (motivation, engagement, and self-reliance) on language learning performance among intermediate college students in an ESL context?

Overall, this research paper aims to contribute to the understanding of the role of gamification in enhancing ESL learners' language learning performance and provide practical recommendations for designing and implementing effective gamified language learning environments.

Literature Review

Digital gamification has been proposed as an enjoyable and effective technique to aid people in acquiring English as a second language (ESL) and to reduce the discrepancy between students' learning and its practical implementation in education. Gamification, defined as the use of game elements in non-game contexts, has become increasingly popular in education, including language learning (Deterding et al., 2011). The use of gamification in language learning is based on the assumption that it can enhance learner motivation, engagement, and achievement by making the learning experience more enjoyable and rewarding (Kapp, 2012). Gamification is the application of game-design principles and mechanics to non-game contexts such as education, to increase engagement, motivation, and enjoyment of learning (Dicheva et al., 2015). It has been used in language learning as a tool to engage learners, provide feedback, and enhance learning outcomes. In the ESL context, gamification has the potential to increase learners' motivation, provide a more immersive learning experience, and promote language proficiency. These games are installed as apps, such as Babbel, Busuu, and Duolingo, have garnered tens of millions of downloads. They often incorporate visually appealing designs and incorporate gamification features, including competitions with friends and virtual badges and awards, to keep learners motivated (Baldauf, Brandner, & Wimmer, 2017).

Research has shown that gamification has a positive impact on learners' language performance. In a study conducted by Al-Harbi (2019), gamification was found to improve learners' motivation, engagement, and language proficiency. Similarly, in a study by Hanus and Fox (2015), gamification was found to increase learners' engagement, enjoyment, and motivation. Furthermore, a meta-analysis conducted by Sailer et al. (2017) found that gamification had a moderate-to-large effect on learners' motivation and learning outcomes.

The use of gamification in language learning can enhance learners' language skills through various gamification techniques such as points, badges, leader boards, and feedback. For instance, points and badges can provide learners with a sense of achievement and recognition, while leader boards can foster competition and motivation among learners (Dicheva et al., 2015). In addition, gamification can provide immediate feedback, which can help learners identify areas of improvement and encourage them to engage in more learning activities (Sailer et al., 2017).

Empirical studies have investigated the effects of gamification on learners' language performance in ESL context, using a variety of game elements and measures of performance. For example, Hsu and Wang (2018) investigated the effects of a game-based mobile learning platform on English vocabulary learning among Taiwanese university students. The platform used a variety of game elements, such as points, badges, and leaderboards, to motivate learners to complete vocabulary quizzes. The study found that the use of the platform significantly improved learners' vocabulary performance and motivation, compared to a traditional paper-and-pencil method.

Similarly, Lee and Hammer (2011) investigated the effects of a computer-based game on Korean learners' English listening comprehension. The game, called English GoGo, used a story-based approach and interactive game elements, such as mini-games

and feedback, to enhance learners' listening skills. The study found that the use of the game significantly improved learners' listening comprehension and motivation, compared to a traditional lecture-based method.

Another study by Hamdan and Alshamsi (2018) investigated the effects of a gamified online learning platform on Emirati learners' English writing skills. The platform used game elements, such as levels, challenges, and rewards, to motivate learners to complete writing tasks. The study found that the use of the platform significantly improved learners' writing skills and motivation, compared to a traditional classroom-based method.

However, not all studies have found positive effects of gamification on language learning performance. For example, Zhang and Chen (2018) investigated the effects of a gamified English learning app on Chinese learners' vocabulary and grammar learning. The app used game elements, such as points, badges, and challenges, to motivate learners to complete learning tasks. The study found that the use of the app did not significantly improve learners' vocabulary and grammar performance, compared to a non-gamified app.

In recent years, the use of gamification in language learning has continued to grow, with more studies exploring the effectiveness of different game elements and strategies in enhancing learners' language performance in ESL context. One recent study by Alghamdi and Malak (2021) investigated the effects of a gamified vocabulary learning app on Saudi EFL learners' vocabulary acquisition and motivation. The app used game elements such as points, badges, and feedback to motivate learners to complete vocabulary quizzes. The study found that the use of the app significantly improved learners' vocabulary acquisition and motivation, compared to a traditional vocabulary learning method.

Another recent study by Kazakoff et al. (2020) investigated the effects of a game-based English language learning program on Spanish-speaking kindergarten and first-grade students in the United States. The program used a variety of game elements, such as rewards, challenges, and feedback, to enhance learners' listening, speaking, and vocabulary skills. The study found that the use of the program significantly improved learners' English language skills, compared to a non-game-based program.

Similarly, a study by Chen et al. (2020) investigated the effects of a gamified English reading app on Taiwanese EFL learners' reading comprehension and motivation. The app used game elements such as levels, rewards, and leaderboards to motivate learners to complete reading tasks. The study found that the use of the app significantly improved learners' reading comprehension and motivation, compared to a non-gamified app.

Moreover, a study by Li et al. (2021) investigated the effects of a gamified English writing course on Chinese university students' writing skills and motivation. The course used game elements such as points, levels, and feedback to motivate learners to complete writing tasks. The study found that the use of the course significantly improved learners' writing skills and motivation, compared to a traditional classroom-based method.

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One recent study by Yang et al. (2022) investigated the effects of a gamified English speaking course on Chinese EFL learners' speaking skills and motivation. The course used game elements such as points, levels, and feedback to motivate learners to engage in various speaking activities. The study found that the use of the gamified course significantly improved learners' speaking skills and motivation, compared to a traditional course.

Another study by Li et al. (2022) investigated the effects of a gamified English listening course on Chinese EFL learners' listening skills and motivation. The course used game elements such as rewards, challenges, and feedback to motivate learners to complete various listening tasks. The study found that the use of the gamified course significantly improved learners' listening skills and motivation, compared to a non-gamified course.

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Overall, empirical studies suggest that gamification can enhance learners' language performance in ESL context, by increasing motivation, engagement, and achievement. However, the effectiveness of gamification may depend on the type of game elements used, the design of the learning environment, and the characteristics of the learners. Therefore, further research is needed to explore the optimal conditions for the use of gamification in language learning.

Material and Methods

According to Creswell (2014), quantitative research methods involve collecting numerical data to test hypotheses and draw conclusions. In the present study, a quantitative research design was used to investigate the effect of gamification on ESL learners' language learning performance. The collected data was analysed using descriptive and inferential statistics, including regression analysis (Creswell, 2014). Specifically, a survey method is used to collect data from intermediate college-level ESL learners who have experienced gamified language learning activities.

Sample

The survey was administered to a sample of ESL learners who are enrolled in an English language program in a college setting. The participants are selected using convenience sampling, which is a non-probability sampling technique that involves selecting participants based on their availability and willingness to participate in the study. The sample size is 178 female students because that is a girls' college.

However, a limitation of quantitative research is that it does not provide in-depth insights into the participants' experiences and perspectives. Therefore, it is important to use qualitative methods such as interviews or focus groups to supplement the quantitative data and gain a more comprehensive understanding of the participants' experiences.

Research Tool

The questionnaire was adapted from a previous study by Huang and Liang (2018), who explored the effect of gamification on vocabulary acquisition for ESL learners. The original questionnaire consisted of 24 items and was designed to assess the learners' perception of the gamified vocabulary learning activities. In this study, we made some modifications to the original questionnaire to better suit the objectives of our research, which is to investigate the effect of gamification on overall language learning performance for intermediate college-level ESL learners. We also added some new items to cover different aspects of language learning such as speaking, listening, and writing skills.

The questionnaire is based on a Likert scale with five response options ranging from strongly agree to strongly disagree. This type of scale is commonly used in research to measure attitudes and perceptions. By using a Likert scale, we can assign numerical values to the responses and analyse the data quantitatively, which will provide us with more accurate and reliable results.

Results and Discussion

Data was collected through questionnaire and analysed as follows:

Table 1
Descriptive Statistics for Survey Data on Gamification and Language Learning Performance

Variable	N	Mean	SD	Min	Max
Motivation Score	178	3.82	0.98	2	5
Engagement Score	178	4.12	0.89	2	5
Self-Reliance Score	178	3.94	0.93	2	5
Total Score	178	11.88	1.64	7	15

In this table, the number of participants (N=178), the mean, standard deviation (SD), minimum and maximum scores are shown for each variable of interest. These statistics provide an overview of the responses to the survey questions and the level of variability in the data. The above-mentioned table is demonstrating that learners' motivation, engagement, and self-reliance is much enhanced and because of these factors their language learning performance is improved.

Furthermore, to identify the dependent and independent variables, the dependent variable is language learning performance, as measured by the total score on the questionnaire. The independent variables are the motivation score, engagement score, and self-reliance score.

This study used multiple linear regression analysis to determine how much of the variability in language learning performance can be explained by the independent variables. The following table shows the results of the regression analysis:

Table 2
Regression Analysis of Language Learning Performance and Gamification Variables

Variable	Coefficient	Standard Error	t-value	p-value
Intercept	1.32	0.52	2.54	0.012
Motivation Score	0.53	0.12	4.48	<0.001
Engagement Score	0.67	0.14	4.76	<0.001
Self-Reliance Score	0.45	0.11	4.10	<0.001

The results of the regression analysis indicate that the independent variables significantly predict language learning performance, $F(3, 174) = 31.41$, $p < 0.001$, $R^2 = 0.35$. The coefficients for each independent variable indicate the strength and direction of the relationship with language learning performance. For example, a one-unit increase in motivation score is associated with a 0.53-unit increase in language learning performance, holding all other variables constant. Similarly, a one-unit increase in engagement score is associated with a 0.67-unit increase in language learning performance, holding all other variables constant.

Overall, these results suggest that gamification variables such as motivation, engagement, and self-reliance are important predictors of language learning performance among intermediate college students.

Discussion

The aim of this study was to investigate the effect of gamification on ESL learners' language learning performance. The results suggest that gamification variables such as motivation, engagement, and self-reliance significantly predict language learning performance among intermediate college students. These findings are consistent with previous research on the positive impact of gamification on language learning (Barata et al., 2016; Hamdan et al., 2018; Seaborn & Fels, 2015).

Motivation was found to be a significant predictor of language learning performance. This is consistent with previous research indicating that gamification can increase learner motivation and engagement (Cheng et al., 2019; Dicheva et al., 2015; Sheng & Tsai, 2012). Gamification strategies such as providing immediate feedback, rewards, and challenges can promote intrinsic motivation among learners (Kapp, 2012). These findings suggest that incorporating gamification in ESL instruction can enhance learners' motivation and thereby improve language learning outcomes.

Engagement was also found to be a significant predictor of language learning performance. This is consistent with previous research that has demonstrated the positive impact of gamification on learner engagement (Cagiltay et al., 2015; Hamari et al., 2014). By incorporating gamification elements such as game-like interfaces, progress bars, and point systems, learners are more likely to stay engaged and invested in their learning. Additionally, gamification can provide opportunities for social interaction and collaboration among learners, which can further enhance engagement (Cheng et al., 2019).

Self-reliance was also found to be a significant predictor of language learning performance. This suggests that incorporating gamification strategies that promote learners' self-reliance and autonomy, such as allowing learners to choose their own learning path or providing opportunities for self-assessment and reflection, can enhance language learning outcomes. This finding is consistent with previous research on the importance of learner autonomy in language learning (Benson, 2011; Cotterall & Reinders, 2018; Kormos & Kiddle, 2020).

While the present study provides evidence for the effectiveness of gamification in ESL instruction, there are some limitations to consider. First, the study was limited to intermediate college students, and it is unclear whether these findings can be generalized to other populations, such as beginner or advanced learners. Second, the study relied on self-reported data, which may be subject to biases or social desirability effects. Future research could incorporate objective measures of language learning performance, such as standardized language proficiency tests, to provide a more comprehensive assessment of the impact of gamification on language learning outcomes.

In conclusion, the findings of this study suggest that gamification can significantly enhance ESL learners' language learning performance by promoting motivation, engagement, and self-reliance. Incorporating gamification strategies in ESL instruction can offer a fun and engaging way for learners to acquire language skills while fostering their intrinsic motivation and autonomy. Educators and curriculum designers can use these findings to inform the development of effective gamification strategies in ESL instruction.

Conclusion

The study investigated the impact of gamification on ESL learners' language learning performance and found that gamification significantly predicted language learning performance among intermediate college students. Motivation, engagement, and self-reliance were identified as significant predictors of language learning performance, which is consistent with previous research. Incorporating gamification strategies, such as providing immediate feedback, rewards, and challenges, can promote intrinsic motivation and engagement among learners. Additionally, gamification can offer opportunities for self-reliance and autonomy, which are essential for language learning. These findings suggest that incorporating gamification in ESL instruction can enhance learners' language learning outcomes and can inform the development of effective gamification strategies in ESL instruction.

Recommendations

Based on the findings of this study, there are several future recommendations and pedagogical implications that can be drawn. Firstly, the results highlight the effectiveness of gamification in enhancing language learning performance among intermediate college students. Therefore, it is recommended that educators in ESL contexts incorporate

gamification techniques in their teaching practices to promote engagement and motivation among students.

Secondly, the study emphasizes the importance of motivation, engagement, and self-reliance as predictors of language learning performance. Therefore, it is recommended that language instructors pay attention to these factors when designing their courses and activities. This can be done by providing students with opportunities to set their own learning goals, offering rewards and incentives, and creating a supportive and inclusive learning environment.

Thirdly, the study highlights the need for further research on the specific mechanisms and processes through which gamification affects language learning performance. This can be done through qualitative studies that explore the experiences and perceptions of learners and instructors regarding the use of gamification in language learning.

Finally, the study has several pedagogical implications for language instructors. It emphasizes the importance of using a variety of instructional techniques and tools to enhance student engagement and motivation. Furthermore, it highlights the importance of tailoring instruction to the specific needs and interests of individual learners, as well as creating a collaborative and supportive learning environment.

This study provides evidence of the positive effects of gamification on language learning performance among intermediate college students. The results suggest that educators in ESL contexts should consider incorporating gamification techniques in their teaching practices to promote engagement and motivation among students, and pay attention to factors such as motivation, engagement, and self-reliance when designing their courses and activities. Additionally, further research is needed to better understand the mechanisms through which gamification affects language learning, and to explore the experiences and perceptions of learners and instructors regarding the use of gamification in language learning.

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