GAMIFICATION OF CLASSROOM ACTIVITIES: UNDERGRADUATES' PERCEPTION

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Abstract : Vocabulary exercises are given to help students learn words and to use them correctly. Unfortunately, many students do not realise the benefits of completing these exercises and therefore do not spend time on them. This results in them not having a wide repertoire of words to use in their essays. The main objective of this study was to discover what students thought of gamification and the main problems they faced with it. The study consists of two phases and this article is based on the second phase which was of the qualitative design. The researchers had gamified the activities and exercises given to 39 undergraduate students over a period of 10 weeks. Two game elements were used: leaderboard and rewards. At the end of the intervention, data was collected via a semi structured interview and analysed thematically. The findings showed that many of the students had positive feedback about gamification. Of the two game elements, many students preferred being rewarded. However, only certain rewards motivated them to spend more time on the tasks. The students also realised that the activities had helped them to learn the target vocabulary taught. There were a few reasons why some students found the process of gamification challenging like too many assignments from other modules. This study is significant for instructors who are looking for ways to engage and motivate students and instructors are also made aware of some pitfalls to avoid in the application of gamification in class.

Keywords: gamification; perspectives, undergraduates, vocabulary activities

INTRODUCTION

In recent years, the landscape of education has undergone significant transformation, propelled by advances in technology and a deeper understanding of learning dynamics. Among the most intriguing developments is the rise of gamification - a strategy that applies game design

elements in non-game contexts to enhance user engagement and motivation. This pedagogical approach has garnered substantial interest within educational circles, suggesting potential to reshape traditional learning environments and methodologies (Deterding et al., 2011).

Gamification in education involves integrating elements such as point scoring, leaderboards, badges, and challenges into the learning process. The objective is to foster a more interactive and enjoyable learning experience, thereby increasing student motivation, participation, and ultimately, academic performance (Domínguez et al., 2013). The principles of gamification align closely with established educational theories, such as constructivism and behaviourism, which emphasize active, hands-on learning and positive reinforcement (Gee, 2003).

Recent studies have further validated the benefits of gamification. For example, Sailer and Homner (2020) found that gamified learning environments significantly improved student motivation and performance. Similarly, Caponetto, Earp, and Ott (2021) demonstrated that gamification enhanced student engagement and fostered a deeper understanding of complex concepts in various educational settings.

Research indicates that gamification can lead to significant improvements in various educational outcomes, including increased student engagement, enhanced knowledge retention, and improved critical thinking skills (Hamari et al., 2014). However, the effectiveness of gamification is contingent upon thoughtful implementation, taking into consideration the specific context, learning objectives, and the diverse needs of students.

This journal article focuses on the perspectives of undergraduate students regarding the use of gamification in vocabulary lessons. Understanding students' views is critical, as their perceptions can significantly influence the effectiveness and acceptance of gamified learning experiences. Through a detailed analysis of student feedback and experiences, this study aims to provide insights into how gamification can be optimally designed and implemented to meet the needs and preferences of undergraduates. As higher education continues to integrate technology-driven pedagogies, examining the nuanced responses of students to these innovations becomes increasingly important. This study not only contributes to the growing body of literature on gamification in education but also provides practical implications for educators aiming to enhance the vocabulary learning experience for undergraduates.

International students aspiring to pursue higher education in English-speaking countries often face the challenge of meeting the required proficiency levels in standardized tests such as the International English Language Testing System (IELTS). Many of these students enrol in intensive English programs, as in the researchers' institution, designed to rapidly enhance their language skills. This study focuses on a three-month intensive English course aimed at preparing such students for the IELTS exam. Despite the rigorous nature of the program, one persistent issue remains: many students exhibit a significant weakness in vocabulary acquisition, which is crucial for success in various components of the IELTS, particularly Writing Task 1. Fitria (2024) conducted a qualitative library research focused on the IELTS writing Task 1 and it was recommended that a variety of vocabulary should be used and ample practice which would improve students' ability to answer the question.

In a study conducted by Ahmadi and Mansoordehghan (2015), the researchers concluded that students were able to improve on their IELTS task 1 scores after ample practice and samples given. The students showed more confidence in answering questions.

Vocabulary acquisition is a foundational element of language learning, directly impacting a student's ability to understand and produce language effectively (Nation, 2001). In the context of IELTS, a robust vocabulary is essential not only for comprehension but also for expressing ideas clearly and accurately in the writing tasks. Writing Task 1, which requires students to describe visual data, demands a specific set of vocabulary to accurately convey comparisons, trends, and data points. Unfortunately, many students in the intensive English course struggle

with this aspect, often due to an inadequate focus on targeted vocabulary learning. According to a study conducted by Musa Nushi and Mahshid Razdar (2021), students stated they felt they were not taught enough vocabulary to answer task 1. However, in the teacher's interview, it was discovered that the vocabulary was taught but students were not given a handout of the vocabulary. This would not have been an issue if instructors repeatedly reminded the students of the use of these words. Students would then have taken the teaching and learning of the vocabulary seriously.

A key issue contributing to this weakness is the insufficient time students dedicate to vocabulary exercises. Traditional vocabulary learning methods, which may involve rote memorization and repetitive drills, often fail to engage students, leading to poor retention and lack of application in real-world contexts (Schmitt, 2008). As a result, students may find themselves underprepared when tasked with writing assignments that require precise and varied vocabulary like in IELTS Academic Writing Task 1.

To address these challenges, the course incorporated gamified vocabulary activities aimed at motivating students and enhancing their learning experience. Gamification, the practice of applying game-like elements to non-game contexts, has shown promise in increasing engagement and motivation in educational settings (Deterding et al., 2011). By integrating elements such as points, badges, leaderboards, and interactive challenges, the program sought to make vocabulary learning more engaging and enjoyable, encouraging students to spend more time and effort on these crucial exercises.

Recent research supports the effectiveness of gamified learning activities. For instance, Yildirim (2019) reported that gamification significantly improved vocabulary acquisition and retention among language learners. Additionally, Lo and Hew (2021) found that gamified vocabulary exercises enhanced both motivation and performance, particularly in intensive learning environments.

This study examines the perspectives of undergraduate students on the effectiveness of these gamified vocabulary activities. By understanding their views, we can gain insights into how such innovative approaches can be refined and implemented to better support vocabulary acquisition, particularly for the demanding requirements of the IELTS Writing Task 1. This investigation aims to contribute to the broader discourse on language learning strategies and the role of gamification in enhancing educational outcomes for international students.

LITERATURE REVIEW

Gamification, the application of game-design elements and principles in non-game contexts, has gained significant traction in educational settings over the past decade. Its potential to enhance student engagement, motivation, and learning outcomes has been widely acknowledged (Deterding et al., 2011; Hamari et al., 2014).

The theoretical underpinnings of gamification in education are rooted in several educational and psychological theories. Constructivist theories, such as those proposed by Vygotsky, emphasize the importance of active learning and social interaction (Vygotsky, 1978). Behaviourist theories, notably Skinner's operant conditioning, highlight the role of reinforcement and rewards in learning (Skinner, 1953). Gamification leverages these principles by incorporating rewards, feedback, and interactive elements to create a motivating learning environment.

A substantial body of research indicates that gamification can significantly enhance student engagement and motivation. Sailer and Homner (2020) conducted a meta-analysis and found that gamification positively influences student motivation and performance. This is

particularly relevant in vocabulary learning, where traditional methods often fail to engage students effectively.

Language learning, especially vocabulary acquisition, has been a fertile ground for gamification research. Gamified learning environments have been shown to improve vocabulary retention and application. For instance, Yildirim (2019) reported that gamification significantly enhanced vocabulary acquisition and retention among language learners. The interactive and competitive nature of gamified activities can make vocabulary learning more enjoyable and less monotonous, leading to better outcomes.

For international students preparing for the IELTS exam, a robust vocabulary is crucial, particularly for Writing Task 1, which requires the description of visual data using precise and varied vocabulary. However, many students struggle with vocabulary acquisition due to limited engagement with traditional learning methods. Research by Lo and Hew (2021) suggests that gamified vocabulary exercises can enhance motivation and performance, making them particularly useful in intensive English programs.

While the benefits of gamification are well-documented, its implementation is not without challenges. Effective gamification requires thoughtful design to ensure that game elements align with learning objectives and do not overshadow educational content (Dicheva et al., 2015). Additionally, the diverse backgrounds and learning preferences of students must be considered to create inclusive and effective gamified activities.

Recent studies have further explored the nuances of gamification in education. Caponetto, Earp, and Ott (2021) conducted a comprehensive review and highlighted the potential of gamification to enhance engagement and comprehension in various educational contexts. Their findings underscore the importance of tailoring gamified activities to specific learning goals and student needs.

Moreover, the integration of technology in gamification has opened new avenues for personalized and adaptive learning experiences. For example, Wang et al. (2019) demonstrated that adaptive gamified systems, which adjust difficulty and provide personalized feedback, can significantly improve learning outcomes.

Literature consistently supports the effectiveness of gamification in enhancing student engagement, motivation, and learning outcomes, particularly in vocabulary acquisition for language learners.

The research objectives of the qualitative phase of this study are:
1. To explore participants' perspectives on the effects of gamified vocabulary activities.
2. To explore participants' perspectives of gamified vocabulary activities on their motivation and engagement levels.

The research questions are as follow:
1. How do undergraduate students perceive the effectiveness of gamified vocabulary activities?
2. How do undergraduate students perceive the impact of gamified vocabulary activities on their motivation and engagement levels?

METHODOLOGY

This research is part of a comprehensive mixed-method study designed to explore and evaluate the effects of gamification in educational settings. The study comprises two distinct components: a quantitative approach, which involves the systematic collection and statistical analysis of numerical data, and a qualitative approach, which involves the collection and

thematic analysis of narrative data to provide deeper insights into participant experiences and perceptions. This article focuses specifically on the qualitative component of the study.

There was a total of 57 participants in this study and they were randomly divided into 3 groups at the beginning of the semester. The groups were randomly assigned as two experimental groups (*n=39)* and a control group (*n=18).* Each group was provided with a series of exercises delivered both in-class and through the institution's Learning Management System (LMS) platform. The exercises were designed to incorporate gamification elements, with the aim of enhancing student engagement and motivation. Students were given a one-week period to complete the activities. Upon completion, feedback and correct answers were provided, allowing students the opportunity to improve their scores through repeated attempts, with a maximum of five attempts allowed per activity.

Points were awarded based on the number of attempts and the accuracy of the answers. These points could either be exchanged for tangible rewards or displayed on a public leaderboard, thereby introducing competitive and reward-based elements into the learning process. Both experimental groups were exposed to both types of gamification elements during the course of the study to ensure a balanced evaluation of each method's effectiveness. The control group was not given any points but were encouraged to complete the vocabulary activities given in class and via LMS.

The experimental phase of the study spanned a duration of eight weeks. During the initial four weeks, Experimental Group A participants' (*n=19)* points were displayed on a leaderboard, fostering a competitive environment, while Experimental Group B participants (*n=20)* were allowed to exchange their points for rewards, thereby focusing on individual incentives. In the subsequent four weeks, the gamification elements were swapped between the groups. This crossover design ensured that all participants experienced both gamification strategies, allowing for a comprehensive comparison of their impacts.

The rewards that were available for students to exchange with points were; additional days to submit assignments, extra time to complete class work and assessments, and additional 5 marks added to the final score in the semester.

At the conclusion of the experimental phase, the study transitioned into its qualitative phase. In this phase, semi-structured interviews were conducted with the students to gather in-depth insights into their perceptions and experiences regarding the gamification practices employed during their English language classes. The interviews were recorded and then transcribed by the authors. Each students' interview responses were coded, then analysed thematically to answer the research questions. The coding and thematic analysis of the transcribed data was based on the suggested model by Braun et al. (2006). Both authors reviewed the data and agreed on the codes.

The themes were reviewed and refined to ensure reliability and validity. The qualitative data collected aimed to capture the nuances of student engagement, motivation, and overall satisfaction with the gamified learning activities. This approach provided a rich, contextual understanding of how gamification influences the learning process from the students' perspective.

All the experimental group participants of this study were interviewed by the first author via zoom. The interviews were recorded. Participants were informed about the interview and that their participation was voluntary, and confidentiality and privacy was ensured. The participants and researcher negotiated the timing and met online. Each participant took an average of 20 to 30 minutes, and all the participants were asked some preliminary questions about language learning before moving into the questions pertaining to the use of gamification as was practiced in their class.

FINDINGS AND DISCUSSION

The thematic codes from the analysis are summarised in the table below:

Table 1: Summary of thematic analysis

Themes	Gamification	Motivation	Engagement	Game Elements	Independent Learning
Codes	Interesting New More gamified modules	Competition Points Confidence	Multiple tries Interest Enthusiasm Participation	Leaderboard Rewards	Own study Revision No time

Research Question 1

How do undergraduate students perceive the effectiveness of gamified vocabulary activities?

This research question is linked to two themes which are gamification and game elements.

Gamification

Many of the participants (*n=24*) were very positive of the gamification of activities that were used in the classroom. The following are some of the comments given by the experimental group participants:

> MT + 5   *It was a great experience also I would say that this method of learning should be conducted in real life*

> XY +16   *Honestly, I enjoyed the gamified activities as it helps us not only with our language skills but also nourishes many other skills*

> FG +5   *It was okay. I found the graphs hard and didn't feel like doing them, but the scoreboard motivated me to finish them.*

> A + 12   *It was very fun and it can help me to memorise the words more easily.*

There were also participants who found that of the two game elements used, rewards were more beneficial. However, this only came about when the participants were prodded further about the reasons for attempting and completing the exercises.

> XR + 7   *Although the rewards were not interesting, they were there. I don't like the Leaderboard because my English is not good and I knew I will not be able to compete with my classmates.*

> T +12   *I found the Leaderboard more motivating but I wanted to collect points to exchange for the late submission reward.*

YE -4	*I usually don't pay attention to the leaderboard. I prefer rewards. The reward with extension was good, also the 5 marks but too many points were needed*
HTY + 5	*I prefer rewards especially the 5 marks. Not interested in food as rewards because can buy for myself…*
A3 + 21	*I preferred the 5-mark reward*
RQ + 4	*I preferred the rewards… 5 marks … because my English not good*
I + 26	*I preferred the rewards…. The extension …to get 5 marks too much work to do*

This is in line with Ennis' (2018 & 2020) findings which suggests that students were eager to put in the extra effort to gain the extrinsic reward which was extra points on pop quiz. According to Pereira et al. (2021), in their study on what students perceived to be attractive rewards, many participants rated extra marks to be the most attractive. The findings in this study corroborate with the findings of Pereira et al. However, there were a few students who felt that too much was required of them to do to get the reward as mentioned by I + 26 who stated that although rewards was preferred, too much work had to be done to get the 5 marks. So the student worked towards getting an extension on handing assignments instead.

Game elements

Many participants found this strategy of teaching to be interesting. They found it different from the normal activities given in other classes, which were traditional in nature. This group of participants were mostly of the internet generation who preferred playing video games and digital games. They were therefore very comfortable with game elements and the challenges they faced while completing the gamified activities. Lampropoulos and Sidiropoulos (2024) conducted a longitudinal study on more than 1000 students' perspectives comparing online, traditional and gamified learning and they found that among the benefits, students found that they found learning more enjoyable. Dichev and Dicheva (2017) also stated in their systematic literature review that students across various educational contexts found that gamification made their learning experience interesting and enjoyable.
Some of the responses from the respondents of this study are as follows:

H + 12	*it (gamification) is interesting if the rewards are interesting or more substantial.*
JTY -3	*Gamification should be added to other skills to make it more interesting.*

However, there were some students who were of higher proficiency who were not impressed by the rewards and thus found gamification as carried out in this study to be uninteresting.

A1 + 7	*Gamification not thrilling enough. The stakes were too low and the rewards not high. Assessments were easy.*
Q +2	*Gamification would have been better if face to face*
H2 + 12	*Gamification would have been more interesting if the rewards were good.*
ZY2 +12	*Not all rewards were motivating*

> *M2 + 4   More interested in completing work which contributed directly to grades*

Although these comments show that students with higher proficiency perceived the gamification of the activities for their class was not interesting enough, the researcher found that they were motivated by the element of competition and the reward offered. In addition, the type of reward was important, and this is in line with the findings of Pereira et al. (2021). They found that students preferred tangible rewards like vouchers, extra consultation hours, and even just a meet up with lecturers outside of class.

In a metanalysis conducted by Bai and Wang (2020), they found that some participants in the studies they analysed were reported to find tangible rewards unimportant as attainment of the awards or badges or pints to be fun. On the contrary there were students who found non-tangible rewards to be unmeaningful. They requested badges, for example, to be exchanged with tangible rewards.

Independent learning

Another theme was that at least half of the students interviewed found that although the activities were enjoyable and they knew the exercises helped them, they were not motivated enough to look for more exercises on their own, to complete. The reasons were that they had other assignments to complete, and time was limited. This was especially so because the activity which required students to search for their own task 1 to complete were towards the end of the semester, a crucial time when most other modules required students to submit their assignments.

Although the participants could see the connection between the exercises and graph descriptions, they still did not feel motivated to learn on their own. This was supported by the interview responses.

> *D + 17: Lazy (in response to the question; Why didn't you do the last report)*

This participant had stated that he completed the exercises in the first few weeks because he wanted to learn the vocabulary. Although he knew that the exercises would help him, he did not complete the activity which required him to look for his own questions and hand in his answer.

Another participant had also commented that there was too much other work to be completed from other modules.

> *KH + 12 : Really helpful, but too many other work to complete. Was tough for me to complete the work. I had to choose between this module and other modules.*

According to Palaniappan and Noor (2022), they found in their study on the use of online gamification on undergraduates, that gamification helped students to improve on their self-directed study. However, the study was only carried out for five weeks. The researchers of this study are of the opinion that a longer period may have caused students to be fatigued as there were other assignments to be completed.

Research Question 2

What impact do gamified vocabulary activities have on the motivation and engagement levels of undergraduate students in an Intensive English course?

The themes that were associated to this research question are motivation and engagement. From the responses of the students, the researchers concluded that although participants were tight on time, due to other assessments and assignments, they mainly found the gamified activities motivated them and increased their engagement in the learning process. Some of the responses are given below:

A1 +7	*the rewards are more motivating, although not great, I get something in return*
I(2) + 26	*gamification is motivating; this way (gamification) is more fun*
TLX + 13	*wanted more points so (I) did the exercises*
SA +15	*Gamification can make activities more fun and encourage me to do more work*
T +12	*The leaderboard was motivating*

This finding supports a majority of the studies conducted such as Iaramenko, 2017; Hong and Masood, 2014; Zainal, 2023; and as described in the systematic reviews conducted by Manzano-León et al., 2021 and Nah et al, 2014. These studies and reviews claim that gamification in general helps in motivating students in their learning experience. However, there were some studies that found engagement did not improve with gamification. Xiao (2022) studied articles that mentioned the negative effects of gamification and one of the findings is that introverted students did not find gamification advantageous because they were bored with the rewards offered which were badges. But this could be because the study in question was conducted in class among all the students. Whereas in the current study the activities were mostly individually completed. This could possibly mean that individual work allowed students to be less self-conscious in attempting to answer the questions in the exercises. Another factor could be that the rewards were more meaningful for the majority of the students in this study, especially the 5-mark reward.

According to Rivera & Garden (2021), negative results linking engagement to gamification could be the consequence of there being no challenge, fun or element of choice. Some of the participants' views support this.

A1 +7	But gamification was not thrilling enough. The stakes were too low and the regards were not high. Points should not be too high.
H + 12	Gamification would be interesting if the rewards are good.
TLX +13	Only one reward was motivating.
D + 17	Only one reward was motivating
ZY +12	Not all rewards were motivating
M + 4	Leaderboard not fun because no names and rewards could have been better.
SA + 15	I felt the rewards were not beneficial
Y+ 9	I play online games but I found this to be childish

The responses above were mostly given by students whose scores had increased by more than 50% from pre-test to post-test. Although these students said that they were not engaged by the game elements used in this study, the researchers found that they were interested in the 5-mark reward. This came out through deeper questioning. The researchers are of the opinion that students do not realise that due to the reward of 5 marks, they were focused on learning the words in the activities. The vocabulary was repeated in context in cross word puzzles, matching of meanings to words or phrases and in exercises which required students to fill in the blanks of sentences correctly. The researchers are of the opinion that these words were learnt subconsciously while doing the activities as their intention was to gain the points for the exchange. According to Nurfalah, (2020), meaningful vocabulary in context can lead to words moving from short term to long term memory.

LIMITATIONS

This quasi-experimental study was conducted over a short period of time which is less than 3 months. This could affect the results obtained because of the novelty of the students' experience. The short period also meant multiple activities students needed to complete in this course apart from the other modules which had assignments or exercises which needed to be completed and since these activities did not contribute to the grades and were not mandatory, they skipped many of the activities. Most of the time by the end of the semester, students are busy trying to complete other assignments.

CONCLUSION AND RECOMMENDATIONS

The aim of this study was to explore the effects of the gamification used in the learning of vocabulary through the use of two game elements: leaderboards and rewards from the participants' perspectives. Participants generally found gamification interesting and useful in learning vocabulary. that the use of the game elements were motivating and engaging, and many preferred the final reward of 5-marks.

Despite the limitations above the research contributes to the literature in three areas. First, there is empirical evidence supporting the motivational impact of tangible rewards in educational settings which aligns with previous research which indicates that rewards can enhance student motivation and engagement, especially in this case of 5 marks which can be easily implemented by educators.

Secondly, the study supports and extends motivational theories such as Self-Determination Theory (SDT), which emphasizes the role of extrinsic motivators (like rewards) in fostering student engagement and learning. By demonstrating the motivational power of a 5-mark reward, this research provides concrete examples of how extrinsic rewards can be effectively utilized in educational settings.

Finally, the findings contribute to the design of gamified learning environments by providing evidence from the users on which gamification elements are most effective. This can guide future research and development of gamified educational tools, ensuring they are based on proven motivational strategies.

For future research it is recommended that studies could be conducted to investigate which gender will benefit more. Studies on gamification and gender are few. One of the problems in this research is that the number of students according was not equal. Another area that is under-researched is the effect of gamification on different proficiency levels. Again, in this study most of the students were of average proficiency level so effects of proficiency levels were not

studied. Another very important area for further research is on instructors' perspectives. They are the ones who determine the success of gamification to a certain extent since it is important for gamification to be catered to the learning outcomes and the students involved.

Clearly gamification is generally found to be beneficial by students but there are some issues that need to be resolved like duration of gamification and the amount of work that students are expected to complete which can remove the fun from the application of gamification.

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