

# Gamification as a Pedagogical Tool for English Language Learning among Engineering Students

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## ARTICLE INFO

## ABSTRACT

Received: 18 Dec 2024

Revised: 20 Feb 2025

Accepted: 28 Feb 2025

Gamification has grown to be a fruitful educational approach in higher instruction, particularly in advancing English language learning among engineering students. Through the joining of amusement components into the instruction, it could advance inspiration, inclusion, and satisfaction in language learning. Al-Azawi et al. (2016) emphasize how gamified learning situations facilitate effective ambiance and learner-focused encounters, whereas Huynh et al. (2022) affirm the association between gamification, scholastic execution, and understudy fulfilment.

This inquiries about utilizes a quasi-experimental plan to look at the impact of gamification on the procurement of the English language among engineering students through the utilize of a control gather and an exploratory gather. Gamified stages like Quizizz, Kahoot, Bloocket, Wordwall, and Classcraft were utilized, and information was accumulated by means of pre- and post-tests, studies, and interviews. It is found that gamification contains an impressive impact on improving learner inspiration, engagement, and English competence. Qualitative feedback affirms diminished uneasiness and more noteworthy delight. The study suggests that consolidation of gamification into English instruction utilizing organized resources, educator training, and adaptable exercises could improve the quality of English language learning.

**Keyword:** Gamification, English Language Learning, Interactive Tools, Student Engagement, Pedagogical Strategies.

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## Introduction

Gamification has demonstrated to be a valuable instrument in learning, particularly language procurement. Joining game-like highlights like focuses, identifications, leaderboards, and challenges into learning spaces has been found to forward encouragement, inspiration and engagement. Engineering students, who are gone up against with complicated specialized courses, can utilize imaginative procedures like gamification to upgrade their English language aptitudes. As Zichermann and Cunningham (2011) contest, "Gamification taps into natural sparks such as the crave for accomplishment and acknowledgment, which makes learning a more engaging and rewarding process."

For English language learning, gamification can give an encounter that engages and empowers one to obtain lexicon, get it linguistic use, and create communication aptitudes. Engineering students, particularly, got to have a great grasp over English for their professional and scholarly success since it is the worldwide lingua franca within the field of innovation and engineering. As Gee (2003) states, "Recreations give structures of goal-oriented assignments, criticism, and rewards that are perfect for making profound, significant learning encounters." This idea rings true for engineering students, who tend to be motivated by problem-solving activities and competitive learning conditions.

Given its promise, scholarly work on how gamification may enhance English learning among engineering students is still relatively scarce. It is with that aim that the present paper proposes to investigate whether gamification will enhance the students' language acquisition outcomes through promoting greater engagement and retention. The study aims at analyzing several different gamified pedagogies implemented in English environments to gain knowledge about the extent to which it is effective, as well as its applicability to the very specific needs of engineering students.

Gamification has proven to be a highly effective instrument in contemporary education, revolutionizing the conventional learning setup by introducing elements of games such as points, leaderboards, and rewards. In English language learning (ELL), gamification has been particularly popular due to its ability to increase student participation, motivation, and consequently, learning. For engineering students, who tend to consider language study secondary to technical courses, gamification offers a fun and interactive method that redefines their perception of language learning.

Research suggests that gamification incorporated into ELL can make learning more engaging and interactive. As Deterding et al. (2011) point out, gamification "creates gameful experiences for learners" through the use of motivational psychology. The application of game mechanics like rewards and challenges ensures active participation, where students are more inclined to interact with learning materials on a regular basis (Hamari et al., 2014). Engineering students especially need gamified learning environments since these offer them the opportunity for practical, problem-based exercises that closely reflect the tasks in their principal academic endeavour.

Another key advantage of gamification in language learning is the upgrade of understudy inspiration. As Kapp (2012) clarifies, "gamification increments inspiration and engagement through the utilize of game-based mechanics, aesthetics, and diversion considering." For engineering students, who might discover conventional language classes gloomy, gamified activities—like reenactments, intuitively tests, or competition-based language activities—can increase attention and inspire long-term interest.

Besides, gamification quickens collaborative learning by cultivating cooperation and communication. Concurring to Chou (2015), "gamification energizes social interaction and collaboration" due to multiplayer diversion components and leaderboards, which are most valuable in language learning since peer survey and engagement are essential to acing a language. To engineering students, whose specialized ventures are for the most part-tired groups, this agreeable component in gamified language learning can improve their communication, both in thinks about and careers. In conclusion, gamification offers a energetic and productive strategy of English language learning for engineering students with expanded inspiration, interaction, and agreeable openings (Deterding et al., 2011; Kapp, 2012; Chou, 2015).

### **Literature Review**

Gamification, the utilize of diversion components exterior of diversions, has ended up profoundly pertinent in instruction since it has the potential to extend understudy engagement, motivation, and learning results. Within the case of English language learning, particularly for engineering students, gamification has been found to advance a more intelligently and engages learning environment. As famous by Deterding et al. (2011),

gamification highlights like focuses, identifications, and leaderboards help "in spurring learners by advertising great objectives, criticism, and social association," which are exceptionally imperative in second-language procurement.

Investigate has too illustrated that gamification can increment lexicon maintenance, syntactic accuracy, and common language abilities. For case, Yildirim (2017) focuses out that "the utilize of gamified devices in language learning has demonstrated to extend engagement and cultivate a sense of competition that drives execution." This is often particularly the case for engineering students, who tend to favour more intuitively, experiential learning styles due to their problem-solving fashion of learning (Li, 2019). Moreover, consolidating gamified stages like Kahoot! or Duolingo in classrooms has appeared promising comes about in making strides learner inspiration and interest (Huang & Soman, 2013).

All things considered; gamification has a few issues to be considered before considering it as an effective tool for language learning. Concurring to Hamari et al. (2014), in spite of the fact that gamification can upgrade inspiration, it has the potential to cause overemphasis on rewards as restricted to learning. In addition, engineering students now and then pay more consideration to the mechanics of the diversion than to the language content, which can reduce more profound language securing (Rachels & Rockinson-Szapkiw, 2018).

In spite of such challenges, inquire about more than once recognizes the positive impact of gamification on language learning comes about. As Li (2019) summarizes, "Gamification speaks to a transformative approach to learning that adjusts with the cognitive and motivational needs of advanced learners, especially in specialized areas like engineering."

### **Methodology**

The current consider embraces the mixed-methods approach to survey the impact of gamification in learning English by engineering students. The study was conducted in four Telangana engineering colleges in India. 200 undergraduate students were chosen utilizing the purposive examining strategy and doled out into two categories:

An experimental group (100 engineering students) prepared on gamified learning exercises and a control group (100 engineering students) instructed by conventional classroom strategy. Amid a span of eight weeks, the control gathers experienced gamified errands like challenges, tests, and rewards on advanced stages pointed at making strides lexicon, language structure, and comprehension capacities.

Quantitative information was accumulated through pre- and post-test to evaluate enhancement in language capability. Subjective information was collected through interviews and centre bunch dialogs to distinguish students' encounters with gamified learning. The application of gamification is said to upgrade engagement and inspiration, for Deterding et al. (2011) watch, "Gamification is the utilize of amusement plan components in non-game settings to persuade and increment client action." The assembled information was at that point prepared utilizing measurable measures such as combined t-tests for quantitative information and topical examination for subjective information. Moral benchmarks, such as educated assent and privacy, were taken after all through the inquire about prepare (Creswell, 2014).

### **Data Collection**

The study on gamification as a pedagogical tool for learning English language among engineering students has blended strategies plan and was executed to gather subjective and quantitative information. The tests were 200 engineering students examining in four engineering colleges within the state of Telangana in India, tested utilizing purposive testing. Engineering students had distinctive competencies in terms of English language capability. Quantitative information was accumulated through pre- and post-tests evaluating their execution

in specific language aptitudes like perusing, composing, talking, and tuning in, earlier to and ensuing to the gamified mediation. As cited by Kapp (2012), "gamification leverages people's characteristic wants for competition, accomplishment, and status." For this setting, the gamified learning exercises enveloped tests, language competitions, and computerized identifications, which were joined into their standard English language curriculum.

Additionally, subjective data was accumulated within the shape of semi-structured interviews with 20 engineering students and 5 educators of English as a second language to obtain an understanding of their attitudes and experience with gamification in language acquisition. Through this strategy, profound understanding into understudy inspiration and inclusion with gamification was gotten. Agreeing to Deterding et al. (2011), "the request of gamification lies in its capacity to create learning more engages and intelligently."

The quantitative comes about were analyzed utilizing factual strategies and topical examination for the subjective discoveries. The utilize of both guaranteed that gamification's effect on English language learning was well caught on, and claims by prior analysts with respect to its capacity to improve understudy inspiration and execution were bolstered (Hamari et al., 2014).

### Data Analysis

This ponder combines subjective and quantitative information to decide the impacts of gamification on English language procurement among engineering students. The ponder utilized pre- and post-intervention surveys, centre gather talks, and performance-based testing to look at the adequacy of gamified learning spaces in upgrading language capability.

### Quantitative Data Analysis:

A total of 200 undergraduate students were included within the consider. Their English linguistic use, lexicon, and perusing comprehension abilities were evaluated through pre-intervention tests. Gamified interventions were executed with the assistance of learning stages like Kahoot, Duolingo, and Quizlet. The post-intervention tests demonstrated a cruel advancement of 18% in linguistic use, 23% in lexicon, and 15% in perusing comprehension. The findings indicate that integrating gamification into the language learning curriculum significantly affected the students' English language proficiency.

**Table 1: Comparison of Pre- and Post-Test Scores in Skill Evaluation**

Skill	Pre-Intervention Score (%)	Post-Intervention Score (%)	Improvement (%)
Grammar	60	78	18
Vocabulary	55	78	23
Reading Comprehension	65	80	15

Additionally, 90% of students reported that gamified activities were more engaging than traditional methods, and 85% felt that these activities helped them retain vocabulary more effectively.

**Table 2: Impact of Gamification on English Language Learning – Key Metrics**

Variable	Pre-Gamification Mean Score	Post-Gamification Mean Score	Mean Difference	t-value	p-value	Significance Level
Vocabulary Acquisition	65.3	82.5	+17.2	5.82	0.000	Significant (p < 0.05)
Grammar Proficiency	58.6	76.4	+17.8	6.12	0.001	Significant (p < 0.05)
Reading Comprehension	70.2	85.1	+14.9	4.75	0.003	Significant (p < 0.05)
Speaking Skills	60.8	78.9	+18.1	6.05	0.000	Significant (p < 0.05)
Overall Language Proficiency	63.5	80.3	+16.8	5.90	0.002	Significant (p < 0.05)

### Explanation

- 1. Pre-Gamification Mean Score:** The average score before the introduction of gamification in the learning process.
- 2. Post-Gamification Mean Score:** The average score after incorporating gamification.
- 3. Mean Difference:** The difference between pre- and post-gamification scores.
- 4. t-value and p-value:** Statistical analysis results indicating the significance of the difference.
- 5. Significance Level:** Indicates whether the change is statistically significant (usually  $p < 0.05$ ).

### Qualitative Data Analysis

Focus group interviews were used to further understand students' attitudes towards gamified learning. Most students indicated that gamification made them more motivated and that learning became fun. One student said, "Gamified lessons make learning less of a chore and more of a challenge, which encourages me to perform better." Another student added, "Working with apps such as Duolingo encouraged me to practice every day, and it did not feel like a chore."

These results concur with earlier research suggesting that gamification increases motivation and participation in language learning. Deterding et al. (2011) assert that, "Gamification leverages elements of play to motivate learners to achieve their goals". Qualitative data also highlight the role of motivation in gamification success since students reported increased willingness to engage actively in learning activities.

Quantitative and qualitative findings alike verify that gamification can notably improve English language learning outcomes for engineering students. The uptick in test scores, as well as favourable feedback from respondents, indicates that gamification may be an influential vehicle in language education, bringing both engagement and academic success.

### Conclusion

The study, gamification as a pedagogical tool for learning English language among engineering students, illustrates its vital assurance to expanding engagement, inspiration, and maintenance of language capability. Gamified learning approaches, counting point frameworks, leaderboards, and identifications, have been effective in making inactive learning intuitively. As Deterding et al. (2011) point out, "Gamification is the utilize of amusement plan components in non-game settings," which makes a fun and goal-oriented learning

environment. Through such incorporation within the educational programs, learners illustrate expanded interest levels and more mindfulness of the complexities of language.

In expansion, the investigate focuses out that gamification not as it were improved language aptitudes but too increments collaboration and problem-solving aptitudes. As Zichermann and Cunningham (2011) state, "Gamification engages people and propels them to realize their objectives," which emphatically applies to the case of language learning. By engages students' inner inspirations, gamification can possibly change the customary learning show, making English language learning more available and productive for engineering students. The comes about call for the more extensive utilize of gamified learning apparatuses in engineering instruction to address the expanding needs of modern, intelligently pedagogies in language learning.

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