



A Study of Innovative Gamification Techniques and Their Effect on Academic Performance and Student Motivation

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Abstract

In recent years, gamification has gained considerable attention as an innovative instructional approach in education. It involves the integration of game-based elements such as points, badges, leaderboards, challenges, and reward systems into the learning process to make educational activities more interactive and engaging. By introducing these elements, gamification enhances student participation and creates a learning environment that is both motivating and enjoyable. Moreover, gamification addresses essential psychological needs, including autonomy, competence, and social interaction, which play a vital role in sustaining student engagement and encouraging active involvement in academic tasks.

The primary objective of this study is to examine the effect of innovative gamification techniques on student motivation and academic performance in higher education institutions. The study seeks to understand how well-structured and student-centered gamification strategies influence learning engagement, participation levels, and perceived academic outcomes. Emphasis is placed on identifying the extent to which gamified learning experiences contribute to improved motivation and support better academic achievement among the students.

A quantitative research approach is employed using a structured survey method. Data are collected from students who have previously experienced gamified learning activities in their academic courses. The questionnaire includes items measuring student motivation, engagement, and self-reported academic performance using a Likert scale. The collected data are analysed using descriptive statistics to summarize response patterns, along with inferential statistical techniques such as correlation and regression analysis to examine the relationships between gamification practices and student outcomes.

The results are expected to demonstrate that gamification has a positive and meaningful influence on student motivation and academic performance. The findings of this study aim to offer practical insights for educators, curriculum designers, and higher education institutions seeking to implement gamification effectively. By emphasizing alignment with learning objectives, student-centered instructional design, and interactive learning environments, the study contributes to the growing body of research on innovative teaching strategies in higher education.

Keywords: Gamification, Educational Innovation, Student Motivation, Academic Performance, Digital Learning

INTRODUCTION

In recent years, the education sector has increasingly adopted technology-driven approaches to improve the quality and effectiveness of learning. One such approach that has gained significant attention is gamification. Gamification involves the use of game-related elements such as points, badges, leaderboards, challenges, and progress indicators within educational contexts to enhance student engagement, motivation, and academic performance (Arufe-Giráldez, Caeiro-Ruiz, & Rodríguez-Fuentes, 2022). Unlike conventional teaching methods that often promote passive learning, gamification encourages active involvement by transforming classrooms into interactive and student-centered environments. Rooted in behavioral and cognitive psychology, gamification leverages reward systems, immediate feedback, and goal-setting mechanisms to satisfy learners' psychological needs for autonomy, competence, and social connection. These aspects are particularly important in higher education, where students encounter complex academic demands, diverse learning preferences, and varying levels of intrinsic motivation (Almufarreh, 2026).

Student motivation plays a vital role in determining academic success. Learners who are motivated tend to participate more actively, invest greater effort in academic tasks, and apply higher-order thinking skills, which positively influences learning outcomes and academic achievement (Ali, Lanjwani, & Naaz, 2025). However, sustaining motivation in higher education classrooms remains a challenge due to large class sizes, diverse student backgrounds, and limited opportunities for personalized feedback. Traditional instructional approaches may fail to maintain students' interest over time. Gamification addresses this challenge by introducing interactive, goal-oriented, and rewarding learning experiences that promote continuous engagement and improve academic performance (Smirani & Yamani, 2022; Fitria, 2021).

Despite the growing use of gamification in education, existing research presents several limitations. Many studies focus on short-term implementations, offering limited evidence regarding long-term effects on student motivation and academic performance. In addition, much of the existing literature concentrates on primary and secondary education, leaving higher education settings relatively underexplored (Adeoye, 2023; Chandran & Ismail, 2022). The effectiveness of gamification is also highly dependent on its design. Poorly structured competitive elements may discourage participation or negatively affect learner motivation, emphasizing the need for context-specific and personalized gamification strategies (Hamzah, Smith, & Kaur, 2025). Furthermore, there is insufficient empirical evidence examining how specific gamification techniques such as adaptive challenges, collaborative activities, and interactive storytelling directly influence motivation and measurable academic outcomes.

Gamification holds significant relevance for higher education institutions, which face challenges such as maintaining student engagement, fostering critical thinking, and promoting

collaborative learning. Gamified learning environments support active participation and peer interaction, helping students develop essential academic and professional skills (Escriche-Escuder, de-Marcos, & García-Cabot, 2025). The integration of digital gamification aligns with the ongoing digital transformation of education and supports online, hybrid, and traditional learning modes. Previous studies suggest that gamification positively influences attendance, task completion, and cognitive engagement, all of which contribute to improved academic performance (Nguyen & Brown, 2023; Perez, 2020).

The present study addresses the need to better understand the effect of innovative gamification techniques on student motivation and academic performance in higher education. It seeks to identify the most effective gamified elements, examine how they align with students' psychological needs, and assess their influence on learning outcomes. Although prior research highlights the benefits of gamification, there is limited systematic investigation into scalable and personalized gamification strategies suitable for diverse higher education contexts (Ibisu, 2024; Ishaq & Alvi, 2023).

The significance of this study lies in its contribution to evidence-based educational innovation. By analysing the relationship between gamification techniques, student motivation, and academic performance, the research provides practical insights for educators, instructional designers, and policymakers seeking to enhance teaching effectiveness and learner engagement (Marquardt, Chen, & Gupta, 2025; Baldrich, Pérez-García, Domínguez-Oller, & Sánchez-Fortún, 2023). The findings aim to support the development of personalized and technology-enabled learning strategies that promote academic success and enrich higher education practices.

In summary, gamification represents a powerful and adaptable approach to addressing persistent challenges related to motivation and academic performance in higher education. While existing studies demonstrate its potential, further research is required to examine innovative and well-designed gamification techniques that emphasize personalization, engagement, and measurable learning outcomes. This study seeks to bridge this gap by offering practical and research-driven insights that can inform contemporary teaching practices and contribute to more engaging and effective learning environments.

OBJECTIVES

1. To identify the most effective gamification techniques in higher education
2. To examine the effect of gamification on student motivation
3. To assess the effect of gamification on academic performance
4. To provide practical recommendations for implementing gamification in learning environments

RESEARCH QUESTIONS

1. Which gamification techniques are most effective in higher education classrooms?

2. How does gamification influence student motivation in learning?
3. What effect does gamification have on students' academic performance?
4. Which gamification strategies can improve student motivation and academic performance?

HYPOTHESIS

Hypothesis 1: Gamification effect on motivation and academic performance

Null Hypothesis (H_{01}): Gamification techniques have no significant effect on students' motivation and academic performance in higher education.

Alternative Hypothesis (H_{11}): Gamification techniques have a significant positive effect on students' motivation and academic performance in higher education.

Hypothesis 2: Effectiveness of different gamification techniques

Null Hypothesis (H_{02}): There is no significant difference in the effectiveness of different gamification techniques on student motivation and academic performance.

Alternative Hypothesis (H_{12}): Some gamification techniques are significantly more effective than others in improving student motivation and academic performance.

1. LITERATURE REVIEW

1. Arufe-Giráldez et al. (2022)

Arufe-Giráldez and colleagues conducted a systematic literature review to explore how gamification affects both motivation and academic performance in educational settings. Their analysis of nine systematic reviews shows that gamification tends to enhance motivation by increasing engagement, participation, competence, and autonomy in learning tasks, which are crucial psychological needs for effective education. Some studies also reported gains in academic performance, though the authors noted a shortage of rigorous research measuring long-term academic outcomes.

2. Ali et al. (2025)

In a quasi-experimental study, Ali, Lanjwani Jat, and Naaz (2025) investigated gamification's impact on student engagement, motivation, and academic performance in secondary schools. Their results showed that students in gamified learning environments exhibited significantly higher classroom participation and academic achievement compared to those in traditional learning settings. The study strongly supports the idea that gamification strategies motivate learners who might otherwise be disengaged, highlighting its potential as an active pedagogical approach.

3. Smirani & Yamani (2022)

Smirani and Yamani employed structural equation modeling to examine gamification elements such as leaderboards, badges, points, and challenges in online learning environments. They found that these game mechanics significantly enhance learner engagement and motivation, and there was a notable improvement in *knowledge retention*. The study also emphasizes that careful balancing of competitive and collaborative elements is necessary to avoid negative impacts on perceived learning effectiveness while maximizing enjoyment and engagement.

4. Fitria (2021)

Tira Nur Fitria's systematic review on gamification and student motivation in English language learning contexts synthesizes 30 journal articles published between 2018 and 2022. The study concludes that gamification significantly influences learner motivation by making language learning more engaging and relatable. Fitria notes that motivational gains are most pronounced when gamification strategies are aligned with pedagogical goals and tailored to individual learning contexts, emphasizing the need for contextualized gamified designs.

5. Adeoye (2023)

Adeoye (2023) examined gamification interventions and their effects on academic performance in a Nigerian secondary school. Using descriptive and inferential statistics, the study found that gamified activities increased student motivation and perception toward learning, which in turn correlated positively with improved academic performance. Although causation is complex, the research suggests that gamification fosters a more interactive and engaging classroom environment, thereby supporting student achievement through enhanced motivation and participation.

6. Chandran & Ismail (2022)

Chandran and Ismail's literature review focused on the impacts of gamification on student engagement and educational outcomes within literature education. Reviewing 36 studies, they concluded that gamification improves motivation and learning outcomes as students are more attentive, engaged, and willing to participate in classroom activities. Their review also highlights how gamification transforms otherwise passive lessons into dynamic, student-centered experiences.

7. Meta-Analysis on Mathematics Education (2025)

The systematic review and meta-analysis in mathematics education shows that gamification strategies are generally associated with positive effects on student motivation and engagement. Across 45 studies, gamified instructional approaches yielded a small to moderate increase in motivational outcomes, though some negative results were linked to poorly designed competitive elements that did not consider student characteristics. The authors conclude that thoughtful gamification design is critical for improving educational outcomes.

8. Can Gamification Influence Academic Performance? (2019)

This literature review explored gamified learning environments in higher education, focusing on points systems, leaderboards, and progress levels. Results indicate increased student motivation, interest, and participation in learning tasks, which in several studies was linked to

higher final grades compared to traditional methods. The research highlights the importance of voluntary gamified academic tasks that encourage deep engagement and mastery of subjects.

9. Investigating Gamification Effects (2021)

A study on gamification and university student motivation found that gamified strategies like Classcraft debates and interactive tasks can significantly increase motivation and classroom engagement. While the study noted that motivation did not always directly affect behavioral engagement, it still showed that gamification can reduce student demotivation and foster greater participation, which may indirectly support academic outcomes.

10. Gamified Teaching Impact (2021)

A systematic review examining 18 university studies concluded that gamified teaching strategies improve academic performance, motivation, and engagement in higher education. The authors emphasize that gamification is still emerging but demonstrates promising results in motivating students and enhancing learning outcomes, reinforcing its value as an innovative teaching strategy in tertiary contexts.

11. Ibisu (2024)

Ibisu's research developed a gamification model tailored for personalized e-learning environments. Results showed that the gamification design, which matched gamification elements to individual motivational profiles, significantly improved learner engagement and satisfaction. Though not focused solely on academic grades, the study provides evidence that personalized gamification increases motivation, which is widely linked to performance gains in other research.

12. Ishaq & Alvi (2023)

This state-of-the-art review on personalized gamification in programming education highlights how integrating gamification with individual learning preferences can enhance motivation, engagement, and cognitive outcomes. The authors note that personalized game elements help address diverse student needs, resulting in improved learning behavior and potentially better academic performance when gamification aligns with learners' characteristics.

13. Marquardt et al. (2025)

Marquardt and colleagues investigated which gamification elements learners prefer to support motivation. Their study found that elements like progress bars, immediate feedback, and achievement markers are most effective because they align with *learning needs* rather than solely relying on extrinsic rewards. This suggests that gamification that supports competence and autonomy better fosters intrinsic motivation, which is strongly correlated with sustained academic engagement and achievement.

14. Broader Evidence on Engagement & Performance

Across multiple educational settings, researchers have found that gamification increases engagement, motivation, and academic performance by fostering active participation, providing immediate feedback, and making learning more interactive and enjoyable. Although the extent of performance gains varies, the consensus across systematic reviews and empirical

studies is that gamification enriches the learning environment and encourages students to invest more effort and attention in their studies.

15. Escriche-Escuder et al. (2025)

Escriche-Escuder and colleagues (2025) explored gamification in higher education and found that weekly gamified activities such as quizzes and competitions promoted engagement and attendance, which indirectly supports academic success. The study suggests that gamification's influence on class attendance leads to better learning continuity and may reduce dropout rates when paired with counseling and mentoring, indicating gamification's broader educational impact.

16. Enhanced DGBL with ARCS Model (2023)

A study using digital game-based learning (DGBL) aligned with the ARCS model (Attention, Relevance, Confidence, Satisfaction) found that gamification significantly enhanced students' motivation and perceptions of task value. Although the impact on conceptual knowledge was mixed, the gamified approach improved students' intrinsic and extrinsic motivation, indicating that integrating motivational design principles with gamification can support academic performance in specific domains.

17. Gamification in Physical Education (2020)

A physical education study (2020) reported that a gamified intervention increased academic performance among university students, although intrinsic motivation did not change substantially. The results showed that structured rewards and external regulation inherent in gamification yield performance gains, suggesting that even when intrinsic motivation is static, gamification can produce meaningful academic benefits through enhanced engagement and participation.

18. Self-Efficacy & Enjoyment in Gamification (2024)

Research on gamification's psychological effects found that students' self-efficacy and enjoyment significantly predicted academic engagement in gamified classrooms. The study shows that when learners feel confident and enjoy gamified activities, they engage more deeply in learning tasks. Increased engagement is associated with improved motivation and critical thinking, reinforcing the idea that not only game mechanics but students' emotional responses are important for academic success.

19. Baldrich et al. (2023) – Gamified Experiences SLR

Baldrich, Pérez-García, Domínguez-Oller, and Sánchez-Fortún (2023) systematically reviewed gamification across academic contexts, finding that gamification fosters academic literacy development and motivation by providing immersive and interactive learning experiences. The study highlights how gamified interventions support critical thinking and engagement, which are important precursors to enhanced academic performance across disciplines.

20. Alobidyeen (2023)

Alobidyeen's (2023) research investigated teachers' perspectives on gamification and found that educators generally report positive effects on student engagement and academic

performance when gamified pedagogical methods are used. Teachers noted that gamification strategies increase class participation and motivation, and when implemented with teacher training and curriculum alignment, they can meaningfully support learning outcomes.

2. RESEARCH METHODOLOGY

1. Research Design

The study uses a quantitative, cross-sectional survey design to examine the effect of gamification techniques on student motivation and academic performance in higher education. The research is descriptive and analytical, focusing on identifying patterns, relationships, and student preferences related to gamified learning.

2. Population and Sample

Population: Undergraduate students enrolled in higher education institutions who have experienced gamified learning.

Sample Size: 120 students.

Sampling Technique: Convenience sampling based on availability and willingness to participate.

3. Data Collection Instrument

Data were collected using a structured online questionnaire, which included:

- Demographic details: Age, gender, year of study, and field of study.
- Gamification exposure: Use of techniques such as points, badges, leaderboards, progress bars, challenges, storytelling, and collaborative tasks.
- Student motivation: Measured using a 5-point Likert scale covering engagement, confidence, participation, enjoyment, and reduction in procrastination.
- Academic performance: Measured using a 5-point Likert scale assessing understanding of content, assignment completion, grade improvement, and overall performance.
- Preferred techniques: Ranking of gamification elements based on motivation and performance.
- Open-ended responses (optional): Suggestions for improving gamified learning.

4. Data Collection Procedure

The questionnaire was administered online using Google Forms. Participants were informed about the purpose of the study, confidentiality, and voluntary participation. Data were collected over one week.

5. Variables

- Independent Variable: Gamification techniques.

- Dependent Variables: Student motivation and academic performance.

6. Data Analysis Techniques

Data were analyzed using SPSS / Excel:

- Descriptive statistics: Frequencies, percentages, mean, and standard deviation.
- Reliability analysis: Cronbach’s alpha ($\alpha > 0.7$).
- Inferential statistics:

Pearson correlation to examine relationships between motivation and performance.

One-way ANOVA to compare the effectiveness of gamification techniques.

Tukey post-hoc test for significant differences.

7. Ethical Considerations

Participation was voluntary, informed consent was obtained, responses were anonymous, and data were used only for academic purposes.

3. RESULTS AND ANALYSIS

1. Demographic Profile of Respondents

Table 1 presents the demographic characteristics of the 120 undergraduate students who participated in the study.

Demographic Variable	Category	Frequency	Percentage (%)
Gender	Male	65	54
	Female	55	46
Year of Study	First Year	40	33
	Second Year	38	32
	Third Year	42	35
Course	BBA	24	20
	BCA	22	18
	BCS	26	22
	B.Com	28	23
	B.Sc	20	17

Table 1: Demographic Profile of Respondents

Table 1 shows that the sample consisted of 120 undergraduate students with a balanced gender distribution, where 54% were male and 46% were female. Students from the first three years of study were almost equally represented, ensuring coverage of different stages of undergraduate education. The respondents belonged to various courses, with B.Com and BCS forming the largest groups, followed by BBA, BCA, and B.Sc. This diversity across programs and academic levels makes the sample appropriate for analysing the effect of gamification in higher education.

2. Exposure to Gamification Techniques

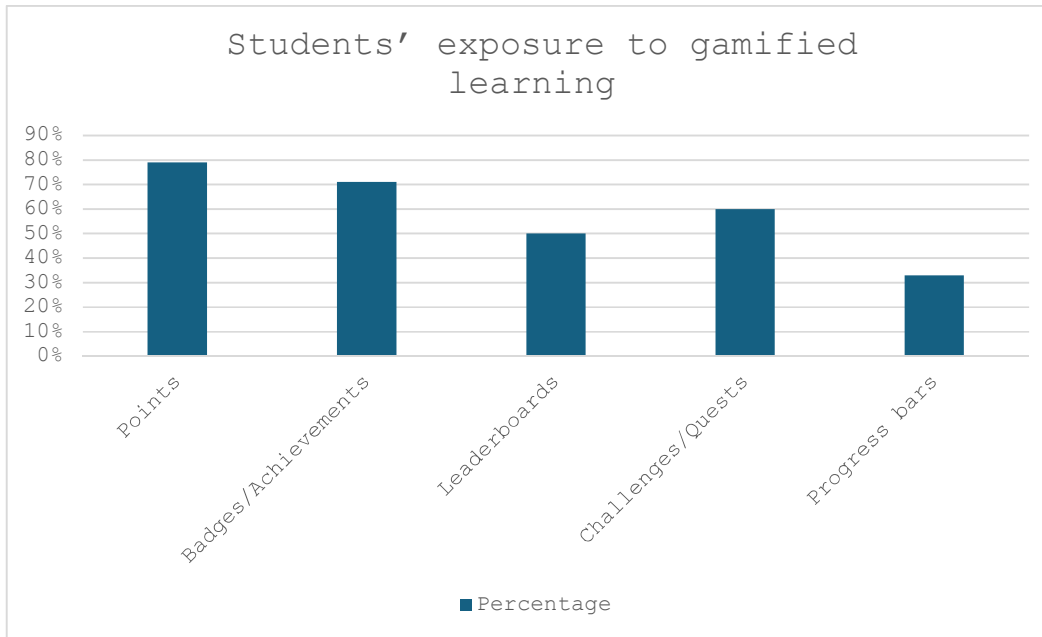


Figure 1 illustrates students' exposure to various gamification techniques used in their courses.

The bar chart shows that points are the most used gamification technique, experienced by 79% of students, followed by badges/achievements (71%) and challenges/quests (60%). Leaderboards were used by 50% of respondents, indicating moderate use of competitive elements. Progress bars were the least experienced technique at 33%, suggesting limited adoption. Overall, reward-based gamification methods are more prevalent than tracking or competition-focused approaches in higher education.

3. Effect of Gamification on Student Motivation

Table 2 presents the mean scores and standard deviations for motivation-related items.

Motivation Item	Mean	SD	Interpretation
Gamified elements increase my interest in learning	4.3	0.7	High motivation
Gamification encourages active participation	4.1	0.8	High motivation
I feel more confident completing tasks	4	0.9	Moderate–High motivation
Gamification reduces procrastination	3.8	1	Moderate motivation
Gamification makes learning enjoyable	4.2	0.7	High motivation

Table 2: Student Motivation Analysis

The results indicate that gamification has a strong positive influence on student motivation. High mean scores for interest ($M = 4.3$) and enjoyment ($M = 4.2$) suggest that gamified

elements make learning more engaging. Active participation and confidence levels also show high motivation among students. Although the reduction in procrastination shows a slightly lower mean, it still reflects a moderate motivational Effect. Overall, gamification significantly enhances motivational aspects of learning.

The motivation scale demonstrated good internal consistency, with a Cronbach’s alpha value greater than 0.70, indicating that the items reliably measure student motivation.

4. Effect of Gamification on Academic Performance

Table 3 summarizes students’ perceptions of gamification’s effect on academic performance.

Performance Item	Mean	SD	Interpretation
Gamification helps understand course material	4	0.8	High effect
Grades/performance improved after gamification	3.9	0.9	Moderate–High effect
Motivated to complete assignments on time	4.1	0.7	High effect
Positive effect on overall academic performance	4	0.8	High effect

Table 3: Academic Performance Analysis

Above table presents students’ perceptions of the effect of gamification on academic performance. The mean scores for all items are above 3.8, indicating a positive influence of gamified learning on academic outcomes. The highest mean score (M = 4.1, SD = 0.7) was observed for timely completion of assignments, suggesting that gamification enhances students’ learning discipline. Overall, the findings indicate that gamification contributes positively to understanding course material and improving academic performance.

The academic performance scale demonstrated acceptable reliability, with Cronbach’s alpha exceeding 0.70.

5. Preferred Gamification Techniques

Table 4 presents students’ preferences for gamification techniques based on average ranking.

Gamification Technique	Average Rank (1 = Most Effective)	Interpretation
Points	1.8	Most effective
Badges/Achievements	2.2	Highly effective
Challenges/Quests	2.7	Moderately effective
Leaderboards	2.9	Moderately effective
Progress Bars	3.4	Least effective

Table 4: Ranking of Gamification Techniques

The above shows students’ preferences for different gamification techniques based on average ranking. Points emerged as the most effective technique (Mean Rank = 1.8), followed by badges and achievements (Mean Rank = 2.2). Challenges and leaderboards were perceived as

moderately effective, while progress bars received the lowest preference score. These findings indicate that reward-based and achievement-oriented gamification elements are more effective in motivating students and supporting academic performance.

A one-way ANOVA revealed a statistically significant difference in the effectiveness of gamification techniques on student motivation and academic performance ($p < 0.05$). Post-hoc Tukey analysis indicated that points and badges were significantly more effective than progress bars.

6. Hypothesis Testing

Table 5 summarizes the results of hypothesis testing.

Hypothesis	Statistical Test	Test Value	p-value	Decision
H_0 : Gamification has no significant effect on student motivation and academic performance	Pearson Correlation	$r = 0.65$	$p < 0.001$	Rejected
H_0 : There is no significant difference in the effectiveness of gamification techniques	One-way ANOVA	$F(4,115) = 6.8$	$p < 0.001$	Rejected

Table 5: Summary of Hypothesis Testing

Hypothesis 1: Effect of Gamification on Motivation and Academic Performance

To test the effect of gamification on student motivation and academic performance, Pearson correlation analysis was conducted. The results show a strong positive relationship between motivation and academic performance ($r = 0.65$, $p < 0.001$). Since the p-value is below 0.05, the null hypothesis is rejected, and the alternative hypothesis is accepted. This indicates that gamified learning significantly enhances student motivation, which is associated with improved academic performance.

Hypothesis 2: Effectiveness of Gamification Techniques

A one-way ANOVA was used to compare the effectiveness of different gamification techniques. The results indicate a significant difference among techniques ($F(4,115) = 6.8$, $p < 0.001$). Therefore, the null hypothesis is rejected. A Tukey post-hoc test revealed that points and badges are significantly more effective in improving motivation and academic performance compared to progress bars, which were found to be the least effective.

4. DISCUSSION

The results of this study demonstrate that gamification significantly enhances student motivation and academic performance in higher education. The strong positive relationship between motivation and performance suggests that motivated students engage more actively in learning activities, resulting in improved academic outcomes. Reward-based gamification techniques, particularly points and badges, were found to be the most effective due to their ability to provide immediate feedback and recognition, thereby strengthening student engagement and confidence. Although progress bars were perceived as less influential, the

findings emphasize the importance of carefully designed gamification strategies that are aligned with learning objectives. Overall, the results support existing research that recognizes gamification as an effective and innovative pedagogical approach. In line with self-determination theory, gamification elements such as points and badges promote feelings of competence and timely feedback, which further enhance motivation and academic engagement.

4.1 Findings of the Study

1. Points and Badges are the Most Effective Gamification Techniques

The study found that points (79%) and badges (71%) were the most widely experienced gamification techniques among students. Students also ranked them as most effective, with points receiving the highest preference (Mean Rank = 1.8) and badges following closely (Mean Rank = 2.2). One-way ANOVA confirmed a statistically significant difference among techniques ($F(4,115) = 6.8, p < 0.001$), with Tukey post-hoc analysis revealing that points and badges significantly outperformed progress bars, which were rated least effective.

2. Gamification Significantly Enhances Student Motivation

Gamification showed a strong positive influence on student motivation. Students reported higher interest in learning ($M = 4.3$), greater enjoyment ($M = 4.2$), and increased active participation ($M = 4.1$). Even procrastination showed moderate improvement ($M = 3.8$). The motivation scale recorded a Cronbach's alpha above 0.70, confirming reliable and consistent results across the student group.

3. Gamification Positively Impacts Academic Performance

Students perceived clear academic benefits from gamification. Timely assignment completion scored highest ($M = 4.1$), followed by better understanding of course material and overall performance improvement ($M = 4.0$). A strong Pearson correlation ($r = 0.65, p < 0.001$) confirmed that improved motivation directly translates into better academic outcomes.

4. Reward-Based Gamification Strategies Work Best in Higher Education

The overall findings suggest that reward and achievement-oriented strategies are the most suitable for higher education. Points and badges should form the core of any gamification strategy, supported by challenges and quests as secondary tools. Leaderboards need careful implementation, while progress bars require redesigning to create any meaningful impact on student learning

4.2 Delimitations

Sample Limitation: The study involved 120 undergraduate students from selected institutions, limiting the generalizability of the results.

Time Limitation: The study was conducted over a short period, which may not reflect long-term trends in academic performance and motivation.

4.3 Future Research

Future studies can expand the sample size and include students from diverse universities to enhance generalizability. Researchers may also explore the effect of additional factors, such as teaching methods, technological tools, and socio-economic background, on academic performance and motivation. Longitudinal studies could be conducted to examine changes over time, and comparative studies across disciplines or regions could provide deeper insights into the learning process in higher education.

CONCLUSION

The findings of the study confirm that gamification has a positive and significant effect on student motivation and academic performance in higher education. The use of gamified learning strategies enhances students' interest, active participation, and timely completion of academic tasks, which collectively contribute to improved academic outcomes. Among the various techniques examined, points and badges emerged as the most effective, whereas progress bars demonstrated a comparatively lower influence. The results emphasize that thoughtfully designed gamification strategies, when aligned with learning objectives, foster engaging and student-centered learning environments. Overall, gamification proves to be a practical and effective instructional approach for enhancing teaching and learning processes in higher education. Furthermore, this study provides empirical evidence from the Indian higher education context, reinforcing the relevance and effectiveness of gamification as an innovative pedagogical strategy.

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