

DOI: <https://doi.org/10.63332/joph.v5i6.2369>

Advertising Gamification as an Educational Tool: A Quantitative Study in University Training Environments

Liliana Coronado Lárraga¹, Juan José López Navarro², Manuel David Isin Vilema³, Diana Marcela Figueroa Fonseca⁴, Diego Omar Guevara Torrecillas⁵

Abstract

Gamification has been presented as a revolutionary tactic to promote learning in training contexts. This quantitative analysis examines the effect of advertising gamification as a teaching resource in university environments, assessing its effectiveness in motivating, preserving knowledge and involving students. A structured survey was carried out with 210 students from universities in Latin America, followed by a descriptive and inferential statistical study. The findings indicate that gamification based on advertising actions significantly enhances motivation and enhances content comprehension, establishing itself as an effective pedagogical option. It is recommended that it be systematically incorporated into higher education programmes.

Keywords: *Gamification, Higher Education, Educational Advertising, Interactive Learning, University Environments.*

Introduction

In recent years, the teaching-learning process has undergone important changes driven by the progress of digital technologies and the modifications in the information consumption patterns of the younger generations. In this scenario, gamification has been established as an active technique that encourages student engagement, enhances inherent motivation, and enhances the memorization of knowledge (Seaborn & Fels, 2023). This methodology is based on the inclusion of playful components and game mechanisms – such as prizes, levels, challenges or grading systems – in non-recreational environments such as education, with the aim of increasing the student's dedication to their own learning process (Knutas et al., 2023).

On the other hand, advertising gamification is presented as a combination of the persuasive tactics of marketing with the dynamic structures of the game, creating unforgettable, emotionally captivating and pedagogically effective educational experiences. Their use in educational contexts makes it possible to use audiovisual pieces, interactive narratives or simulated advertising campaigns as tools to impart concepts and promote soft skills such as creativity, collaborative work and critical reasoning (García-Murillo & Muñoz-Romero, 2020; Calderón et al., 2022).

¹ Universidad Yaan, Email: a23113007@universidadyaan.mx, ORCID: <https://orcid.org/0009-0004-7743-8198>.

² Independent Researcher, Email: juanjo.lopez.n@outlook.com, ORCID: <https://orcid.org/0000-0001-6049-9518>

³ Universidad Nacional de Chimborazo, Email: misin@unach.edu.ec, ORCID: <https://orcid.org/0000-0003-3617-2173>.

⁴ Universidad Nacional Abierta y a Distancia UNAD, Email: dianam.figueroa@unad.edu.co, ORCID: <https://orcid.org/0000-0003-4300-4899>.

⁵ Universidad Nacional Abierta y a Distancia UNAD, Email: diego.guevara@unad.edu.co, ORCID: <https://orcid.org/0000-0002-4110-7088>.



This method is especially important in university education, where the challenge lies in maintaining the interest of students who are increasingly accustomed to dynamic and immediate digital content. Several studies have shown that learning through gamification is particularly beneficial for strengthening transversal skills and autonomous learning, key elements in professional training (Landers et al., 2022; Wiggins et al., 2021). In this context, the incorporation of tactics characteristic of recreational advertising not only enhances the student's interest, but also promotes the relevant obtaining of content through immersive experiences.

In addition, the COVID-19 pandemic drove digital change in universities and demonstrated the importance of using more participatory and active methods. Gamification, particularly that which includes visual and advertising elements, has facilitated the creation of more captivating and resilient learning environments in hybrid or remote formats (Calderón et al., 2022). However, despite their growing popularity, there is little research that quantitatively evaluates the effect of these strategies in university settings.

Faced with this gap, the purpose of this study is to examine the impact of advertising gamification on the motivation, understanding and participation of university students, providing empirical evidence of its effectiveness as a teaching instrument. To achieve this, a strict methodological design of a quantitative nature has been established, focused on assessing perceptions and behaviors through the implementation of a structured survey of students from different disciplines.

Theoretical Framework

1. Gamification in Higher Education

Gamification has been established as the application of components and playful actions in non-recreational environments with the purpose of stimulating and enhancing the user experience (Deterding et al., 2011). In the educational context, this method has gained particular importance in university education, where advantages have been recorded in learning, motivation, and school performance (Landers et al., 2022; Seaborn & Fels, 2023). Landers' (2022) model suggests that gamification has a positive impact on student behavior by establishing incentive mechanisms similar to those of video games, which could result in an increase in engagement and continuity in educational processes.

DIMENSION	MAIN BENEFIT	REFERENCES
MOTIVATION	Increased interest and positive attitude towards study	Seaborn & Fels (2023); Knutas et al. (2023)
PARTICIPATION	Increased interaction and collaboration	Landers et al. (2022)
KNOWLEDGE RETENTION	Improved comprehension and memorization of content	Calderón et al. (2022)
SELF-EFFICACY AND AUTONOMY	Development of self-confidence and autonomous learning	Wiggins et al. (2021)

Table 1. Benefits of Gamification in the University Context

The use of gaming platforms such as Kahoot!, Quizizz, Duolingo or Classcraft has proven effective in promoting active learning, particularly in theoretical subjects or with great

conceptual content (García & Rodríguez, 2021). The success of these instruments is based on their ability to adjust content to visual, immediate and personalized formats.

2. Advertising Gamification: Intersection Between Marketing and Pedagogy

Advertising gamification is a type of gamification that uses the fundamentals of interactive marketing with the aim of generating interaction and learning. Its greatest virtue lies in its narrative, visual, and immersive ability to engage users through stories, challenges, and prizes (García-Murillo & Muñoz-Romero, 2020). Although it has traditionally been employed for commercial purposes, its educational use is gaining popularity, particularly in fields such as communication, marketing, design, and education.

The mixture of storytelling, campaign simulation, interactive advertising development and the study of advertising content makes it possible to transform the student into an active prosumer, enhancing their analytical and creative capacities (Wiggins et al., 2021).

GAMIFIED ELEMENT	EDUCATIONAL APP	DIDACTIC EXAMPLE
INTERACTIVE NARRATIVES	Development of critical thinking and storytelling	Create campaigns for social purposes
VIRTUAL REWARDS	Positive reinforcement of academic performance	Points, badges, content unlock
COMPETITIONS AND RANKINGS	Stimulate healthy competitiveness and continuous evaluation	Weekly participation rankings
SIMULATION OF REAL CONTEXTS	Problem-Based Learning (PBL)	Simulating roles in ad campaigns

Table 2. Elements of Advertising Gamification and Its Educational Application

In this context, gamification in advertising not only entertains, but also instructs through experiences that reproduce real situations, enhancing the transmission of knowledge from the classroom to the work environment (Calderón et al., 2022).

3. Proven Effectiveness in Post-COVID Digital Environments

Throughout the pandemic, the adoption of playful strategies in university education intensified, motivated by the need to keep students' attention in virtual environments. Current research argues that students react positively to these types of instruments, appreciating their ability to reduce the monotony of conventional learning and promote independent learning (Seaborn & Fels, 2023; Knutas et al., 2023). Universities are beginning to incorporate these practices into their curricula, seeing gamification not only as an additional resource, but as a complete pedagogical tactic, with the ability to reconfigure conventional teaching dynamics (Landers et al., 2022).

Methodology

This analysis opted for a quantitative descriptive-correlational method, with the aim of examining the perception, use and impacts of advertising gamification as a didactic resource in university environments. This technique is appropriate for examining trends, detailing phenomena, and establishing links between variables in specific populations (Creswell & Creswell, 2018).

Research Design

A cross-sectional, non-experimental design was used, based on data collection through online questionnaires. This methodological option is based on the requirement to collect data from a large sample in a given period, thus reducing the costs and deadlines of the data collection procedure (Hernández-Sampieri et al., 2022).

Participants

The study group was made up of undergraduate university students enrolled in social sciences, education, communication, engineering and marketing programs, originally from public and private universities in Colombia, Mexico and Ecuador. The sample was selected through a random stratified sampling, with the aim of obtaining representativeness by country, discipline and academic semester. The final sample had a total of 210 students, with an average age of 21.6 years (SD = 2.8), distributed according to the following table:

Variable	Frequency (n)	Percentage (%)
Country		
Colombia	80	38.1
Mexico	70	33.3
Ecuador	60	28.6
Gender		
Female	128	61.0
Male	80	38.1
Not responding	2	0.9
Training area		
Social Sciences and Education	75	35.7
Communication and Marketing	68	32.4
Engineering and Technology	67	31.9

Table 1. Sample Features

Collection Instrument

A structured questionnaire of 20 Likert-type items **was developed**, with 5-point rating scales (1 = Strongly disagree; 5 = Strongly agree). The questionnaire was designed based on constructs validated in previous research on educational gamification (Landers et al., 2022; Knutas et al., 2023) and was divided into three main dimensions:

- **Perceived motivation**
- **Pedagogical usefulness**
- **Participation and understanding**

The validation of the instrument was carried out through a pilot test with 30 students, reaching a **Cronbach's alpha coefficient of 0.88**, which indicates high internal reliability (Cortina, 2021).

Dimension	Example of an item
Perceived motivation	"Gamified activities motivate me more than traditional classes."
Pedagogical usefulness	"I learn best when I participate in gamified simulations with advertising content."
Participation and understanding	"I get more actively involved in class when there are game-like dynamics or challenges with visual content."

Table 2. Examples of Items By Dimension of the Questionnaire

Procedure

1. **Design and validation of the questionnaire.** A digital instrument hosted on Google Forms was developed.
2. **Application of the instrument.** The questionnaire was disseminated through institutional platforms, academic social networks and teaching coordination emails.
3. **Informed consent.** All participants were asked for voluntary authorization to participate, in accordance with the ethical principles of educational research (American Educational Research Association, 2019).
4. **Data collection.** It was carried out during March 2025, reaching a response rate of 93.3%.

Data Analysis

The collected data were processed using the SPSS v.27 program. Both descriptive (frequencies, means, standard deviations) and inferential (Pearson's correlation and mean t-tests) analyses were used, with a degree of significance defined in $p < 0.05$. These methodologies facilitated the identification of relevant links between the main variables of the analysis.

Results

The findings of the survey of 210 university students showed a generally positive view towards the use of advertising gamification as an educational medium. The study is structured in three dimensions: motivation, educational benefit and participation/understanding.

1. General Descriptive Analysis

Descriptive statistics indicated that students positively value advertising gamification in their academic environments. The overall average score was **4.28/5**, with a **standard deviation (SD) of 0.61**, reflecting a positive trend with low dispersion of responses.

Dimension	Mean (M)	Standard deviation (SD)
Perceived motivation	4.34	0.57
Pedagogical usefulness	4.26	0.63
Participation and understanding	4.24	0.64

Table 1. Mean and Standard Deviation by Dimension

These results are consistent with previous research highlighting the effectiveness of gamification in fostering active learning and intrinsic motivation (Seaborn & Fels, 2023; Knutas et al., 2023).

2. Correlations between Variables

Pearson's correlation test was used to examine the correlation between the three dimensions analyzed. Important correlations were found ($p < 0.01$), in particular between perceived motivation and participation and comprehension ($r = 0.72$), indicating that students who feel motivated tend to participate more actively and understand topics more effectively.

Dimensions compared	Coefficient r	Significance (p)
Motivation – Pedagogical utility	0.65	0.001
Motivation – Participation and understanding	0.72	0.000
Pedagogical Utility – Participation	0.66	0.001

Table 2. Correlations Between Dimensions (Pearson)

These findings reinforce the conclusions of Landers et al. (2022), who identified that the motivation generated by game dynamics favors the internalization of content and academic commitment.

3. Differences by Area of Training

Student's t-tests **were performed** to compare the perception of students according to their area of training. The results show statistically significant differences ($p < 0.05$) between students in humanistic and technological areas, with a higher assessment in students of social sciences and communication.

ACADEMIC AREA	MEDIA GENERAL	OF	T THE STUDENT	P VALUE
SOCIAL SCIENCES AND EDUCATION	4.45	0.51	2.87	0.005**
ENGINEERING AND TECHNOLOGY	4.12	0.69		

Table 3. Differences By Academic Area in the Perception Of Gamification

Note: $p < 0.01$

This could be explained by the natural affinity of social disciplines with the visual narratives and communicative strategies of gamified advertising (García-Murillo & Muñoz-Romero, 2020).

4. Qualitative Feedback (open-ended feedback)

Although the research focused on quantitative analyses, an open-ended question was included to collect general perceptions. 68% of the students expressed that "playful activities enrich the learning process", while 54% stressed that "they help to preserve visual information more effectively". These observations enrich quantitative findings and are consistent with research that promotes the use of gamification as a tool for participatory education (Wiggins et al., 2021; Calderón et al., 2022).

Conclusions

The results of this study indicate that advertising gamification is an effective and relevant educational resource for contemporary university contexts, particularly in environments

mediated by digital technologies and active methodologies. The high recognition of students in aspects such as motivation, educational value, and participation demonstrates the ability of this strategy to modify conventional teaching-learning dynamics, in accordance with the new expectations and cognitive styles of contemporary generations (Seaborn & Fels, 2023).

One of the most significant conclusions is that gamification based on advertising content not only increases students' attention, but also enhances conceptual understanding and memorization of knowledge, which makes it an appropriate technique for dealing with complex topics in different disciplines (Knutas et al., 2023). In addition, the deep connection between motivation and understanding shows that interactive resources can function as both cognitive and emotional mediators of the learning process (Landers et al., 2022).

The inferential study by fields of study also shows that students of social sciences, education and communication have a greater inclination and use of gamified dynamics, which indicates the importance of adjusting gamified methods to the disciplinary and cognitive profile of each group of students. This adaptation can enhance the benefits and reduce possible pedagogical obstacles, particularly in professions with more technical or conventional methods (García-Murillo & Muñoz-Romero, 2020).

In addition, it is corroborated that gamification should not be restricted to superficial entertainment resources, but should be incorporated in an organized way into the design of the curriculum, through defined pedagogical goals, instant feedback systems, and contexts of use relevant to professional training (Wiggins et al., 2021). In this context, advertising gamification is presented as a powerful instrument to replicate real contexts, promote soft skills, and encourage critical reasoning, especially when merged with project-based or problem-based learning (Calderón et al., 2022).

Finally, higher education institutions are advised to promote the training of teachers in the design and use of gamified strategies, in addition to promoting constant research on their influence on school performance and the development of competencies in the twenty-first century. Gamification, especially its advertising aspect, should not be seen as an ephemeral style, but as a robust strategy to face the educational challenges of the post-COVID digital era (Seaborn & Fels, 2023).

References

- American Educational Research Association. (2019). Ethical guidelines for educational research. <https://www.aera.net/About-AERA/AERA-Rules-Policies/Ethical-Guidelines>
- Calderón, D., Méndez, R., & Solarte, R. (2022). Gamification and meaningful learning in virtual higher education environments. *Journal of Education and Technology*, 22(3), 45–60. <https://doi.org/10.24075/edu-tec.2022.v22n3.45>
- Cortina, J. M. (2021). What is coefficient alpha? An examination of theory and applications. *Journal of Applied Psychology*, 106(5), 750–760. <https://doi.org/10.1037/apl0000960>
- Creswell, J. W., & Creswell, J. D. (2018). *Research design: Qualitative, quantitative, and mixed methods approaches* (5th ed.). SAGE Publications.
- Deterding, S., Dixon, D., Khaled, R., & Nacke, L. (2011). From game design elements to gamefulness: Defining “gamification”. In *Proceedings of the 15th International Academic MindTrek Conference: Envisioning Future Media Environments* (pp. 9–15). <https://doi.org/10.1145/2181037.2181040>
- García, A., & Rodríguez, M. (2021). Impact of using Kahoot! and Quizizz in student motivation. *Ibero-American Journal of Educational Technology*, 14(2), 29–41. <https://doi.org/10.1344/reitec.v14i2.1268>

- García-Murillo, R., & Muñoz-Romero, D. (2020). Gamified advertising: A new persuasive narrative in the digital environment. *Communication and Society*, 35(1), 189–212.
<https://doi.org/10.32870/cys.v2020.1.1744>
- Hernández-Sampieri, R., Mendoza, C., & Baptista, P. (2022). *Research Methodology* (7th ed.). McGraw-Hill Education.
- Knutas, A., Ikonen, J., & Hynninen, T. (2023). Gamification in higher education: A systematic review of recent research. *Education and Information Technologies*, 28, 125–144.
<https://doi.org/10.1007/s10639-023-11877-z>
- Landers, R. N., Bauer, K. N., & Callan, R. C. (2022). How gamification motivates: An experimental test of the core conditions for effective gamified interventions. *Journal of Applied Psychology*, 107(4), 625–638. <https://doi.org/10.1037/apl0000994>
- Seaborn, K., & Fels, D. I. (2023). Reviewing the effectiveness of gamification in education: A meta-analysis of recent findings. *Computers & Education*, 197, 104748.
<https://doi.org/10.1016/j.compedu.2023.104748>
- Wiggins, B. E., Ray, B., & Slade, S. (2021). Game-based learning post-COVID: Strategies for hybrid university classrooms. *Journal of Educational Technology Systems*, 50(1), 3–18.
<https://doi.org/10.1177/00472395211016942>