

**PLAYFUL CHALLENGES, SERIOUS RESULTS: GAMIFICATION AND ITS CONTRIBUTION TO THE PERCEIVED LEARNING EFFECTIVENESS IN BUSINESS ADMINISTRATION**

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## **Introdução**

The use of gamified strategies has expanded in higher education as a way to make learning more engaging and meaningful, especially in synchronous remote teaching. However, there is still a lack of studies investigating how different stimuli in the gamified environment—competition, network exposure, immersion, and perceived enjoyment—influence engagement and perceived learning effectiveness. This study also examines how individual factors, such as anxiety and experience, moderate these relationships.

## **Problema de Pesquisa e Objetivo**

This study aims to analyze the factors that influence students' perceived learning effectiveness in gamified activities, considering the moderating effect of anxiety and experience. To this end, the following research questions were formulated: (RQ1) Which factors affect the perceived learning effectiveness of students in a Business Administration course with gamified activities? and (RQ2) How do anxiety and experience act as moderators of the factors that affect perceived learning effectiveness in gamified activities?

## **Fundamentação Teórica**

The research is grounded in the Self-Determination Theory (SDT) (Deci et al., 1996; Deci & Ryan, 2000, 2002), which emphasizes the importance of autonomy, competence, and relatedness for intrinsic motivation, and in the Stimulus-Organism-Response (SOR) model (SOR) (Mehrabian & Russell, 1974; Cheng, 2023a, 2024), which explains how external stimuli - such as gamified elements - influence internal states like immersion, enjoyment, and engagement, resulting in behavioral and cognitive responses such as the perceived learning effectiveness.

## **Metodologia**

This is a quantitative study based on a survey administered to students from a Business Administration program at a private university in São Paulo who attended a gamified course delivered in a synchronous remote format. A total of 609 valid questionnaires were collected; however, after data treatment to identify missing data and outliers, the final sample consisted of 540 respondents. The analysis was conducted using partial least squares structural equation modeling (PLS-SEM), with the aid of SmartPLS and R software.

## **Análise dos Resultados**

The results confirmed all direct, mediated, and moderated hypotheses. Competition, network exposure, immersion, perceived enjoyment, and engagement significantly influenced perceived learning effectiveness (PLE). The model showed good fit, with  $R^2 = 0.694$ , indicating high explanatory power. Engagement mediated the relationships between immersion and PLE, and between perceived enjoyment and PLE. Anxiety and experience acted as key moderators, reducing the positive effects for more anxious or experienced students.

## **Conclusão**

Gamification positively impacts perceived learning effectiveness. However, anxiety and experience influence the intensity of these effects, requiring adapted approaches and investment in diversified methodologies. The findings also highlight that the use of gamified elements - especially when applied continuously, as in this study - should take into account students' emotional and experiential profiles to maximize the benefits of gamification in higher education, particularly in the field of Business Administration.

## **Contribuição / Impacto**

The study contributes by expanding the theoretical model of Pardim et al. (2023), integrating the constructs of "perceived enjoyment" and "perceived learning effectiveness," as well as replacing the dependent variable from engagement to perceived learning effectiveness. In practical terms, it provides support for the design of more effective and personalized pedagogical strategies, with attention to students' emotional and experiential profiles - especially in synchronous remote learning - strengthening the role of gamification as a learning tool in higher education.

## **Referências Bibliográficas**

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