

Research Article

The Effect of Gamification on Learning Motivation and Positive Perceptions of Economics in the Tenth Grade of High School

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Abstract: This study aims to (1) analyze the effect of gamification on students' learning motivation and (2) analyze the effect of gamification on students' positive perceptions in economics learning among Grade X students at SMAN 1 Pangkep. This research employed a quantitative approach with an ex post facto design and involved 198 students selected through proportional random sampling. A Likert-scale questionnaire was used as the main research instrument to measure the variables of gamification, learning motivation, and positive perception. Data analysis was conducted using simple linear regression to identify relationship patterns and determine the magnitude of influence of the independent variable on both dependent variables. The results of the study indicate that gamification has a positive and significant effect on student learning motivation. In addition, gamification also has a positive and significant effect on students' positive perceptions of economics learning. These findings indicate that the application of gamification elements in learning can encourage student engagement, increase learning motivation, and create a more interesting, enjoyable, and meaningful learning experience..

Keywords: Economics Learning; Gamification; Learning Motivation; Positive Perception; Student Engagement.

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1. Introduction

The rapid acceleration of digitalization and the information revolution has fundamentally reshaped contemporary educational landscapes. Classrooms are no longer confined to traditional instructional spaces but have evolved into interactive ecosystems enriched by digital media, visual stimuli, and diverse learning resources. In this context, effective education can no longer focus solely on content delivery; instead, it must also foster student motivation, promote collaboration, and create meaningful learning experiences that actively engage learners both cognitively and affectively (Cevallos et al., 2024; Yunus et al., 2022). These demands are particularly salient for today's digital-native students, whose learning preferences increasingly emphasize interactivity, autonomy, and experiential engagement.

Despite these global shifts, instructional practices in many schools remain predominantly conventional and teacher-centered. Such approaches often limit student participation, reduce sustained attention, and contribute to learning fatigue, ultimately undermining learning effectiveness. Low emotional and cognitive engagement has become a recurring empirical phenomenon that constrains meaningful learning processes, signaling the urgent need for

pedagogical innovations that address both affective and cognitive dimensions in an integrated manner (Natalini, 2024). Without adaptive instructional strategies, the gap between students' learning characteristics and classroom practices continues to widen.

These challenges are particularly pronounced in economics education, which demands strong analytical reasoning and conceptual understanding. Economics is frequently perceived by students as abstract, rigid, and disengaging, especially when instruction relies heavily on textual explanations and theoretical exposition detached from real-life contexts (Boettke, 2010). When economic concepts are presented without visual support, contextualization, or interactive elements, students struggle to connect abstract ideas to everyday experiences. This disconnect often results in low motivation and limited enthusiasm, especially at the senior high school level, where students are expected to develop deeper conceptual mastery as preparation for higher education or the workforce.

Empirical evidence from SMAN 1 Pangkep illustrates this condition. Preliminary analysis revealed that Grade 10 students' interest and engagement in economics learning remain suboptimal. Daily assessment data from one learning outcome in the 2024/2025 odd semester showed an average score of 67.3, falling below the minimum mastery criterion (KKM) of 75. Initial questionnaire results from 35 students further indicated that 62% found economics difficult to understand, 58% reported boredom due to monotonous instructional delivery, and only 27% frequently participated by asking questions. Attendance data also showed lower participation in economics classes, with an average attendance rate of 87%, compared to over 90% in other subjects. These findings are reinforced by teacher interviews, which revealed that students tend to be passive during lecture-based instruction, particularly when abstract concepts such as opportunity cost are introduced. Students demonstrate greater enthusiasm when learning involves interactive activities, visual elements, or game-based challenges, suggesting that instructional monotony significantly contributes to low motivation and engagement.

Motivation plays a pivotal role in determining learning success, as motivated students are more likely to be active, persistent, and interested in learning activities. According to Keller's ARCS theory, learning motivation can be cultivated through attention, relevance, confidence, and satisfaction, all of which require instructional strategies that stimulate curiosity and provide meaningful learning experiences (Saputri et al., 2020). Complementing this perspective, Self-Determination Theory posits that intrinsic motivation emerges when learners' psychological needs for autonomy, competence, and relatedness are fulfilled (Ryan & Deci, 2000). Instructional approaches that allow choice, provide achievable challenges, and foster social interaction are therefore more likely to enhance students' motivational quality. In this regard, gamification presents a promising pedagogical strategy capable of addressing these motivational dimensions simultaneously.

Beyond motivation, students' positive perceptions of learning are equally critical indicators of instructional quality. Positive perceptions reflect students' feelings of comfort, enjoyment, recognition, and engagement during the learning process, which directly influence their resilience in facing academic and non-academic challenges (Alabdullah et al., 2025). From a constructivist perspective, enjoyable and meaningful learning experiences are rooted in students' subjective interpretations of instructional interactions, which shape their overall learning outcomes. Consequently, instructional strategies that enhance positive perceptions contribute not only to immediate engagement but also to long-term learning sustainability.

Gamification has emerged as an innovative response to the challenges of contemporary education. It involves the integration of game elements—such as points, badges, leaderboards, challenges, and rewards—into non-game contexts, including classroom learning, with the aim of increasing participation, engagement, and enjoyment (Putra et al., 2024). In economics education, gamification offers the potential to transform rigid and abstract content into interactive, contextualized learning activities that resonate with students' experiences (Davis, 2020). Empirical studies have consistently demonstrated the effectiveness of gamification in enhancing learning experiences. Pahlevi and Mulyati (2024) reported that gamified elements, particularly leaderboards, significantly improved senior high school students' learning motivation. Similarly, Yadav and Dixit (2024) identified a strong correlation between learning motivation and academic achievement, while Sappaile (2024) emphasized that gamification contributes to increased engagement and active participation through interactive and competitive learning environments.

Nevertheless, a critical examination of existing literature reveals several research gaps. While prior studies have established the positive effects of gamification, most have predominantly focused on cognitive outcomes such as academic achievement and test scores. The

affective dimension—particularly intrinsic motivation and students' positive perceptions of learning—has received comparatively limited empirical attention. Furthermore, gamification research has been largely concentrated in exact sciences, such as mathematics and science, leaving its application in economics education underexplored. This gap is especially significant given that economics is often perceived as abstract and disengaging. From a contextual perspective, empirical studies on gamification in senior high schools in South Sulawesi, including Pangkep Regency, remain scarce. Addressing these gaps is essential for advancing both theoretical understanding and practical implementation of gamification in economics education.

In response to these gaps, the present study seeks to examine the effect of gamification on students' learning motivation and positive perceptions in economics learning among Grade 10 students at SMAN 1 Pangkep. Rather than introducing a specially designed intervention, this study investigates the influence of gamification as implemented within the existing instructional context. By focusing on affective learning outcomes within a local senior high school setting, this research aims to contribute empirical evidence that enriches the literature on gamification in social science education and provides practical insights for teachers seeking to enhance student engagement. Accordingly, this study aims to analyze the effect of gamification on students' learning motivation and to examine its influence on students' positive perceptions of economics learning at the senior high school level.

2. Literature review

Gamification

Gamification refers to the strategic integration of game elements and design principles into non-game settings to enhance engagement, motivation, and the overall quality of user experience in learning. In education, gamification is not simply “adding fun,” but redesigning learning experiences so that students receive clear goals, timely feedback, and a sense of progress. Danilina (2022) highlights gamification's flexibility across contexts, implying that its effectiveness depends on how well design choices align with learners' needs and instructional goals. Christopoulos and Mystakidis (2023) further emphasize game design mechanisms—such as points, challenges, leaderboards, and rewards—and the enabling role of digital technologies in supporting participation, collaboration, and healthy competition. Taken together, these perspectives position gamification as a learning design approach that can influence students' affective engagement and their perceptions of learning quality.

Prior research suggests that gamification works through two interconnected layers: game mechanics that structure participation and provide feedback, and game experiences that create meaning and emotional involvement. Mao and Lucas (2024) identify badges, leaderboards, and points as key components that support social recognition, measurable goals, and immediate feedback, which can stimulate active participation. However, focusing only on surface mechanics risks turning gamification into a reward system without meaningful learning impact. Buentsova and Levchenko (2022) broaden the design lens by emphasizing structured rules, clear goals, timelines, rewards, and feedback supported by internet-based platforms. Febriansah et al. (2024) add that levels, narrative, and recognition can strengthen emotional engagement by building contextual meaning and a progressive sense of accomplishment. Christopoulos and Mystakidis (2023) also connect gamified design to autonomy, competence, and relatedness, underscoring that strong gamification is characterized by learner choice, appropriately paced challenges, and socially supportive interactions.

Gamification is often used to improve learning quality by increasing participation, sustaining motivation, and making learning experiences more interactive and student-centered. Srimuliyani (2023) argues that gamification can raise engagement through challenges and healthy competition while supporting both intrinsic and extrinsic motivation. Clarice et al. (2023) report benefits such as increased engagement and stronger knowledge retention due to memorable, experience-based learning. Wulan et al. (2024) further link gamification to improved participation, motivation, academic performance, critical thinking, and problem-solving. Importantly, these outcomes are not automatic; Ariani (2020) notes that effective gamification requires appropriate technology integration—especially through LMS platforms that enable structured activity design and real-time monitoring and feedback.

Differences in how gamification is implemented may help explain mixed findings across studies. Kapp (2013) distinguishes structural gamification—adding game elements to the learning process without changing the instructional content—from content gamification, which embeds game logic into the content itself. Structural gamification often leverages

points, badges, levels, challenges, leaderboards, and feedback to motivate participation, making it well-suited for LMS-based environments (Garone & Nesteriuk, 2019). In contrast, content gamification requires game-based thinking in instructional design, including storylines, missions, and staged access to content (Filatro & Cavalcanti, 2016). Conceptually, structural gamification may influence behavior through feedback and rewards, whereas content gamification may more strongly shape emotional engagement and meaning-making.

The literature presents a balanced view of gamification's potential and limitations. On the positive side, gamification can increase motivation and participation by using rewards, competition, and challenge (Wulan et al., 2024). It may also strengthen retention and skill application, including critical thinking and language-related skills (Boivan & Kovtun, 2023), and promote 21st-century skills such as collaboration, creativity, problem-solving, and digital literacy (Chebotareva et al., 2023). At the same time, gamification can distract students if they focus more on rewards than on learning goals (Wulan et al., 2024). Equity issues related to uneven access to technology may also limit impact, and weak design can lead to misalignment with curriculum demands. In addition, some educators remain skeptical about gamification's seriousness, and implementation often requires significant time and design expertise (Chebotareva et al., 2023).

Learning motivation

Learning motivation refers to psychological forces that initiate, direct, and sustain students' learning behaviors toward academic goals. Sardiman (2011) conceptualizes motivation as an internal driver that ensures persistence and provides direction in learning activities. Similarly, Parwati et al. (2023) describe it as an internal condition that shapes the intensity of engagement and students' endurance in learning. From a Self-Determination Theory perspective, motivation quality depends on the fulfillment of autonomy, competence, and relatedness needs (Deci & Ryan, 2013). Felicia (2022) adds that motivation is dynamic and energizes students' commitment to learn, influencing efficiency and effectiveness in learning processes. These frameworks collectively indicate that motivation is not merely enthusiasm, but a regulative system responsive to instructional design and learning environments.

Motivation is commonly categorized as intrinsic or extrinsic, reflecting whether the drive comes from internal interest or external incentives. Intrinsic motivation is driven by curiosity, personal meaning, and satisfaction; it supports sustained engagement and deep learning (Purna et al., 2024). Sya'ban et al. (2025) emphasize that enjoyment, pride, and satisfaction in overcoming learning challenges strengthen intrinsic motivation. Extrinsic motivation, in contrast, emerges from external rewards such as grades, praise, or recognition (Purna et al., 2024), and can increase effort especially among students with weak internal motivation (Sya'ban et al., 2025). However, excessive reliance on extrinsic incentives may shift attention away from understanding. Gamification often blends both motivational types, making it important to examine whether it primarily supports internal interest or operates mainly as a reward mechanism.

Motivation is shaped by interacting internal and external factors. Ma (2024) identifies interest and personal satisfaction as central internal drivers that encourage active engagement. Haerani et al. (2024) specify internal factors such as curiosity, self-confidence, and physical and mental conditions. Externally, family and school environments play major roles in strengthening or weakening motivation (Ma, 2024), including parental support, teaching methods and reinforcement, classroom climate and facilities, peer influence, and the broader dynamics of digitalization (Haerani et al., 2024). This evidence implies that motivation should be analyzed as an outcome of both learner characteristics and learning ecology. Therefore, gamification may function as an environmental amplifier when it supports autonomy, competence-building, and positive social interaction.

Motivation indicators help operationalize motivation through observable behaviors and attitudes. Uno (2023) identifies indicators such as the desire to succeed, learning needs, future aspirations, learning rewards, engaging activities, and supportive learning conditions. Sardiman (2011) adds persistence, resilience, interest in problem-solving, preference for independent work, and consistency in beliefs and opinions. In online learning contexts, Julindrastuti and Karyadi (2024) emphasize concentration, enthusiasm, independence, readiness, self-confidence, and consistency. Sholihah et al. (2024) propose indicators including self-efficacy, interest and enjoyment, connection to daily life, and cross-cultural interaction. Samsun et al. (2024) consolidate motivation into intrinsic and extrinsic dimensions, offering a useful lens to evaluate whether gamified learning primarily strengthens internal engagement or relies on external incentives.

Positive perceptions

Positive perceptions in learning refer to students' constructive evaluations of their learning experiences, including comfort, enjoyment, a sense of being valued, and active involvement. Temel and Tekin (2023) link positive perceptions to optimistic self-evaluation and well-being, which can support confidence and persistence in academic tasks. Utami (2018) describes positive perceptions as favorable interpretations of learning experiences that make students more open and adaptive. Hussain et al. (2019) connect students' perceptions to how they view themselves as capable learners and how they evaluate teacher support and school climate. These perspectives suggest that positive perception is a key quality indicator of learning interactions and may function as a pathway through which instructional strategies shape engagement and resilience.

Positive perceptions are formed through both personal beliefs and contextual conditions. Hussain et al. (2019) identify self-efficacy as a central factor, as confident students tend to evaluate learning more positively. Teacher support is also critical; students are more likely to develop positive perceptions when they feel safe and respected (Temel & Tekin, 2023). A supportive school climate further strengthens students' social-emotional comfort (Hussain et al., 2019). Additionally, relevance of content and teaching methods shapes perception, with contextualized and engaging instruction promoting more favorable interpretations (Utami, 2018). Emotional experiences during learning—such as pride, enjoyment, or satisfaction—can reinforce positive perceptions, whereas boredom or anxiety may undermine them (Temel & Tekin, 2023). These factors indicate that gamification may affect perceptions not only through novelty, but through confidence-building, social support, and meaningful engagement.

Positive perception is multidimensional and can be inferred from behavioral engagement and cognitive-affective signals. Han (2021) suggests measuring positive perceptions through learning engagement indicators such as active participation and sustained reading behaviors. Rowe et al. (2015) describe broader indicators, including improved cognitive functioning (attention and memory), a positive classroom climate, authentic teacher emotions (enthusiasm and empathy), relevant and attractive curriculum, and positive interpersonal relationships between students and teachers. Synthesizing these perspectives, positive perceptions can be reflected in positive affect toward learning, cognitive engagement, trust in teachers and the learning environment, and students' favorable self-evaluation as learners. These indicators provide a basis for assessing whether gamification enhances learning quality beyond short-term excitement.

3. Proposed Method

This study adopted a quantitative approach with a causal-comparative (*ex post facto*) research design to examine the effect of gamification on students' learning motivation and positive perceptions in economics learning. The *ex post facto* design was selected because the study investigated relationships among variables under naturally occurring classroom conditions without administering a specific instructional treatment. The research was conducted at SMAN 1 Pangkajene dan Kepulauan, South Sulawesi, Indonesia, from September to November 2025, encompassing instrument preparation, data collection, and analysis.

The population consisted of all Grade 10 students at SMAN 1 Pangkajene dan Kepulauan in the 2025/2026 academic year, totaling 394 students across 11 classes (X A–X K). A sample of 198 students was determined using Slovin's formula with a 5% margin of error. To ensure proportional representation from each class, proportional random sampling was employed, resulting in 18 students selected from each Grade 10 class.

Data were collected primarily through questionnaires and supported by documentation. The questionnaires measured learning motivation and positive perceptions using a Likert-type scale. Documentation was used to obtain secondary data, including student enrollment, class distribution, lesson schedules, and relevant administrative records. Data analysis comprised descriptive and inferential statistics. Descriptive statistics summarized motivation and perception scores using minimum and maximum values, means, standard deviations, frequencies, and percentages. Inferential analysis tested the hypothesized effects of gamification on learning motivation and positive perceptions. Prior to hypothesis testing, instrument validity was assessed using Pearson product–moment correlations between item and total scores, with items considered valid at the 5% significance level. Reliability was examined using Cronbach's alpha, with coefficients of $\alpha \geq 0.70$ indicating acceptable internal consistency. Assumption testing included normality (Kolmogorov–Smirnov test), linearity (ANOVA Test of Linearity),

and homoscedasticity (Glejser test), with p -values greater than 0.05 indicating that assumptions were met.

4. Results and Discussion

Result of Research

Simple Linear Regression Analysis

Simple linear regression analysis was used to examine the partial effect of a single independent variable (gamification) on each dependent variable, namely learning motivation and positive perceptions in economics learning.

Effect of Gamification on Learning Motivation in Economics

The regression analysis was conducted to determine whether the implementation of gamification in economics learning significantly affects students' learning motivation.

Table 1. Results of Simple Linear Regression Analysis (Gamification → Learning Motivation).

Model	Unstandardized B	Std. Error	Beta	t	Sig.
(Constant)	46.939	4.102	–	11.444	< .001
Gamification	0.223	0.085	0.184	2.617	0.010

Source: SPSS Output (2025)

The regression results indicate that gamification has a statistically significant effect on students' learning motivation in economics. The significance value ($p = 0.010$) is below the 0.05 threshold, indicating that higher levels of gamification implementation are associated with increased learning motivation. The unstandardized regression coefficient ($B = 0.223$) suggests that each one-unit increase in gamification leads to an increase of 0.223 points in students' motivation scores. The obtained t value (2.617) exceeds the critical value, confirming the statistical significance of the relationship. The standardized coefficient ($\beta = 0.184$) indicates a positive contribution of gamification to learning motivation, although the strength of the effect is categorized as low. Therefore, Hypothesis H₁, stating that gamification significantly influences the learning motivation of Grade 10 students at SMAN 1 Pangkep in economics learning, is accepted.

Effect of Gamification on Positive Perceptions

The regression analysis was also performed to assess the extent to which gamification influences students' positive perceptions of economics learning.

Table 2. Results of Simple Linear Regression Analysis (Gamification → Positive Perceptions).

Model	Unstandardized B	Std. Error	Beta	t	Sig.
(Constant)	30.933	2.616	–	11.825	< .001
Gamification	0.193	0.054	0.246	3.558	< .001

Source: SPSS Output (2025)

The results demonstrate that gamification has a significant positive effect on students' positive perceptions of economics learning. The significance value ($p < 0.001$) confirms that increased quality of gamification implementation is associated with more favorable student perceptions. The unstandardized regression coefficient ($B = 0.193$) indicates that each one-unit increase in gamification increases positive perception scores by 0.193 points. In addition, the confidence interval (0.086–0.301), which does not cross zero, supports the robustness of this effect. The t value (3.558) substantially exceeds the significance threshold, providing strong statistical evidence for the effect. The standardized coefficient ($\beta = 0.246$) suggests that the contribution of gamification to positive perceptions falls within the moderate effect size category. Accordingly, Hypothesis H₂, which posits that gamification positively and significantly affects the positive perceptions of Grade 10 students at SMAN 1 Pangkep in economics learning, is accepted.

Coefficient of Determination (R²)

The coefficient of determination (R^2) was calculated to examine how much variance in the dependent variables can be explained by gamification.

Table 3. Model Summary (R Square).

Dependent Variable	R	R Square	Adjusted R Square	Std. Error of the Estimate
Learning Motivation (Y ₁)	0.184	0.034	0.029	5.92404
Positive Perceptions (Y ₂)	0.246	0.061	0.056	3.77828

Source: SPSS Output (2025)

For learning motivation (Y₁), the correlation coefficient ($R = 0.184$) indicates a low relationship between gamification and learning motivation. The R^2 value of 0.034 shows that gamification explains 3.4% of the variance in students' learning motivation, while the remaining 96.6% is attributable to other factors outside the research model, such as teaching methods, learning environments, and students' internal characteristics. Although the explanatory power is limited, the earlier t -test results confirm that the effect of gamification is statistically significant, indicating a real but non-dominant influence.

For positive perceptions (Y₂), the correlation coefficient ($R = 0.246$) reflects a weak but positive relationship between gamification and students' perceptions of economics learning. The R^2 value of 0.061 indicates that gamification accounts for 6.1% of the variance in positive perceptions, while 93.9% is explained by other variables such as prior learning experiences, perceptions of teachers, and classroom comfort. Moreover, the ex post facto design, which did not involve direct instructional intervention, may limit the model's explanatory capacity. Nevertheless, the significant regression results demonstrate that gamification serves as a meaningful supporting factor in shaping students' positive perceptions of economics learning.

Discussion

Gamification and Students' Learning Motivation in Economics

The findings of this study demonstrate that gamification has a positive and statistically significant effect on students' learning motivation in economics among Grade 10 students at SMAN 1 Pangkep. The regression results indicate that increased implementation of gamification is associated with higher levels of learning motivation, supporting the acceptance of Hypothesis H₁. This finding confirms that gamification functions as an effective motivational trigger in economics learning contexts, particularly by enhancing students' engagement and interest in instructional activities.

Despite its statistical significance, the explanatory power of gamification in this study remains relatively limited. The coefficient of determination ($R^2 = 0.034$) indicates that gamification accounts for only 3.4% of the variance in learning motivation, while the majority of variance is explained by other factors outside the research model. These factors may include teaching strategies, classroom dynamics, students' intrinsic interest, and broader learning environments. This result suggests that gamification serves as a supporting rather than dominant factor in shaping students' motivational behavior.

The present findings are consistent with prior international studies highlighting the motivational benefits of gamification. Fuentes-Riffo et al. (2023) reported that gamification can enhance students' motivation and academic achievement by up to 23%, emphasizing the role of game elements such as points, challenges, and immediate feedback in stimulating engagement. Similarly, Imron et al. (2024) observed a substantial increase in students' motivation scores following the implementation of gamified learning, with motivation levels rising from 3.8 to 4.7. These studies reinforce the notion that gamification can create more engaging, competitive, and enjoyable learning experiences that foster student motivation.

However, the relatively low standardized coefficient ($\beta = 0.184$) in this study indicates that the strength of gamification's influence on motivation is modest. This suggests that while gamification can initiate and sustain motivational engagement, it does not independently determine students' overall motivation levels. Other pedagogical and contextual factors—such as instructional quality, teacher–student interaction, and students' intrinsic goals—likely exert a stronger influence. This interpretation aligns with the systematic review by Ratinho and Martins (2023), who found that gamification's motivational effects tend to diminish over time due to the novelty effect and students' growing dependence on extrinsic rewards. Without deeper pedagogical integration, the motivational impact of gamification may weaken as students become accustomed to game-based elements.

Taken together, these findings indicate that gamification is an effective motivational strategy in economics learning, but its impact is most meaningful when implemented continuously and combined with other active and student-centered instructional approaches. Teachers are encouraged to vary game elements, introduce progressive challenges, and actively involve students in the learning process to ensure that motivational gains are sustained rather than temporary.

Gamification and Students' Positive Perceptions of Economics Learning

In addition to learning motivation, the results reveal that gamification has a positive and significant effect on students' positive perceptions of economics learning, supporting the acceptance of Hypothesis H₂. The regression analysis shows that improvements in the quality of gamification implementation are associated with more favorable student perceptions of the learning process. This finding suggests that gamification contributes to shaping how students experience and evaluate economics learning, particularly in terms of enjoyment, engagement, and perceived value.

The coefficient of determination ($R^2 = 0.061$) indicates that gamification explains 6.1% of the variance in students' positive perceptions, while the remaining variance is influenced by other factors such as prior learning experiences, perceptions of teachers, and classroom comfort. Although this contribution is relatively modest, it is higher than that observed for learning motivation, suggesting that gamification may exert a stronger influence on students' affective evaluations of learning experiences than on their underlying motivational structures.

This result is consistent with previous research emphasizing the role of gamification in shaping positive learning perceptions. Duterte (2024) found that gamified classroom environments enhance students' positive perceptions by increasing enjoyment, engagement, and perceived autonomy in learning. Similarly, Sunarti et al. (2022) reported that students perceive gamification as a beneficial and enjoyable instructional strategy that improves understanding, retention, and overall learning experience. These findings collectively support the argument that gamification enhances the experiential quality of learning rather than merely influencing performance outcomes.

Nevertheless, the standardized coefficient ($\beta = 0.246$) indicates that the strength of gamification's effect on positive perceptions remains within the low-to-moderate range. This reflects the complex and multifaceted nature of students' perceptions, which are shaped not only by instructional strategies but also by teacher behavior, social relationships, classroom climate, and individual learning histories. Consequently, gamification should be viewed as a complementary component rather than a sole determinant of students' positive learning perceptions.

Furthermore, the limited R^2 value aligns with the findings of Juli et al. (2023), who reported substantial variability in students' responses to gamification, with some students responding enthusiastically while others showing minimal engagement. Hamadneh et al. (2024) similarly noted that the overall impact of gamification on students' perceptions is often inconsistent due to differences in individual preferences and learning styles. These findings highlight the importance of adaptive and differentiated gamification designs that accommodate diverse learner characteristics.

Overall, this study suggests that gamification is an effective strategy for enhancing students' positive perceptions of economics learning, but its effectiveness depends heavily on the quality of design, sustainability of implementation, and alignment with students' needs. Integrating gamification with active learning approaches and providing varied, meaningful game elements may help ensure that positive learning experiences are consistently reinforced. When thoughtfully implemented, gamification can enrich students' learning experiences and strengthen their positive perceptions of economics as a subject.

5. Conclusions

This study concludes that gamification has a positive and statistically significant effect on students' learning motivation and positive perceptions in economics learning among Grade 10 students at SMAN 1 Pangkep. These findings indicate that the integration of game elements into classroom instruction enhances students' affective engagement by strengthening both their motivation to learn and their constructive evaluations of the learning process. Accordingly, the research objectives were achieved and the proposed hypotheses were supported, confirming that gamification represents a relevant and effective instructional strategy in the context of senior high school economics education.

From a theoretical perspective, this study reinforces the view that gamification can be conceptualized as a pedagogical approach that contributes meaningfully to the affective dimension of learning, particularly student motivation and perceptions, which are often treated as secondary to cognitive outcomes. The findings provide empirical support for experience- and engagement-oriented learning frameworks by demonstrating that instructional designs incorporating game elements can enrich the overall quality of students' learning experiences. From a practical and managerial standpoint, the results suggest that teachers should design gamification strategies in a varied and sustainable manner, integrating them as part of ongoing instructional innovation rather than as isolated activities. At the institutional level, schools play a strategic role in supporting effective gamification through the provision of adequate technological infrastructure and supportive learning environments.

Despite its contributions, this study has several limitations. The focus on a single school context and a relatively limited sample size restricts the generalizability of the findings. In addition, the low coefficients of determination indicate that students' learning motivation and positive perceptions are influenced by multiple factors beyond gamification alone. Future research is therefore encouraged to involve more diverse educational settings, larger and more representative samples, and additional explanatory variables in order to develop a more comprehensive understanding of the role of gamification in learning.

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