

Gamification Elements and Their Relationship with Creative Motivation in Higher Education: An Empirical Investigation

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Abstract: This study investigates how specific gamification elements-points, achievements, and ratings-relate to creative motivation within an Acmeological Gamification Didactic Framework (AGDF). A quasi-experimental design was employed with 186 undergraduate students at Namangan State University (NamSU), Uzbekistan (experimental: $n = 93$, 41M/52F; control: $n = 93$, 40M/53F). Creative thinking was assessed via the Williams Creativity Scale and intrinsic motivation via the IMI/SDT instrument. Results showed significant between-group differences ($t = 6.51$, $p < 0.001$; $d = 0.95$), with achievement badges most strongly predicting intrinsic creative motivation ($r = 0.61$, $p < 0.001$). Rating-based elements showed mixed effects moderated by competitive orientation. The study advances acmeological theory and offers practical guidance for creativity-oriented gamified curriculum design.

Keywords: Gamification, Creative motivation, Higher education, Acmeology, Intrinsic motivation, Points systems, Achievement mechanics, Rating systems, Williams Creativity Scale, IMI/SDT

1. Introduction

The integration of gamification-the application of game-design elements in non-game contexts-into higher education has accelerated dramatically over the past decade, driven by concerns about student engagement, intrinsic motivation, and the cultivation of twenty-first-century competencies (Deterding et al., 2011; Dicheva et al., 2015). As digital learning environments proliferate, institutions worldwide are experimenting with points systems, achievement badges, leaderboards, and progress bars as pedagogical instruments aimed at sustaining learner motivation and deepening cognitive engagement (Domínguez et al., 2013). However, while enthusiasm for gamification as an educational intervention is widespread, the empirical evidence regarding its specific motivational mechanisms remains fragmented and, in several respects, contradictory (Koivisto and Hamari, 2019).

A central unresolved question concerns the relationship between discrete gamification elements and creative motivation specifically. Gamification research has broadly documented effects on task engagement, completion rates, and surface-level behavioural participation (Toda et al., 2018). Yet creative motivation-defined here as the intrinsic drive to generate novel, original, and elaborative cognitive products-is a qualitatively distinct psychological construct that may respond differently to various gamification stimuli than general task motivation (Hennessey and Amabile, 2010; Runco and Jaeger, 2012). Points, achievements, and ratings each carry distinct psychological valencies: points provide continuous quantitative feedback; achievements mark qualitative milestones aligned with self-efficacy growth; and ratings situate the learner within a social comparison framework (Landers, 2014). Each of these mechanisms may either support or undermine creative motivation depending on contextual, individual, and instructional variables.

The acmeological tradition in educational science-concerned with the trajectory of professional self-actualisation and peak performance development-offers a particularly productive theoretical lens through which to examine gamification and creativity (Bodalev, 1998; Derkach and Zazykin, 2003). Acmeological pedagogy posits that effective educational design should scaffold learners toward progressively more autonomous, reflective, and professionally oriented cognitive activity (Derkach and Zazykin, 2003). Within this framework, gamification elements are not motivationally neutral; their design and sequencing carry implications for whether students develop extrinsic compliance-oriented behaviour or genuinely intrinsic creative drives (Reeve, 2012).

Despite the theoretical richness of this intersection, empirical studies explicitly examining the differentiated effects of specific gamification elements on creative motivation within an acmeological framework are strikingly absent from the literature (Subhash and Cudney, 2018; van Roy and Zaman, 2017). Existing reviews of gamification in education focus predominantly on general academic performance, attendance, or satisfaction metrics rather than creativity-specific motivational outcomes (Mekler et al., 2017; Seaborn and Fels, 2015). Studies that do address creativity tend to measure creative output products rather than the motivational preconditions that sustain creative engagement over time (Hwang and Chen, 2023).

This study addresses this gap by investigating, within a systematically designed Acmeological Gamification Didactic Framework (AGDF), how points, achievements, and ratings differentially predict creative motivation in

higher education students. The research was conducted at Namangan State University (NamDU), Uzbekistan, using a quasi-experimental design with 186 students. By combining the Williams Creativity Scale with the Intrinsic Motivation Inventory (IMI/SDT), the study provides a theoretically grounded and empirically rigorous account of the mechanisms through which gamification shapes creative motivation.

The primary aims of the study are: (1) to examine the overall effect of the AGDF on creative thinking development and creative motivation; (2) to investigate the differential contributions of points, achievement badges, and rating systems to intrinsic creative motivation; (3) to identify moderating factors-including competitive orientation and self-efficacy-that condition the motivational effects of each gamification element; and (4) to derive acmeologically grounded principles for the design of creativity-enhancing gamified learning environments.

2. Literature Review and Research Gap

2.1 Gamification in Higher Education: State of the Field

Gamification entered higher education discourse with Deterding et al. (2011), who conceptualised game elements applied in non-game contexts. Subsequent empirical work has examined a broad range of implementations, from simple point accumulation systems to complex narrative-driven environments. Meta-analytic reviews by Hamari, Koivisto and Sarsa (2014) and later by Sailer et al. (2017) established that gamification exerts a moderate positive effect on motivation and engagement, though effect sizes vary substantially across contexts, populations, and element types.

Dichev and Dicheva (2017) critiqued the theoretical shallowness of many gamification studies, noting that implementations frequently adopt surface-level 'PBL' (points, badges, leaderboards) mechanics without grounding design decisions in motivational theory. This critique is echoed in a systematic review by Seaborn and Fels (2015), which found that fewer than 40% of gamification studies in educational settings employed an explicit motivational framework. Self-Determination Theory (SDT), proposed by Deci and Ryan (2000), has emerged as the most frequently invoked theoretical anchor, with researchers examining how gamification elements satisfy or frustrate the basic psychological needs of autonomy, competence, and relatedness (Ryan and Deci, 2017).

Sailer et al. (2013) conducted one of the few studies to examine the differential psychological effects of specific gamification elements, finding that badges and meaningful narrative elements more strongly satisfy competence and relatedness needs than leaderboards, which can undermine autonomy in students with low competitive orientation. These findings are congruent with the predictions of Deci and Ryan (2000) but remain under-replicated, particularly outside Western university contexts (Işık and Ateş, 2023).

2.2 Creative Motivation: Conceptual and Empirical Background

Creative motivation is understood as the intrinsic drive to engage in novel, original, and elaborative cognitive activity. Amabile's (1996) componential model distinguishes domain-relevant skills, creativity-relevant processes, and intrinsic task motivation as the three pillars of creative performance, with intrinsic motivation identified as the most malleable and context-sensitive component. Subsequent empirical work has confirmed that evaluative climates-including competitive social comparison-can reduce intrinsic creative motivation through the threat of extrinsic contingency (Elliot and Church, 1997).

Cropley and Cropley (2009) have argued that educational systems frequently prioritise convergent over divergent thinking, with assessment and reward structures inadvertently suppressing creative risk-taking. Points and rating systems in gamified environments risk replicating this dynamic if they reward speed and accuracy rather than originality and elaboration (Deci, Koestner and Ryan, 1999). Achievement badge systems, by contrast, offer the possibility of recognising qualitatively distinct creative accomplishments, thereby operationalising the principle advanced by Amabile (1996) that intrinsic motivation flourishes when rewards are informational rather than controlling (Cameron and Pierce, 1994).

2.3 Acmeological Perspectives on Gamification and Creativity

Acmeology, as developed by Bodalev (2006) and subsequently applied to pedagogical design by Derkach and Zazykin (2004), positions professional self-actualisation-the trajectory toward individual peak performance-as the organising telos of educational development. Within this framework, pedagogical interventions are evaluated not merely by their immediate motivational effects but by their contribution to sustainable professional identity formation and creative self-efficacy (Markova, 1996). Markova (1990) argued that effective acmeological pedagogy must create conditions for learners to experience competence growth as intrinsically

meaningful rather than extrinsically rewarded. Gamification elements aligned with this principle-those that mark genuine developmental milestones rather than mere task completion-may be particularly effective at sustaining creative motivation (Derkach and Zazykin, 2004).

The Tolipov-Usmonbaev coefficient system (Tolipov and Usmonbaev, 2005), developed for Central Asian pedagogical contexts, provides a dual-metric framework combining objective performance indicators (K_yc: learning achievement coefficient) and quality assurance (K_6oc) that complement Western psychometric instruments.

2.4 Identified Research gap

Synthesis of the foregoing literature reveals three convergent gaps that the present study addresses. First, while gamification research has examined general motivational outcomes, studies specifically examining creative motivation as the dependent variable are rare, with only isolated empirical investigations directly measuring creativity-specific intrinsic motivation rather than general task engagement (Landers, Bauer and Callan, 2017). Second, the differential effects of distinct gamification elements (points versus achievements versus ratings) on creative motivation have not been systematically compared within a single study using a robust experimental design (Hanus and Fox, 2015). Third, no published study has integrated acmeological theory with gamification design to examine whether element types aligned with professional self-development goals produce superior creative motivation outcomes (Bereby-Meyer and Kaplan, 2005; Plass, Homer and Kinzer, 2015). These gaps are significant because they leave practitioners without theoretically grounded guidance on how to design gamification systems that specifically cultivate rather than undermine creative motivation. The present study is positioned as a direct empirical response to this gap, providing one of the first quasi-experimental investigations of the differential effects of AGDF-embedded points, achievement, and rating mechanics on creative motivation in a Central Asian higher education context.

3. Methods

3.1 Research Design

A quasi-experimental pre-test/post-test control group design was employed (Shadish, Cook and Campbell, 2002). The design was selected because random assignment to conditions was not feasible within the institutional context of NamDU, where intact course groups constitute the natural unit of assignment. Students were assigned to experimental and control conditions based on their registered course sections, with care taken to ensure demographic equivalence across conditions. Participants were included if they were enrolled in the selected second-year Mathematics course sections and completed both pre-test and post-test measures. Students with incomplete responses ($n = 4$) were excluded prior to final analysis, yielding the final sample of 186 participants.

3.2 Participants

A total of 186 undergraduate students from Namangan State University participated in the study. The experimental group comprised 93 students (41 male, 52 female; $M_{age} = 19.7$, $SD = 1.3$), and the control group comprised 93 students (40 male, 53 female; $M_{age} = 19.5$, $SD = 1.2$). All participants were enrolled in second-year core curriculum courses. The balanced gender composition across groups ($\chi^2 = 0.02$, $p = 0.881$) and non-significant age difference ($t = 1.12$, $p = 0.264$) confirmed demographic equivalence. Table 1 presents full participant characteristics.

Table 1: Participant Characteristics by Condition

Characteristic	Experimental (n=93)	Control (n=93)	Equivalence Test
Gender (M/F)	41/52	40/53	$\chi^2=0.02$, $p=0.881$
Mean Age (SD)	19.7 (1.3)	19.5 (1.2)	$t=1.12$, $p=0.264$
Year of Study	2nd year	2nd year	-
Pre-test WCS M (SD)	1.74 (0.38)	1.76 (0.37)	$t=0.34$, $p=0.735$

3.3 Intervention: Acmeological Gamification Didactic Framework (AGDF)

The AGDF intervention was delivered over a 14-week semester within regular coursework. The framework incorporated three gamification element categories, each designed according to acmeological principles:

Points System (PS): Students accumulated points through task completion, peer evaluation participation, and reflective journaling. Points were designed to provide continuous competence feedback rather than merely tracking compliance. A 'creative bonus' point category rewarded novel problem-solving approaches specifically.

Achievement Badges (AB): A tiered badge system of 18 achievements mapped onto the acmeological professional development trajectory: foundational (creative risk-taking), intermediate (collaborative ideation), and advanced (original disciplinary contribution). Badges were earned through qualitative evaluative milestones, not point thresholds.

Rating System (RS): A transparent class-wide leaderboard updated weekly. Two variants were implemented: absolute ranking (position in class) and growth ranking (percentage improvement from baseline), with students randomly assigned to one variant within the experimental condition.

Control group instruction followed the standard institutional curriculum without any gamification elements. Both conditions were delivered by the same instructor, and instructional time was held constant. To control for instructor effects, lesson delivery was standardised using a detailed protocol reviewed by an independent pedagogy expert.

Table 2: AGDF Components, Gamification Elements, and Acmeological Functions

AGDF Component	Gamification Element	Acmeological Function	Expected Motivational Effect
Points System (PS)	Creative bonus points	Continuous competence feedback	Competence support; sustained engagement
Achievement Badges (AB)	Tiered badges (18 levels)	Developmental milestones	Intrinsic motivation; creative self-efficacy
Rating System (RS)	Growth-framed ranking	Self-referenced progress evaluation	Reduced evaluative pressure; autonomy support

3.4 Measures

Williams Creativity Scale (WCS): The WCS (Williams, 1980) is a 50-item instrument measuring four dimensions of creative thinking: fluency, flexibility, originality, and elaboration. Items are scored on a 4-point Likert scale, yielding a composite creativity index (range 1–4). The instrument demonstrated strong reliability in this sample (Cronbach's $\alpha = 0.87$).

Intrinsic Motivation Inventory/Self-Determination Theory Scale (IMI/SDT): Seven items measuring intrinsic creative motivation were drawn from the validated IMI instrument (Deci and Ryan, 2000; Ryan, 1982), specifically the interest-enjoyment and perceived competence subscales, adapted for creative academic work. Items were rated on a 7-point Likert scale. Cronbach's $\alpha = 0.84$. Both instruments were linguistically adapted for the local educational context and reviewed by two independent pedagogy experts for clarity and content relevance prior to administration. A pilot test with 12 students confirmed item comprehension and response format suitability.

Tolipov-Usmonbaev Pedagogical Diagnostic Coefficients (Tolipov and Usmonbaev, 2005): K_{yc} (learning achievement coefficient) was calculated as the ratio of post-test to pre-test mean scores; K_{6oc} (quality assurance coefficient) was calculated as the proportion of students meeting a defined mastery criterion.

3.5 Data Analysis

Independent samples t-tests were used to assess between-group differences in post-test WCS and IMI scores. Pre-test scores were verified as equivalent using the same procedure. Pearson correlations were calculated between gamification element engagement indices (points accumulated, achievements earned, rating position) and IMI subscale scores within the experimental group. Multiple linear regression was used to examine the independent predictive contributions of each gamification element index to intrinsic creative motivation, controlling for pre-test creativity scores and gender. Moderation analyses were conducted using the PROCESS macro (Model 1) with competitive orientation (measured by a 4-item scale adapted from Elliot and Church (Elliot

and Church, 1997)) as the moderator. All analyses were conducted in SPSS v.26. The significance threshold was set at $\alpha = 0.05$.

4. Results

4.1 Overall Effect of the AGDF on Creative Thinking

Post-test WCS scores differed significantly between the experimental ($M = 2.18$, $SD = 0.42$) and control groups ($M = 1.77$, $SD = 0.39$), $t(184) = 6.51$, $p < 0.001$, $d = 0.95$ (large effect). The experimental group demonstrated a 25.3% gain from pre-test ($M = 1.74$, $SD = 0.38$) to post-test, compared to a 0.6% gain in the control group, confirming the effectiveness of the AGDF intervention. The Tolipov-Usmonbaev coefficient $K_{yc} = 1.14$ indicates a 14% net learning achievement gain. $K_{6oc} = 0.42$ indicates that 42% of experimental group students met the advanced mastery criterion on the WCS, compared to 11% in the control group.

4.2 Effect on Creative Motivation (IMI/SDT)

Post-test IMI total scores were significantly higher in the experimental group ($M = 5.34$, $SD = 0.74$) than in the control group ($M = 4.12$, $SD = 0.81$), $t(184) = 10.14$, $p < 0.001$, $d = 1.48$. Subscale analysis revealed particularly large effects for interest-enjoyment ($d = 1.61$) and perceived competence ($d = 1.29$). Table 3 presents full descriptive and inferential statistics.

Table 3: Post-test Descriptive Statistics and Group Comparisons

Measure	Exp. M (SD)	Control M (SD)	t(184)	p	Cohen's d
WCS Total	2.18 (0.42)	1.77 (0.39)	6.51	<0.001***	0.95
IMI Total	5.34 (0.74)	4.12 (0.81)	10.14	<0.001***	1.48
IMI Interest-Enjoyment	5.61 (0.69)	4.04 (0.88)	12.80	<0.001***	1.61
IMI Perceived Competence	5.21 (0.82)	4.23 (0.77)	7.84	<0.001***	1.29
IMI Pressure-Tension (rev.)	5.19 (0.91)	4.08 (0.94)	7.61	<0.001***	1.20

Note. *** $p < 0.001$. IMI Pressure-Tension is reverse-scored so that higher values indicate lower experienced pressure.

4.3 Differential Effects of Gamification Elements on Creative Motivation

Within the experimental group, Pearson correlations between gamification element engagement indices and IMI total score revealed: Achievement Badges ($r = 0.61$, $p < 0.001$), Points Accumulated ($r = 0.43$, $p < 0.001$), and Rating Position ($r = 0.19$, $p = 0.071$). Achievement engagement was the strongest single correlate of creative motivation, and the correlation for rating position did not reach significance at the group level.

Multiple linear regression with IMI total score as the dependent variable explained 48.3% of variance ($F(5, 87) = 16.27$, $p < 0.001$, $R^2 = 0.483$, adjusted $R^2 = 0.455$). Achievement badge engagement emerged as the strongest independent predictor ($\beta = 0.47$, $p < 0.001$), followed by points accumulation ($\beta = 0.24$, $p = 0.008$). Rating position was not a significant independent predictor ($\beta = 0.07$, $p = 0.391$) after controlling for achievement and points engagement.

4.4 Moderation by Competitive Orientation

Moderation analysis (PROCESS Model 1) revealed that competitive orientation significantly moderated the relationship between rating position and IMI total score (interaction term: $\beta = 0.31$, $p = 0.003$). For students with high competitive orientation (1 SD above mean), rating position was a significant positive predictor of creative motivation (simple slope = 0.38 , $p = 0.011$). For students with low competitive orientation (1 SD below mean), rating position was a non-significant and numerically negative predictor (simple slope = -0.09 , $p = 0.472$), suggesting that prominent leaderboard visibility may slightly suppress creative motivation for less competitively oriented students.

4.5 Growth Rating vs. Absolute Rating

Within the experimental group, students assigned to the growth-ranking variant ($n = 46$) reported significantly higher IMI total scores ($M = 5.51$, $SD = 0.69$) than those in the absolute-ranking variant ($n = 47$; $M = 5.18$, $SD = 0.77$), $t(91) = 2.17$, $p = 0.032$, $d = 0.45$. This difference was not moderated by competitive orientation (interaction $\beta = 0.08$, $p = 0.519$), suggesting that growth-framed ratings provide a more uniformly positive motivational environment regardless of individual competitive disposition.

5. Discussion

5.1 Overall AGDF Effectiveness and Theoretical Implications

The large effect of the AGDF intervention on creative thinking development ($d = 0.95$) and creative motivation ($d = 1.48$) substantially exceeds the moderate average effects reported in gamification meta-analyses (Hamari, Koivisto and Sarsa, 2014; Sailer et al., 2017). It should be noted that these effect sizes, while statistically robust, were obtained over a single-semester intervention at one institution, and should be interpreted as indicative rather than definitive; replication across multiple contexts is needed before strong causal claims can be made. Most critically, the AGDF was explicitly designed according to acmeological principles, with each gamification element calibrated to align with professional developmental trajectories rather than arbitrary task completion criteria. This design philosophy resonates with the theoretical claim advanced by Markova (1990) that pedagogical interventions are most effective when reward structures encode meaningful developmental milestones.

The finding that creative motivation-as measured by the IMI-increased as substantially as creative output is theoretically significant. Existing gamification research has predominantly documented behavioural engagement effects without establishing corresponding intrinsic motivation gains (Dichev and Dicheva, 2017; Seaborn and Fels, 2015). The present results suggest that when gamification is specifically designed to be informational rather than controlling-in the sense proposed by Deci and Ryan (2000)-it can reliably strengthen intrinsic creative motivation, aligning with the assertion by Amabile (1996) that informational reward contingencies support creative motivation.

5.2 Differential Effects of Gamification Elements

The finding that achievement badges were the strongest predictor of creative motivation ($r = 0.61$, $\beta = 0.47$) while rating position was non-significant as an independent predictor addresses the study's central research gap directly. This pattern is consistent with the finding of Sailer et al. (2013) that badges satisfy competence needs more effectively than leaderboards, but extends that finding specifically to creative motivation. From an acmeological standpoint, the superiority of achievement mechanics reflects their structural alignment with developmental milestones: badges in the AGDF marked qualitative transitions in creative capability rather than quantitative accumulation, making them more meaning-laden than points (Derkach and Zazykin, 2004).

The non-significance of aggregate rating position as a creative motivation predictor replicates concerns raised by Dichev and Dicheva (2017) and Seaborn and Fels (2015) regarding the potentially demotivating effects of competitive ranking. The positive effect of points accumulation ($\beta = 0.24$) is likely attributable to the AGDF's specific design decision to include a 'creative bonus' points category that rewards original solutions rather than mere task completion-a feature that may preserve informational value in the sense proposed by Deci and Ryan (2000), in contrast to standard completion-tracking points systems (Deci, Koestner and Ryan, 1999; Cameron and Pierce, 1994).

5.3 Competitive Orientation as a Moderator

The significant moderation by competitive orientation clarifies apparent inconsistencies in prior gamification research. Studies finding positive leaderboard effects (Deterding et al., 2011; Domínguez et al., 2013) may have been operating with populations possessing higher mean competitive orientation than studies finding null or negative effects (Landers, Bauer and Callan, 2017; Hanus and Fox, 2015). The finding that growth rankings outperformed absolute rankings for creative motivation-without being moderated by competitive orientation-is practically important: growth-framed rankings transform social comparison from a zero-sum competitive frame to a personal progress frame, thereby avoiding the creative motivation suppression associated with absolute ranking for low-competitive-orientation students (Bereby-Meyer and Kaplan, 2005; Plass, Homer and Kinzer, 2015).

5.4 Contributions to Acmeological Theory

This study makes three distinct contributions to acmeological educational theory. First, it provides an early empirical anchor for theoretical claims advanced by Derkach and Zazykin (2004) and Bodalev (2006), demonstrating that acmeologically-grounded gamification design produces superior creative motivation outcomes. Second, it identifies a theoretically coherent acmeological hierarchy of gamification element effectiveness for creative motivation (achievements > points > ratings). Third, the growth-ranking finding advances acmeological theory by demonstrating that even potentially competitive elements can be reframed to support self-referential developmental evaluation rather than inter-individual comparison (Markova, 1996; Tolipov and Usmonbaev, 2005).

5.5 Limitations

Several limitations warrant acknowledgement. The quasi-experimental design does not permit causal inference with the same confidence as random assignment. The study was conducted at a single institution in Uzbekistan, and cultural factors specific to the Central Asian educational context may moderate generalisability. The gamification engagement indices were not developed using validated psychometric procedures, and future research should develop more rigorous measures. The 14-week observation period does not permit conclusions about the long-term sustainability of creative motivation gains.

6. Conclusion

This study provides one of the first quasi-experimental investigations of the differentiated effects of specific gamification elements-points, achievements, and ratings-on creative motivation within an acmeologically-grounded pedagogical framework. The primary findings establish that: (1) the AGDF produces large effects on both creative thinking development and intrinsic creative motivation; (2) achievement badge mechanics are the most powerful gamification predictor of creative motivation, followed by creatively-oriented points systems; (3) rating systems exert motivationally differentiated effects contingent on individual competitive orientation; and (4) growth-framed ratings constitute a universally beneficial alternative to absolute rankings for creative motivation.

The theoretical novelty of this work lies in its integration of SDT-based motivational theory, Amabile's componential creativity model, and acmeological pedagogical principles within a unified empirical framework. The acmeological design principle-that gamification elements should encode developmental milestone significance rather than compliance-emerges as the operative mechanism through which the AGDF achieves its superior motivational outcomes.

Practical implications are substantial. Educators designing gamified learning environments should prioritise qualitatively-differentiated achievement systems over generic points accumulation, deploy rating systems selectively and in growth-framed variants, and consider competitive orientation as a moderating variable when making decisions about leaderboard visibility.

Future research should examine these mechanisms longitudinally and test the generalisability of the acmeological gamification hierarchy across discipline types and cultural contexts. Replication studies at multiple institutions across Central Asia and internationally would substantially strengthen the evidential base established by this investigation.

Novelty Statement: The novelty of this study is threefold: (1) to the authors' knowledge, it constitutes one of the first empirical investigations to examine the differentiated effects of discrete gamification elements-points, achievements, and ratings-specifically on creative motivation as an independent construct rather than general task engagement; (2) it introduces acmeological pedagogical principles as a theoretically grounded design framework for gamification, demonstrating that alignment of game mechanics with professional developmental trajectories produces superior motivational outcomes; and (3) it identifies competitive orientation as a critical individual moderator of rating-system effectiveness for creative motivation and demonstrates that growth-framed rankings constitute a contextually superior alternative.

Ethics Declaration: This study was conducted in accordance with the ethical standards of Namangan State University. Informed consent was obtained from all participants. Participation was voluntary and confidential. The study did not involve procedures requiring formal ethical committee review beyond standard institutional approval.

AI Declaration: No AI tools were used in the collection, analysis, or interpretation of data. AI-assisted tools were used solely for minor language editing and grammar checking of the final manuscript. All intellectual content, research design, data analysis, and conclusions are the work of the author.

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