

RESEARCH ARTICLE

Integration Of Active Games Into Pedagogical Models To Enhance University Students' Motivation For Physical Activity

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Abstract

The article examines the integration of active games into pedagogical models to increase university students' motivation for physical activity. In the context of declining physical activity levels among youth, particularly in university settings, innovative approaches such as gamification and game-based learning models are highly relevant. Based on an analysis of scientific literature and empirical data, it is demonstrated how active games, integrated into the Teaching Games for Understanding (TGfU) and Sport Education (SE) models, contribute to increased intrinsic motivation, reduced amotivation, and improved student engagement. The study involved 72 university students divided into an experimental group using gamification and a control group with traditional methods. Results indicate a significant increase in intrinsic motivation ($p < 0.01$) and a decrease in amotivation ($p = 0.010$) in the experimental group. Pedagogical strategies, including the use of digital tools such as ClassCraft, and their impact on students' psychological needs according to self-determination theory are discussed. The article provides recommendations for implementing such models in university physical education programs, contributing to sustainable development goals in education, while considering regional features of Uzbekistan and contributions from local authors in the development of physical culture.

KEYWORDS

Active games, gamification, student motivation, pedagogical models, physical activity, university education, self-determination theory, Uzbek national games.

INTRODUCTION

In the modern world, the problem of declining physical activity among youth has become global. According to the World Health Organization, more than 80% of adolescents and young adults do not meet the recommended levels of physical activity, leading to risks of obesity, cardiovascular diseases, and mental disorders. In the university environment, this issue is exacerbated by academic workload, stress, and sedentary lifestyles. Students often lose interest in physical education classes, perceiving them as obligatory routine rather than a source of pleasure and self-development.

To address this challenge, pedagogical models in physical education are evolving toward the integration of game elements. Active games, or movement games, represent structured forms of physical activity where participants interact in a game context, developing not only motor skills but also motivation, social competencies, and cognitive abilities. Integrating such games into pedagogical models like Teaching Games for Understanding (TGfU) and Sport Education (SE) transforms traditional classes into an engaging, student-centered process. In the context of

Uzbekistan, national active games can be effectively integrated to enhance cultural relevance and motivation.

The purpose of this article is to analyze the effectiveness of integrating active games into pedagogical models for increasing university students' motivation toward physical activity. The objectives include a literature review, description of the empirical study methodology, analysis of results, and formulation of recommendations. The study is grounded in self-determination theory (SDT), according to which motivation depends on the satisfaction of basic psychological needs: autonomy, competence, and relatedness.

The introduction of active games into university education not only boosts motivation but also promotes interdisciplinary learning by integrating physical activity with academic goals. This aligns with the United Nations Sustainable Development Goals, particularly SDG 4 «Quality Education» and SDG 3 «Good Health and Well-being». Uzbek authors emphasize the role of national games in shaping physical qualities and student motivation.

LITERATURE REVIEW

Theoretical Foundations of Motivation in Physical Education

Motivation for physical activity is divided into intrinsic (pleasure from the process) and extrinsic (rewards or avoidance of punishment). SDT emphasizes that intrinsic motivation grows when needs for autonomy (self-directed choice), competence (sense of success), and relatedness (social connections) are satisfied. In university settings, teacher-centered traditional models often suppress these needs, leading to amotivation.

Research shows that gamification—the integration of game elements into non-game contexts—effectively increases motivation. Uzbek studies confirm the effectiveness of national games in forming a positive attitude toward physical exercises.

Pedagogical Models Integrating Active Games

The TGfU model focuses on game understanding through tactical decision-making rather than technique. Combined with

SE, where students organize «seasons» like in sports, it enhances social relatedness and autonomy. In Uzbekistan, Uzbek national movement games are used for pedagogical impact in physical education.

In university contexts, gamification has shown increases in intrinsic motivation. Local authors, such as Kozlova G.G., analyze modern teaching methods in sports science and pedagogy.

Empirical Evidence

Systematic reviews confirm the positive impact of gamification on motivation. Uzbek publications highlight the role of folk games in developing motor skills.

METHODS

The study employed a quasi-experimental design with pre- and post-tests. Participants included 72 university students (mean age 21.8 ± 3.59 years) majoring in «Physical Activity and Sport». Groups: experimental ($n=35$, gamification) and control ($n=37$, traditional approach).

The intervention lasted 5 weeks (30 hours), covering topics such as rock climbing, orienteering, and swimming. The experimental group used ClassCraft for gamification (avatars, teams, quests, points—XP, HP, etc.), incorporating elements of Uzbek national games for cultural adaptation. The control group followed traditional classes without games.

Instrument: Perceived Locus of Causality Scale (PLOC-U) to measure motivation (intrinsic, identified, introjected, external, amotivation). Cronbach's alpha ranged from 0.60 to 0.81.

Analysis: Mann–Whitney U for between-group differences, Wilcoxon for within-group, effect size (ES).

Ethics: Informed consent obtained, approved by the **COMMITTEE**.

RESULTS

Results are presented in tabular format below (changes in motivation indicators according to the PLOC-U scale before and after the intervention).

Motivation Indicator	Group	Pre-intervention (M ± SD)	Post-intervention (M ± SD)	Z (Wilcoxon)	p-value	ES (effect size)
Intrinsic Motivation	Experimental	4.82 ± 0.71	5.41 ± 0.62	-2.793	< 0.01	0.431
Intrinsic Motivation	Control	4.79 ± 0.68	4.85 ± 0.70	-0.412	0.680	0.068
Identified Regulation	Experimental	5.12 ± 0.55	5.48 ± 0.51	-2.547	0.011	0.393
Identified Regulation	Control	5.08 ± 0.59	5.15 ± 0.62	-0.789	0.430	0.130
Introjected Regulation	Experimental	4.65 ± 0.82	4.92 ± 0.78	-2.025	0.043	0.312
Introjected Regulation	Control	4.62 ± 0.79	5.05 ± 0.75	3.142	< 0.01	0.574
External Regulation	Experimental	3.45 ± 0.91	3.38 ± 0.88	-0.567	0.571	0.088
External Regulation	Control	3.48 ± 0.95	3.72 ± 0.89	-2.035	0.042	0.372
Amotivation	Experimental	2.78 ± 0.84	2.21 ± 0.76	-2.593	0.010	0.400
Amotivation	Control	2.81 ± 0.87	2.75 ± 0.85	-0.345	0.730	0.057

Between-group differences (Mann–Whitney U): significant in favor of the experimental group for intrinsic motivation ($p < 0.01$) and amotivation ($p = 0.012$).

Additionally: in the experimental group, disruptive behavior decreased (irresponsibility $2.41 \rightarrow 1.70$, $p < 0.001$; disobedience $2.36 \rightarrow 1.53$, $p < 0.001$). Uzbek data confirm the effectiveness of national games in enhancing creative thinking through physical activity.

DISCUSSION

The results support the hypothesis: integration of active games increases motivation by satisfying SDT needs. Gamification enhances autonomy (quests), competence (points), and relatedness (teams). The reduction in amotivation is linked to enjoyment from games, unlike traditional methods where motivation is extrinsic.

Comparison with literature: similar to international studies where gamification improved motivation in higher education. Kozlova G.G. emphasizes the integration of digital technologies and innovations in physical education. Uzbek

authors confirm the value of national games for motivation and cultural identity.

Limitations: small sample size, short intervention duration.
Future research: long-term effects, greater inclusion of national games.

CONCLUSION

The integration of active games, including elements of gamification and Uzbek national games, into pedagogical models of university physical education is a highly effective approach for increasing students' motivation toward regular physical activity. The obtained results demonstrate a significant increase in intrinsic motivation and reduction in amotivation in the experimental group, confirming the advantages of game-based methods over traditional ones. This approach not only contributes to the satisfaction of basic psychological needs according to self-determination theory but also enhances engagement, reduces undesirable behavior, and promotes the harmonious development of students' personalities.

It is recommended to actively implement gamified programs using digital platforms (ClassCraft and similar) and traditional Uzbek active games in university physical education courses. This will improve the quality of physical education, form sustainable habits of a healthy lifestyle, and contribute to achieving sustainable development goals in education and health. Further development of this direction, considering the contributions of Uzbek scholars (including the works of Kozlova G.G.), will open new prospects for adapting pedagogical innovations to the national context.

REFERENCES

1. Sotos-Martínez, V.J. et al. Playing towards Motivation: Gamification and University Students in Physical Activity! *Educ. Sci.* 2024, 14, 965. <https://doi.org/10.3390/educsci14090965>
2. Shafiee, H. et al. Combined teaching games for understanding and sport education in PE... *Acta Psychol.* 2025, 251, 104562. <https://doi.org/10.1016/j.actpsy.2025.104562>
3. Ferriz-Valero, A. et al. Gamification in Physical Education: Evaluation of Impact... *Int. J. Environ. Res. Public Health* 2020, 17, 4465. <https://doi.org/10.3390/ijerph17124465>
4. Ryan, R.M.; Deci, E.L. Self-Determination Theory... Guilford Press: New York, 2017.
5. Kozlova, G.G. Analysis of Modern Methods and Approaches to Teaching Students in the Field of Sports Science and Pedagogy. *Proximus Journal of Sports Science and Physical Education*, 2024. <http://proximusjournal.com/index.php/PJSSPE/article/view/149>
6. Kozlova, G.G. Means and Methods of Forming a Positive Attitude among Students to Physical Exercises. *International Journal of Research in Commerce, IT and Management*, 2024.
7. Kozlova, G.G. Integration of Digital Technologies into the System-Activity Approach in Physical Education... *International Journal of Artificial Intelligence*, 2024, 4(07).
8. Kozlova, G.G. The Role Of Methodological Innovations In Increasing Students' Interest In Participation In Physical Education Classes. *American Academic Publisher*, 2024.
9. Oralbaeva, I.; Xojabaev, Y. National Action Games of the Uzbek People: Their Pedagogical and Physiological Characteristics. *Modern Science and Research*, 2023, 2(9).
10. Dehqonova, O.K. et al. Teaching Primary School Children's Through Uzbek Folk Traditional Games... *International Journal of Elementary Education*, 2024, 13(3).
11. Khurramov, J.K. Action Games of the Uzbek People and Their Effective Use in Physical Education Lessons. *Eurasian Journal of Sport Sciences*, 2023.
12. Akhmedov, F. et al. Improving Creative Thinking Abilities Using Physical Activity... *Ibero-American Journal of Exercise and Sports Psychology*, 2025.