TURKISH JOURNAL OF SCIENTIFIC RESEARCH

Volume I Issue II ISSN:2148-5135



IMPROVING THE METHODOLOGY FOR INCREASING PHYSICAL ACTIVITY AMONG FOURTH-GRADE STUDENTS DURING PHYSICAL EDUCATION LESSONS

Ziyodullayeva Munisa Abdurasulovna
First-year Master's Student, Faculty of Physical Culture and Arts Termez State Pedagogical Institute, Uzbekistan

ARTICLE INFO:

Received:30.10.2026
Revised: 31.10.2026
Accepted:01.11.2026

KEY WORDS:

physical education, physical activity, fourth-grade students, primary school age, motor activity density during lessons, active games, circuit training, differentiated instruction, pedagogical technology.

ABSTRACT

This article examines scientific and methodological approaches to improving the organization of physical activity among primary school students during physical education lessons. The relevance of the study is determined by the need to increase the proportion of lesson time devoted to active movement, optimize physical workloads, and foster sustained motivation among schoolchildren to engage in regular physical activity. The aim of the study is to develop and provide a scientific rationale for a methodology designed to increase physical activity among fourth-grade students through the integrated use of active games, circuit training, differentiated motor tasks, and interactive forms of pedagogical engagement. The study was conducted from April 4 to May 15, 2026, at General Secondary School No. 7 in Termez, Surkhandarya Region, Republic of Uzbekistan. A total of 67 fourth-grade students participated in the study..

Introduction. The modern school physical education system is aimed at promoting healthy lifestyles, developing motor abilities, and creating favorable conditions for students' regular participation in physical education and sports activities. Particular importance is attached to improving the methodological organization of physical education lessons in primary schools, as early school age represents a crucial period for establishing the foundations of physical literacy, consolidating fundamental motor skills, and developing an initial understanding of the importance of regular physical activity [5, 7, 8].

Physical activity is defined as any bodily movement produced by skeletal muscle contraction that requires energy expenditure [2, 4, 9]. Within the context of school physical education,

physical activity serves simultaneously as a means of promoting physical development, an indicator of students' active engagement, and an essential condition for achieving educational and health-related objectives.

According to the World Health Organization (WHO) guidelines, children and adolescents aged 5-17 years should engage in an average of at least 60 minutes of moderate-to-vigorous physical activity per day across the week. Furthermore, vigorous-intensity activities, including exercises that strengthen muscles and bones, should be incorporated at least three days per week [1, 3, 5].

Implementing these recommendations requires a comprehensive approach that integrates school physical education lessons, active recreation, independent physical exercise, and other accessible forms of physical activity [6, 11].

Ensuring adequate levels of physical activity among primary school students largely depends on the content and structure of physical education lessons, effective organization of the learning environment, diversity of physical exercises, and rational allocation of instructional time between explanations, demonstrations, and active performance of motor tasks [10, 12, 14].

Numerous scientific studies have highlighted the importance of implementing innovative instructional approaches, establishing inclusive educational environments, and improving pedagogical assessment and monitoring mechanisms to promote physically active lifestyles among schoolchildren [13].

Nevertheless, traditional approaches to organizing physical education lessons do not always ensure equitable participation in motor activities among all students. Prolonged instructional explanations, waiting periods before performing exercises, insufficient variation in motor tasks, and standardized requirements that fail to accommodate differences in students' physical abilities may considerably reduce the actual time devoted to active physical engagement.

This issue is particularly relevant for fourth-grade students, who are transitioning from predominantly play-based physical activities toward more structured and systematic approaches to learning and performing physical exercises.

At this developmental stage, active games, relay races, coordination exercises, and competitive motor tasks continue to play an important role in physical education [15]. However, their effective implementation requires appropriate regulation of physical workloads, consideration of children's individual physical capabilities, and consistent adherence to safety principles.

Materials and Methods. The study was conducted from April 4 to May 15, 2026, at General Secondary School No. 7 in Termez, Surkhandarya Region, Republic of Uzbekistan.

A total of 67 fourth-grade students participated in the study. This age group was selected because of the importance of improving students' motor proficiency during the final stage of primary education, a developmental period characterized by the active enhancement of

coordination abilities, speed-related physical qualities, and skills required to perform a variety of motor activities.

The methodological framework of the study included a theoretical analysis of scientific and methodological literature, pedagogical design, systematic observation of students' motor activities, lesson time analysis, physical fitness testing, and comparative analysis of performance indicators.

The proposed methodological approach was based on a comprehensive organization of motor activities aimed at increasing the time allocated to active physical exercise, minimizing unnecessary organizational interruptions, and ensuring a balanced alternation of motor tasks performed at different intensity levels.

To evaluate the effectiveness of the proposed methodology, baseline and post-intervention measurements should be compared. Provided that complete individual assessment records are available, statistical analysis should include the calculation of mean values, standard deviations, individual changes in performance, and tests of statistical significance using appropriate statistical procedures selected according to the data distribution and study design.

Results. The primary scientific and methodological outcome of the study is the development of a structured model for organizing physical activity among fourth-grade students. The proposed model is designed to increase the proportion of lesson time devoted to active movement, enhance students' engagement in physical activities, and create favorable conditions for the development of physical abilities during physical education lessons.

A distinctive feature of the proposed methodology is the systematic integration of game-based, variable, and differentiated instructional approaches, combined with the efficient allocation and management of lesson time.

The methodological framework comprises four functionally interconnected components: motivational and preparatory, motor development, variable game-based, and assessment and evaluation components. Together, these components form an integrated pedagogical approach aimed at optimizing the organization of physical activity and improving the quality of physical education among fourth-grade students.

Table 1. Structure of the Improved Methodology for Increasing Physical Activity Among Fourth-Grade Students During Physical Education Lessons

Methodological Components	Content of Physical Activities	Organizational and Instructional Methods	Expected Pedagogical Outcomes
Motivational and Preparatory Component	Dynamic warm-up activities, exercises aimed at developing attention, coordination,	Whole-class exercises, game-based activities, musical and rhythmic elements	Improved readiness for physical exertion and development of positive motivation

	and reaction speed		toward physical activity
Motor Development Component	Running, jumping, coordination, and speed-strength exercises	Circuit training, activity stations, differentiated motor tasks	Increased time spent in active physical engagement and development of physical abilities
Variable Game-Based Component	Active games, team relay races, and motor tasks performed under changing movement conditions	Game-based and competitive methods, group activities, variable motor tasks	Enhanced participation in physical activities, improved agility, and development of cooperative interaction among students
Assessment and Evaluation Component	Analysis of motor performance achievements, recovery exercises, and assessment of exercise execution quality	Pedagogical observation, lesson time analysis, physical fitness testing, and individualized feedback	Identification of individual progress, regulation of physical workloads, and improvement of the teaching and learning process

Note: The table presents the developed methodological model and the expected outcomes of its implementation. It does not include actual quantitative data obtained from the pedagogical experiment.

An analysis of the proposed methodological framework makes it possible to identify the key pedagogical mechanisms through which physical activity levels among primary school students may be increased.

First, the organization of activity stations enables small groups of students to perform physical exercises simultaneously, thereby reducing waiting time and facilitating the efficient distribution of physical workloads throughout the lesson.

Second, the integration of diverse active games helps sustain students' interest and motivation while providing an engaging and developmentally appropriate learning environment that encourages active participation in physical activities.

Third, the implementation of differentiated motor tasks allows students with varying levels of physical fitness and motor proficiency to participate effectively without imposing uniform workload requirements on all learners. This approach promotes inclusiveness and accommodates individual differences in physical development and performance capabilities.

Fourth, systematic pedagogical assessment and monitoring provide a foundation for objectively evaluating individual progress and making timely adjustments to instructional content, exercise intensity, and physical workloads according to students' developmental characteristics and learning needs.

Discussion. The developed methodology for increasing physical activity among fourth-grade students is consistent with contemporary scientific perspectives emphasizing the need to improve both the content and organizational structure of school physical education.

The primary methodological advantage of the proposed approach lies in shifting from the sequential performance of uniform exercises toward a more flexible organization of motor activities. This approach promotes simultaneous participation among students, introduces greater variability in physical exercises, and enables individualized regulation of physical workloads.

Within this framework, circuit-based exercise organization plays a particularly important role. Its pedagogical value lies in providing opportunities to diversify motor activities while reducing unproductive waiting periods during physical education lessons.

At the same time, it is essential to recognize that excessively shortening rest intervals may lead to fatigue and negatively affect the quality of motor skill acquisition. Therefore, increasing the proportion of lesson time devoted to active movement should not be achieved merely by intensifying physical workloads. Instead, it should result from more efficient allocation of instructional time and improved organizational strategies.

Active games and relay races constitute another essential component of the developed methodology. Their implementation enables physical exertion to be combined with emotional engagement, the development of cooperative interaction, and the performance of motor tasks under changing environmental and instructional conditions.

For fourth-grade students, game-based activities continue to play a significant role in maintaining motivation and encouraging active participation. Nevertheless, the effectiveness of such activities depends on the appropriate selection of instructional content, careful regulation of exercise intensity, and the provision of equitable participation opportunities for all students.

The organization of pedagogical assessment and monitoring also deserves particular attention. Within the framework of the present study, it is proposed to distinguish between the proportion of lesson time spent in active movement, the intensity of physical exertion, and motor performance outcomes. These indicators reflect different dimensions of the teaching and learning process and should not be considered interchangeable.

Increasing the amount of time devoted to physical activity without maintaining appropriate instructional quality does not necessarily lead to improvements in students' physical abilities. Consequently, evaluating the effectiveness of the proposed methodology requires consideration

of changes in motor performance indicators, the accuracy and quality of exercise execution, and the pedagogical appropriateness of the prescribed physical workloads.

The practical significance of the developed methodology lies in its applicability to conventional general secondary school settings without requiring expensive sports equipment or specialized facilities. Its principal organizational elements can be implemented through the establishment of clearly designated activity stations, the use of standard physical education equipment, and the adaptation of traditional active games to meet specific instructional objectives and students' individual developmental needs.

Conclusion. The conducted scientific and methodological study provides a basis for drawing the following conclusions.

1. Improving the methodology for increasing physical activity among fourth-grade students should be based on the integrated application of active games, circuit-based exercises, differentiated motor tasks, and the efficient allocation of instructional time. This approach creates favorable pedagogical conditions for enhancing students' engagement in physical activities and improving the organizational structure of physical education lessons.

2. The principal criteria for evaluating the effectiveness of the proposed methodology include the proportion of lesson time devoted to active movement, the duration of moderate-to-vigorous physical activity, individual changes in physical performance indicators, and students' levels of participation in motor activities. The comprehensive application of these assessment criteria enables a more objective evaluation of the organization and effectiveness of physical education lessons.

3. The practical significance of the proposed methodology lies in its applicability to general secondary school settings through the use of readily available physical education equipment and conventional pedagogical resources, complemented by efficient and appropriately structured forms of instructional organization.

Improving the organization of physical activity among primary school students involves not only increasing the time allocated to physical exercises but also ensuring greater diversity in instructional content, individualizing physical workloads, fostering positive motivation, and implementing systematic pedagogical assessment and monitoring. The integrated application of these pedagogical conditions establishes a scientific and methodological foundation for enhancing the quality and effectiveness of school physical education.

References:

1. Yuldashevich, T. D. (2022). Application of Innovative Technologies in the Process of Formation of Will Qualities. European Multidisciplinary Journal of Modern Science, 4, 826-828.

2. Yuldashevich, T. D. (2022). Education and development of volive qualities in schoolchildren by means of physical education.

3. Yuldashevich, T. D. (2023). Peculiarities of Volitional Qualities in Physical Education of Schoolchildren. Web of Semantic: Universal Journal on Innovative Education, 2(2), 217-220.

4. Yuldashevich, T. D. (2026). Physical education as a resource for developing volitional self-regulation in older preschool children. Turkish journal of scientific research, 1(2), 139-145.

Yuldoshevich, T. D. (2021). The formation of readiness for skilled tensions in the process of physical education. In Archive of Conferences (Vol. 2124).

5. Turdimurodov, D. Y. (2021). Willed qualities of a personality and ways of their formation in sport. ISJ Theoretical & Applied Science, 12(104), 689-692.

6. Turdimurodov, D. Y. (2022). Formation of moral and volitional qualities of adolescents by means of physical education. In International scientific conference" Innovative trends in science, practice and education (Vol. 1, No. 1, pp. 198-204).

7. Абдуллаев, Я. М., & Турдимуродов, Д. Ю. (2020). Создание педагогических условий в формировании волевых качеств у учеников начальных классов. In Colloquium-journal (No. 24-2, pp. 14-16). Голопристанський міськрайонний центр зайнятості= Голопристанский районный центр занятости.

8. Абдуллаев, Я. М., & Турдимуродов, Д. Й. (2020). Ўсмир ёшдаги ўқувчиларда иродавий сифатларни жисмоний тарбия воситалари орқали ривожлантириш. Современное образование (Узбекистан), (9 (94)), 56-62.

9. Турдимуродов, Д. Й. (2021). Спорт ўйинлари билан шуғулланиш жараènида ўқувчиларда иродавий сифатларнинг шаклланиш хусусиятлари. Актуальные научные исследования в современном мире, 3(9), 77.

10. Турдимуродов, Д. Й. (2021). Ўқувчиларнинг иродавий сифатларини шакллантиришда жисмоний тарбия воситаларининг имкониятлари. Инновации в педагогике и психологии, 4(7).

11. Турдимуродов, Д. Ю. (2020). Готовность подростков к волевым напряжениям и педагогические условия ее формирования в процессе физического воспитания в общеобразовательной школе. Science, Research, Development, 2, 309-311.

12. Турдимуродов, Д. Й. (2022). Влияние занятий едноборствами на уровень проявления морально-волевых качеств учащихся общеобразовательной школы. Academic research in educational sciences, 3(1), 691-698.

13. Турдимуродов, Д. Й. (2020). Педагогические факторы внешней стимуляции влияющие на волевые усилия школьников при физических упражнениях разного характера. Педагогика ва психологияда инновациялар, 9(3).

14. Турдимуродов, Д. (2022). Жисмоний тарбия дарси мактаб ўқувчиларида иродавий сифатларни ривожлантирувчи восита сифатида. Жамият ва инновациялар, 3(6), 74-80.

15. Турдимуродов, Д. Ю. (2021). Особенности проявления волевых усилий в процессе внешней стимуляции у школьников 10-12 лет. Academic research in educational sciences, 2(4), 1348-1354.