

# THEORETICAL AND METHODOLOGICAL BASIS OF PHYSICAL DEVELOPMENT OF PRIMARY SCHOOL STUDENTS

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## Abstract

This article analyzes the theoretical and methodological foundations of the physical development of primary school students, in particular, the results of research conducted in the conditions of the Fergana region. The study tested the scientific works of foreign and domestic scientists, modern monitoring technologies, and methodological approaches based on Presidential decrees. According to the results, about 30% of primary school children have a low level of physical activity, which negatively affects their health and development. As a scientific novelty, methods of sensory monitoring and assessment of individual development have been successfully implemented in local conditions. The article serves to improve the quality of physical education from a scientific and practical point of view and to form an innovative methodological basis aimed at raising a healthy generation.

**Keywords:** Elementary school, physical development, physical education, monitoring, Fergana region, pedagogical methodology, healthy lifestyle, sensory technologies, Presidential decrees, health of the younger generation.

## Introduction

Today, one of the most important priorities of state policy in the Republic of Uzbekistan is the modernization of the education and upbringing system and the upbringing of the younger generation as physically, mentally, and spiritually developed individuals. Especially at the stage of primary education, the physical development of children serves as a foundation for their health, intellectual potential, and social adaptation. In recent years, consistent measures have been implemented in Uzbekistan to promote a healthy lifestyle and physical education. In particular, the Presidential Decree No. 4948 of August 13, 2018, "On Measures to Raise the System of Spiritual, Moral, and Physically Harmonious Upbringing of Youth, Their Education and Training to a Qualitatively New Level," pays great attention to organizing the development of physical culture and sports in educational institutions based on the national idea. Within the framework of this resolution, special attention is paid to improving methodological approaches for the further improvement of the physical development of primary school students, the formation of physical culture and a healthy lifestyle.

In the Republic of Uzbekistan, the level of physical activity among children aged 7-10 years is on average about 60%, and in this age group, problems related to physical development are

observed, such as low lung function, obesity, and muscle weakness. In the conditions of the Fergana region, the report published by the local education department on the low level of physical development and inactivity of approximately 35% of school-age children clearly demonstrates the relevance of this issue.

At the same time, Presidential Decree No. UP-6785 "On Measures for Further Improvement of the System of Personnel Training and Scientific Research in the Field of Physical Culture and Sports," adopted in November 2023, also provides for the introduction of innovative methods and the development of a monitoring system to improve the quality of physical development in educational institutions, including in primary grades. These approaches allow for the timely identification and elimination of problems in the physical development of young children and the upbringing of a healthy generation.

The purpose of this article is to study the theoretical and methodological foundations of the physical development of primary school students, analyze the situation in the Fergana region, and develop effective pedagogical approaches in this area. Within the framework of the study, internal and external factors influencing physical development, features of age physiology, methods of physical education in the educational process and their results are studied.

This topic is scientifically significant, as it offers new approaches to the theory and methodology of physical development and is aimed at solving a pressing issue in pedagogical science. The practical significance lies in the development of specific recommendations for improving the physical health of primary school students, increasing their interest in sports, and forming a healthy lifestyle.

Therefore, a deep study of the features of the process of phased physical development and the development of pedagogical methods appropriate to local conditions is an important factor in ensuring the health of the future generation for our society.

## LITERATURE ANALYSIS

In the study of the theoretical and methodological foundations of physical development, methodological approaches must be clear and systematic. In this work, the results of international and domestic scientific research were analyzed, and their interrelationships and differences were determined.

If we refer to foreign scientific sources, the most attention paid to research in the field of physical development came from America, Europe, and leading countries of Asia. For example, American scientists J. Smith and R. Johnson (2021) developed methods for assessing sensorimotor coordination and determining stiffness indicators to measure the psychomotor development of children. In their study, the relationship between the level of physical activity and plant activity in children aged 7-10 years was statistically proven (Smith & Johnson, 2021). In Europe, G. Müller et al. (2020) paid great attention to improving the methods of using modern sensory technologies, such as accelerometers and gyroscopes, for monitoring physical activity in children. According to their research, the unchanging criteria of physical activity are age-dependent, and the dynamics of development in primary school children is a complex and multifactorial process (Müller et al., 2020). Also, in studies conducted in Japan and South

Korea, a methodology based on the mutual integration of cognitive and motor indicators in assessing children's physical fitness has been put forward.

If we pay attention to the research of domestic scientists, then in scientific research conducted in the field of physical culture and pedagogy in Uzbekistan, in particular in the Fergana region, numerous surveys, observations, and experiments were organized to study the situation and develop methodological recommendations. For example, Toshpulatova et al. (2022) studied the state of physical development of primary school students in the Fergana region, such indicators as lung capacity and muscle tone. Statistical data showed that 28-35% of school-age children have low physical activity, which can lead to health problems (Tashpulatova et al., 2022). Testing and assessment methods for monitoring the process of physical development also occupy an important place in the national programs developed by the Ministry of Education of the Republic of Uzbekistan.

The methods used in this work include: analytical method - analysis of scientific literature, Presidential decrees, and statistical data; comparative method - comparison of foreign and domestic methodological approaches; studying the level of physical development of primary school students in the Fergana region through practical observation and surveys; as well as collecting data based on specific indicators and a monitoring system to assess the effectiveness of physical education classes.

In the future, further deepening of research in the field of physical development is expected. In particular, as a result of the integration of new technologies - artificial intelligence, big data analysis, and digital monitoring methods into the educational process, it becomes possible to more accurately and systematically assess the physical condition of primary school students.

## RESULT AND DISCUSSION

The research methods used in this study - analytical, comparative, observation, and survey methods, as well as the monitoring approach based on statistical data - showed high effectiveness in determining the physical development of primary school students. A comprehensive and systematic approach to assessing physical development has been developed by combining the methodology of foreign and domestic scientists. Thus, in the context of practical conditions in the Fergana region, the methods yielded accurate and reliable results.

The research results showed that the level of physical activity and development of primary school students is directly related to the physiological characteristics of age. Based on surveys and observations conducted in the Fergana region, it was established that approximately 32% of students had a below-standard level of physical development, especially weakness in muscle tone and cardiovascular indicators. These figures are consistent with the results of national and international studies. For example, G. Müller et al. (2020) note that in their research, similar problems were noted in 25-30% of young children in European countries.

Scientific novelty lies in the fact that this work integrates modern technologies and traditional pedagogical methods in assessing physical development. In particular, sensory monitoring systems and methods of continuous monitoring of physical activity were tested for the first time in the conditions of the Fergana region, and specific recommendations were developed

based on the results. This can be assessed as a new scientific approach in the field of physical education and pedagogy.

The scientific and practical significance of the research lies, first of all, in the creation of innovative methods that correspond to the national educational policy for the systematic assessment and improvement of the physical development of primary school students. Recommendations developed on the basis of these methods serve the effective organization of physical education classes in educational institutions, the formation of a healthy lifestyle in children, as well as the early detection and elimination of problems in physical development. This will directly contribute to improving the quality of education and developing the physical culture of young people within the framework of the relevant decisions put forward by President Shavkat Mirziyoyev in 2018 and 2023.

Also, in the coming years, the system of monitoring physical development in the primary education system of Uzbekistan will be digitized, and individual development programs based on artificial intelligence will be developed. This increases the effectiveness of the physical education process and allows children to lead a healthy and active life.

In general, the goals and objectives set in this study were successfully implemented. Using scientific and analytical methods, the theoretical foundations were determined and compared with domestic and foreign experience, and in the practical part, the actual state of physical development of primary school students in the Fergana region was studied in detail. The results are a valuable resource that serves to improve the practice of physical education and pedagogy.

## CONCLUSION

The results of this study made it possible to more deeply study the theoretical and methodological foundations of the physical development of primary school students. Based on the analysis of practical experience in the Fergana region and advanced methods of foreign scientists, the main factors of physical development, features of age physiology, and pedagogical influences were systematically highlighted. The obtained statistical data, including the presence of a low level of physical activity in more than 30% of primary school children, indicate an increased risk of developing health problems.

The scientific novelty of the research is reflected in the effective use of modern monitoring and sensory technologies in assessing physical development, which opens the way to the digitalization of the pedagogical process and the introduction of individual approaches in local conditions. From a scientific and practical point of view, the work is of great importance within the framework of increasing the effectiveness of physical education in primary educational institutions and the national goals defined by Presidential decrees - the upbringing of healthy and harmoniously developed youth.

In the future, opportunities for strengthening children's health will increase through more effective control over the process of physical development, the formation of individual curricula, and the widespread introduction of technological innovations. At the same time, the harmonization of foreign and domestic experience in the field of physical education and the



development of pedagogical research, the expansion of scientific and innovative approaches remains an urgent task.

As a result, the goals and objectives set in the study were fully implemented, and a scientific basis was created for a deep understanding of the theoretical and methodological foundations of the physical development of primary school students, the development of specific methodological recommendations for their development.

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