

Methods of Developing Coordination Abilities of Preschool Children Through Non-Traditional Exercises

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Received: 12 February 2026; **Accepted:** 08 March 2026; **Published:** 31 March 2026

Abstract: The purpose of this study was to improve the motor activity and physical fitness of preschool children through the use of rhythmic movements based on non-traditional physical exercises. Several scientific research methods were applied in the study, including pedagogical testing, pedagogical experiment, heart rate monitoring, somatoscopic examination, and methods of mathematical statistics. The results of the study showed that the use of rhythmic exercises based on non-traditional movements had a positive effect on the physical development of children of preschool age. The implemented program contributed to the improvement of coordination abilities, increased motor activity, and enhanced the general level of physical fitness of children.

Keywords: Preschool children, coordination abilities, rhythmic exercises, motor activity, physical fitness, non-traditional exercises, physical development.

Introduction: In modern educational systems, special attention is paid to the development of children's sports and the identification of talented young individuals. One of the important tasks of preschool educational institutions is to develop children's interest in physical culture and sports while strengthening their health and ensuring harmonious physical development through basic gymnastics and physical exercises.

Preschool age is considered a particularly important period in a child's development. At this stage, the foundation for health, proper physical growth, and the development of motor abilities is formed. Moreover, children's interest in sports activities and physical education begins to develop during these early years.

Therefore, it is essential to create conditions that encourage children's physical activity and active movement. Scientific approaches should be applied in organizing the process of physical development in preschool institutions. Particular attention should be paid to strengthening children's health, improving endurance, developing motor skills, and fostering a stable interest in sports and physical culture from an

early age. The purpose of this research was to improve coordination abilities in preschool children during physical education classes through the development and implementation of a methodological program based on rhythmic exercises.

Objectives of the study:

- To identify the mechanisms that contribute to the development of coordination abilities in children aged 6–7 years in preschool educational institutions.
- To design a program of rhythmic exercises that considers the age characteristics of preschool children.
- To develop practical recommendations aimed at improving the physical fitness of preschool children and preventing disorders of the musculoskeletal system.

METHODS

Several scientific research methods were used in the course of the study to assess the effectiveness of developing coordination abilities in preschool children through non-traditional exercises. Pedagogical testing was conducted in order to evaluate the level of physical

fitness and coordination abilities of children aged 6–7 years. A set of control tests was applied, including the standing long jump, shuttle run, trunk bending, forward bending test, and a 10-meter crawling test. These tests made it possible to determine the effectiveness of the developed program and to assess changes in the children's physical performance indicators during the experiment. A pedagogical experiment was carried out to determine the influence of rhythmic exercises based on non-traditional movements on the physical fitness and coordination abilities of preschool children. The experiment was organized in preschool educational institutions of Bukhara city. The study involved children aged 6–7 years who were divided into experimental and control groups. The experimental program included a complex of rhythmic exercises combined with different types of running, jumping, dancing movements, outdoor games, and elementary gymnastic exercises. The exercises were performed mainly using the group (frontal) method, which allowed all children to be actively involved in the learning process. Approximately 50–70% of the lesson content was devoted to exercises aimed at developing coordination abilities. The experimental program also focused on improving motor activity, strengthening the musculoskeletal system, and increasing children's functional and adaptive capabilities. Somatoscopy was used to evaluate the physical development of preschool children and identify possible deviations in posture and the musculoskeletal system. During the examination, the condition of the chest, abdomen, posture, and general body structure was assessed according to standard methodological recommendations described in scientific literature. The results of the initial somatoscopic assessment showed that some children in both groups had a predisposition to musculoskeletal disorders. To control the intensity of physical activity during the lessons, the heart rate of children was regularly monitored and recorded. Heart rate indicators made it possible to determine the physiological response of the children's bodies to physical loads and to evaluate whether the intensity of exercises corresponded to the age-related capabilities of preschool children. Based on the obtained data, physiological curves were constructed to analyze changes in heart rate during different stages of the lesson. This method allowed researchers to regulate the load and ensure the safety and effectiveness of the

experimental program. Mathematical and statistical methods were used to process and analyze the collected data. The statistical reliability and objectivity of the obtained results were determined using appropriate statistical indicators. The data obtained during the experiment were processed using the Microsoft Excel software program. The significance of differences between indicators before and after the experiment was determined using statistical criteria, which confirmed the reliability of the research results.

RESULTS AND DISCUSSION

During the research process, a comparative pedagogical experiment was conducted to determine the effectiveness of the developed methodology aimed at improving the coordination abilities of preschool children through non-traditional rhythmic exercises. At the initial stage of the study, the indicators of physical development and physical fitness of the participating children were analyzed. The results showed that the general level of physical preparedness and coordination abilities in both groups was approximately similar. This made it possible to objectively assess the effectiveness of the developed experimental program during the subsequent stages of the study. Children in the experimental group participated in physical education classes organized according to a specially designed program that included rhythmic exercises with elements of non-traditional movements. The program combined various forms of physical activity such as running, jumping, dancing movements, outdoor games, and elementary gymnastic exercises. These activities were aimed at increasing children's interest in physical education and improving their motor coordination. The organization of lessons based on rhythmic and non-traditional exercises contributed to a higher level of motor activity among children in the experimental group. The exercises encouraged active participation and helped develop the ability to control movements, maintain balance, and coordinate different parts of the body during physical activity. The results of somatoscopic observation also indicated positive changes in the physical condition of the children. Improvements were observed in posture and general body alignment, which suggests that the applied exercises contributed to strengthening the musculoskeletal system and forming correct motor habits. A comparative analysis of the control tests

demonstrated that children who participated in the experimental program showed noticeable improvements in coordination abilities, agility, and general physical preparedness. In contrast, children who followed the traditional physical education program also showed some progress, but the changes were less pronounced. Heart rate monitoring during physical education lessons showed that the intensity of physical activity corresponded to the physiological capabilities of preschool children. The exercises did not create excessive physical load and remained within safe limits for this age group. This indicates that the developed program can be safely used in the educational process.

Overall, the results of the study demonstrate that the use of rhythmic exercises based on non-traditional movements contributes to the improvement of coordination abilities, increases motor activity, and positively affects the physical development of preschool children.

CONCLUSION

The results of the conducted study confirm the effectiveness of using rhythmic exercises based on non-traditional movements in the development of coordination abilities of preschool children. The implementation of the developed methodology in physical education classes contributed to the improvement of motor activity and the development of basic coordination skills among children.

The organization of lessons using non-traditional exercises made it possible to increase children's interest in physical activity and create favorable conditions for their active participation in the educational process. Such exercises helped develop balance, movement control, spatial orientation, and the ability to coordinate different motor actions.

In addition, the use of rhythmic movements and varied physical exercises had a positive influence on the overall physical development of preschool children and contributed to strengthening the musculoskeletal system. The conducted observations also showed that the applied exercises correspond to the physiological and age characteristics of children and can be effectively integrated into the educational process of preschool institutions.

Thus, the proposed methodological approach can be

recommended for practical use in preschool educational institutions as an effective means of developing coordination abilities, increasing motor activity, and promoting the physical development and health of children.

REFERENCES

1. Bompa T., Buzzichelli C. *Periodization Training for Sports*. Human Kinetics, 2019.
2. Balsevich V.K. *Theory and Methodology of Physical Education*. Moscow, 2020.
3. Matveev L.P. *Theory and Methodology of Physical Culture*. Moscow: Sport, 2021.
4. Platonov V.N. *General Theory of Athlete Preparation in Olympic Sport*. Kyiv, 2020.
5. Istomina N.S. *Development of motor abilities of preschool children through physical exercises*. Physical Education of Students, 2021.
6. Kholodov Zh.K., Kuznetsov V.S. *Theory and Methodology of Physical Education and Sports*. Moscow, 2020.
7. Sharkey B., Gaskill S. *Fitness and Health*. Human Kinetics, 2018.
8. Malina R., Bouchard C. *Growth, Maturation and Physical Activity*. Human Kinetics, 2019.
9. Davletmuratov R. *Development of coordination abilities in preschool children*. Journal of Physical Education and Sport, 2022.
10. Abdullaev A., Khodjaev B. *Physical Education in Preschool Institutions*. Tashkent, 2021.
11. Ismailov A. *Development of motor activity in preschool children*. International Journal of Physical Education, 2022.
12. Ozolin N.G. *Theory of Physical Training*. Moscow, 2020.
13. Rahimov A. *Methods of physical education in preschool institutions*. Pedagogical Sciences, 2021.
14. Karimov U. *Improving physical education of preschool children*. Uzbek Journal of Pedagogy, 2022.
15. World Health Organization. *Guidelines on Physical Activity and Sedentary Behaviour*. Geneva, 2020.