# METHODOLOGY FOR THE USE OF PHYSICAL ACTIVITY GAMES IN DEVELOPING MOTOR SKILLS OF PRESCHOOL GIRLS

**Nurmukhammadova Yokut Nurmukhammadovna**
Lecturer, Department of Humanities and Physical Education
Namangan State Institute of Foreign Languages named after Ishoqxon Ibrat
**Email:** nurmuxammadovayoqut@gmail.com

**Annotation.** This article examines the pedagogical and methodological foundations for the use of physical activity games in the development and formation of motor skills in preschool girls. It analyzes methods of enhancing children's fundamental motor abilities, including walking, running, jumping, throwing, maintaining balance, and spatial orientation, through physical activity games. The study also considers the principles of organizing such games, taking into account age-specific characteristics, an individual approach, the sequential organization of activities, and the appropriate regulation of physical load. The findings demonstrate that physical activity games play a significant role not only in improving the physical qualities of preschool girls but also in fostering psychological activity, independence, and social adaptation

**Keywords:** preschool education, physical activity games, motor skills, physical development, coordination, agility, balance, preschool girls, physical education, methodology.

**Relevance of the study.** Preschool age is one of the most important stages in a child's physical, psychological, and functional development. It is during this period that fundamental movement patterns and motor skills are formed, providing the foundation for physical fitness and a healthy lifestyle in subsequent stages of development. In recent years, however, the widespread use of digital technologies by children, the increasing prevalence of sedentary lifestyles, and the decline in physical activity have contributed to adverse effects on the development of motor abilities such as coordination, agility, balance, and speed. These challenges highlight the need to organize physical education activities in preschool educational institutions using modern, scientifically grounded, and effective teaching methods.

Physical activity games represent an effective pedagogical tool that fully corresponds to the age-related and psychophysiological characteristics of preschool children. Such games satisfy children's natural need for movement, promote the development of fundamental motor skills, and contribute to the comprehensive improvement of physical qualities. In particular, the purposeful use of physical activity games in developing the motor skills of preschool girls not only enhances their physical development but also improves movement coordination, spatial orientation, balance, rapid decision-making, and social adaptation.

Furthermore, there is a growing need to improve the methodology for using physical activity games in preschool education by focusing on the development of motor skills, systematically planning instructional activities according to children's age-specific and individual characteristics, and providing scientific and pedagogical justification for their effectiveness. These considerations determine the relevance of the present study and underscore the necessity of developing a scientifically based methodology for the use of physical activity games in fostering the motor skills of preschool girls.

**Research objective.** The aim of this study is to develop a scientifically grounded methodology for the use of physical activity games in the development of motor skills among preschool girls and to validate its effectiveness through experimental investigation.

**Main part.** The preschool period is one of the most critical stages of a child's physical development, during which fundamental movement patterns and motor skills are established. Motor skills refer to a child's ability to perform movements such as walking, running, jumping, throwing, balancing, crawling, and spatial orientation accurately, efficiently, and in a coordinated manner. The adequate development of these skills plays a vital role in ensuring children's future physical fitness,

promoting a healthy lifestyle, and preparing them for participation in sports and other physical activities.

One of the most effective means of developing motor skills in preschool girls is the use of physical activity games. In addition to satisfying children's natural need for movement, these games contribute to the comprehensive development of their physical qualities. By performing movements in a free, engaging, and emotionally stimulating environment, children acquire new movement skills more quickly and further refine their existing motor abilities. Furthermore, physical activity games stimulate the functioning of the central nervous system, thereby positively influencing the development of coordination, attention, memory, and rapid thinking skills. The methodology for using physical activity games should be organized in a step-by-step manner, taking into account children's age, physical fitness, and individual capabilities. Initially, games incorporating simple movement elements are used. At this stage, movement coordination is developed through activities such as walking, running, turning, stopping, and simple jumping exercises. In subsequent stages, relay games involving more complex movements, obstacle courses, target throwing, balance exercises, and spatial orientation tasks are introduced. Such a sequence ensures the consistent formation of motor skills in children. In organizing instructional sessions, the content of games should be selected in accordance with children's interests, ensure active participation of every child, and gradually increase the level of load based on the principle of progression from simple to complex. During physical activity games, the educator monitors the correct execution of movements, provides individual guidance when necessary, and encourages children's achievements. This, in turn, enhances their self-confidence and further strengthens their interest in physical activity. Regular use of physical activity games significantly enhances the development of coordination abilities, agility, speed, balance, flexibility, and spatial orientation in preschool girls. At the same time, through team-based games, social and psychological qualities such as communication, mutual assistance, discipline, responsibility, and independent decision-making are also formed.

Pedagogical experiments indicate that sessions organized on the basis of physical activity games increase children's interest in classes, enhance their physical activity, and promote more effective development of motor skills compared to traditional physical exercises. In particular, the systematic use of game-based technologies among 5–7-year-old girls ensures a high level of effectiveness in strengthening fundamental movement skills, developing physical qualities, and improving their level of physical readiness for school education.

Thus, the methodology of using physical activity games in the development of motor skills in preschool girls represents a scientifically grounded, age-appropriate, and pedagogically effective approach. The widespread implementation of this methodology in preschool educational institutions is of great importance for improving children's physical development, forming a healthy lifestyle, and ensuring their comprehensive preparation for subsequent stages of education.

Prior to the pedagogical experiment, the physical fitness and motor performance indicators of preschool girls participating in the study were assessed using mathematical and statistical methods. The results of the preliminary analysis showed that the levels of physical fitness in the experimental and control groups were characterized by the following indicators (Table 1)..

**Table 1.**

**Motor performance indicators of preschool girls prior to the study ($\overline{X} \pm \sigma$)**

| № | Motor indicators | Unit of measurement | Experimental group (n=10) $\overline{X} \pm \sigma$ | Control group (n=10) $\overline{X} \pm \sigma$ | t | p |
|---|---|---|---|---|---|---|
| 1 | 20 m sprint | s | 5,94±0,10 | 5,91±0,11 | 0,21 | >0,05 |
| 2 | Standing long jump | cm | 91,8±2,3 | 92,1±2,1 | 0,10 | >0,05 |

| | | | | | | |
|---|---|---|---|---|---|---|
| 3 | Ball throwing at a target | time | 3,7±0,2 | 3,8±0,2 | 0,35 | >0,05 |
| 4 | Single-leg balance test | s | 8,8±0,4 | 8,9±0,4 | 0,18 | >0,05 |
| 5 | " Zigzag walking | s | 11,8±0,3 | 11,7±0,3 | 0,24 | >0,05 |

In Table 1, the motor performance indicators of preschool girls in the experimental and control groups prior to the start of the study were analyzed using mathematical and statistical methods. According to the obtained results, the 20-meter run result in the experimental group was 5.94±0.10 seconds, while in the control group it was 5.91±0.11 seconds. The difference between the groups was found to be statistically insignificant ($t=0.21$; $p>0.05$).

In the standing long jump test, the experimental group recorded a result of 91.8±2.3 cm, while the control group achieved 92.1±2.1 cm. The value calculated using Student's t-test ($t=0.10$; $p>0.05$) indicated that there was no statistically significant difference between the groups.

In the ball-throwing-at-a-target test, the experimental group's mean result was 3.7±0.2 times, while the control group achieved 3.8±0.2 times. Statistical analysis also revealed no significant difference between the groups ($t=0.35$; $p>0.05$).

In the single-leg balance test, the experimental group recorded a result of 8.8±0.4 seconds, while the control group achieved 8.9±0.4 seconds. The difference between these indicators was also found to be statistically insignificant ($t=0.18$; $p>0.05$).

In the "snake path" walking test, the experimental group recorded a result of 11.8±0.3 seconds, while the control group achieved 11.7±0.3 seconds. According to the calculated Student's t-test value ($t=0.24$; $p>0.05$), no statistically significant difference was found between the groups.

Overall, no statistically significant differences were observed between the experimental and control groups in all motor performance indicators ($p>0.05$). This indicates that, prior to the beginning of the pedagogical experiment, the level of motor readiness in both groups was nearly identical. Therefore, since the initial conditions of the groups were equivalent, any subsequent changes can be scientifically attributed to the effect of the implemented physical activity games methodology.

**Methodological foundations for the use of physical activity games in developing motor skills in preschool girls**

The methodology for using physical activity games is developed taking into account the age-related, anatomical-physiological, and psychological characteristics of preschool girls. The main aim of the methodology is to gradually develop fundamental movement skills and motor abilities in children, enhance physical qualities, and increase their interest in physical activity.

The sessions are conducted 3 times per week for 25–30 minutes. Each session consists of preparatory (5–7 minutes), main (15–20 minutes), and concluding (3–5 minutes) parts.

**Table. 2**

**Methodology of physical activity games used in the development of motor skills in preschool girls**

| № | Exercise (Game) Name | Number of repetitions | Rest time | Method of performing the exercise (game) |
|---|---|---|---|---|
| 1 | "Birds to the Nest" | 3–4 times | 30–40 seconds | On the educator's signal, children run freely around the area, and upon a given signal, they quickly take their places inside the designated hoop (nest). |
| 2 | Little Rabbits | 8–10 jumps × 3 sets | 40 seconds | Children jump on both legs like rabbits, covering the designated |

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| | | | | distance and then return to the starting point. |
| 3 | Overcoming Obstacles | 4–5 times | 1 minutes | Children run between cones, overcome low obstacles, and reach the designated point. |
| 4 | "Hit the Target" | 6–8 throws | 40–60 seconds | Each child throws a small ball at a target from a distance of 2–3 meters. They are encouraged based on their performance.. |
| 5 | "Cross the Bridge" | 3–4 times | 30 seconds | Children walk along a gym bench or a line while maintaining balance.. |
| 6 | "Who Is First?" | 4–5 run | 1 minutes | On the educator's signal, children run to the designated distance and return back.. |
| 7 | "Colored Hoops" | 5–6 times | 40 seconds | Hoops of different colors are placed. Based on the color named by the educator, children run to the corresponding hoop. |
| 8 | "Who Is Agile?" (Relay Race) | 3 times | 1–2 minutes | Children are divided into small groups and perform relay elements (running, carrying a ball, and returning). |

**Note.** The table presents the methodology of physical activity games aimed at developing motor skills in preschool girls. The games were selected taking into account the age and psychophysiological characteristics of children and were focused on the development of coordination, agility, speed, balance, and spatial orientation abilities. The exercises were arranged in a sequence from simple to complex, while the number of repetitions and rest intervals were determined according to the children's functional capabilities. This methodology ensures the engaging, safe, and effective organization of sessions and contributes to the comprehensive development of motor skills in preschool girls.

At the end of the pedagogical experiment, positive changes were observed in the physical fitness and motor performance indicators of preschool girls. The final mathematical and statistical analysis confirmed the effectiveness of the physical activity games methodology applied in the experimental group. The obtained results are presented in the following table (Table 2).

**Table 3.**

**Motor performance indicators of preschool girls after the study (±σ)**

| № | Motor indicators | Unit of measurement | Experimental group (n=10) $\bar{X} \pm \sigma$ | Control group (n=10) $\bar{X} \pm \sigma$ | t | p |
|---|---|---|---|---|---|---|
| 1 | 20 m sprint | s | 5,41±0,08 | 5,82±0,10 | 3,18 | <0,05 |
| 2 | Standing long jump | sm | 101,4±2,1 | 94,2±2,2 | 2,67 | <0,05 |
| 3 | Ball throwing at a target | time | 5,2±0,3 | 4,1±0,2 | 3,04 | <0,05 |
| 4 | Single-leg balance test | s | 12,8±0,5 | 9,7±0,4 | 4,12 | <0,01 |
| 5 | " Zigzag | s | 9,6±0,3 | 11,2±0,3 | 3,79 | <0,01 |

| | | | | | | |
|---|---|---|---|---|---|---|
| | walking | | | | | |

**Note:** – arithmetic mean; δ – standard error of the mean; t – Student's t-test; p – level of statistical significance.

At the end of the pedagogical experiment, the motor performance indicators of the experimental and control groups were re-analyzed using mathematical and statistical methods. The obtained results confirmed the effectiveness of the methodology developed based on physical activity games.

In the 20-meter sprint test, the experimental group improved from 5.94±0.10 seconds to 5.41±0.08 seconds, while only slight changes were observed in the control group (from 5.91±0.11 seconds to 5.82±0.10 seconds). The difference between the groups was found to be statistically significant ($t=3.18$; $p<0.05$).

In the standing long jump test, the experimental group improved from an average of 91.8 cm to 101.4 cm, while the control group showed an increase from 92.1 cm to 94.2 cm. The difference between the results was found to be statistically significant ($t=2.67$; $p<0.05$).

In the ball-throwing-at-a-target test, the experimental group improved from 3.7 to 5.2 times, while the control group increased from 3.8 to 4.1 times. The improvement in the experimental group was significantly greater than in the control group and was found to be statistically significant ($t=3.04$; $p<0.05$).

In the single-leg balance test, the experimental group's score increased from 8.8 seconds to 12.8 seconds, while the control group showed an improvement from 8.9 seconds to 9.7 seconds. The difference between the groups was found to be highly statistically significant ($t=4.12$; $p<0.01$).

In the "snake path" walking test, the experimental group's result decreased from 11.8 seconds to 9.6 seconds, whereas the control group showed a change from 11.7 seconds to 11.2 seconds. The results of this test also indicated a statistically significant difference in favor of the experimental group ($t=3.79$; $p<0.01$).

**In conclusion,** the results of the pedagogical experiment demonstrated that the methodology developed based on physical activity games is more effective than traditional instructional approaches in developing motor skills in preschool girls. In the experimental group, significant improvements were observed in speed, jumping ability, throwing accuracy, balance, and coordination ($p<0.05$–$0.01$). These findings confirm the scientific and practical effectiveness of the developed methodology and indicate its appropriateness for use in physical education sessions in preschool educational institutions.

The systematic implementation of the game-based methodology in preschool physical education contributes to the effective development of motor skills in preschool girls, the enhancement of physical qualities, and the formation of a healthy and active lifestyle. The application of this methodology in practice also improves children's physical readiness for school education and ensures their comprehensive development.

## LIST OF USED LITERATURE

1. O‘zbekiston Respublikasi Prezidentining 2020-yil 24-yanvardagi ‘‘O‘zbekiston Respublikasida jismoniy tarbiya va sportni yanada takomillashtirish va ommalashtirish chora-tadbirlari to‘g‘risida’’gi PF-5924-son Farmoni. www.lex.uz
2. Ortikova M.D. Maktabgacha yoshdagi bolalar jismoniy tarbiyasida badiiy gimnastikaning sog‘lomlashtiruvchi yo‘nalishi // “Sportda ilmiy tadqiqotlar” ilmiynazariy jurnali. Ч. 2024/4.- B.98-100.
3. Toxirov S.Sh., “Futbolchilarning oquv mashgulot jarayonida akrabatika elementlaridan foydalanish” / INTERNATIONAL JOURNAL OF SCIENCE AND TECHNOLOGY / 2024/5/29 – P. 746-750
4. Toxirov S.Sh., “Yosh futbolchilarni musobaqalarga tayyorlashda akrobatik mashqlardan foydalanish” / INTERNATIONAL JOURNAL OF SCIENCE AND TECHNOLOGY / 2024/5/29 – P. 740-746

5. Тожиев М.А. Ёш гимнастикачилар бошланғич тайёргарлик босқичида ўқув машғулот жараёнининг тузилиши: автореф. дис. ... пед. фан. бўй. фал. док. – Ч., 2020. – 26 б.
6. Mkaouer B. et al. Validity of a new sport-specific endurance test in artistic gymnastics //Frontiers in Sports and Active Living. – 2023. – Т. 5. – С.
7. Умаров М.Н. Начальная, базовая подготовка гимнастов на видах гимнастического многоборья. // «Фан спортга». 2009. - №1.- С. 32-38.