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# Optimization of the training process through the targeted use of specific physical exercises

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**Abstract**
*Purpose:* The purpose of this study is to improve the special motor abilities of gymnasts aged 13-14 years in group exercises based on the distribution of special physical exercises in the preparatory period .
*Methods:* 1. Pedagogical observations. 2. Pedagogical control tests. 3. Pedagogical experiment. 4. Mathematical and statistical analysis.
*Results:* In the course of the experimental group of gymnasts significantly increased: -the level of special-physical readiness by 14.8%; - technical readiness according to the results of expert assessment-from 0.46 to 0.72 points; average risk assessments in the composition by 0.9 points; the results of competitive assessments increased by 1.24 points.
*Conclusion:* The results of the experiment showed the effectiveness of the use of directional impact complexes, taking into account the motor structure of the movement, which will allow young gymnasts of 13-14 years to successfully master more complex competitive exercises.

**Keywords:** Microcycles, mesocycles, special-physical, flexibility, jumping ability, coordination.

## Introduction

At present, the goal of long-term training in rhythmic gymnastics is to maintain and maintain the growth dynamics of all aspects of training. Due to the application of a systematic approach, taking into account individual characteristics of age development, special physical fitness and technical, and on the other hand, the quality of the structure and content of the training process.

The President of the Republic of Uzbekistan has set the task of improving the system of selection, training and improvement of sports skills of talented and promising athletes, as well as creating the necessary conditions for high-quality training and successful performance of athletes of Uzbekistan at the XXXII Summer Olympic Games and XV Paralympic Games 2021 year in Tokyo (Japan) (Postanovleniya Prezidenta, 2017 ).

Recently, the increasing complexity of competitive exercises and increased competition in the international arena, in modern rhythmic gymnastics, specialists have faced the question of revising the training of athletes to the level of physical fitness and the degree of proficiency in subjects in exercises. The requirement of modern sports is characterized by the duration of the training process. Optimization of the training process is necessary for successful implementation of the tasks set. According to T.S. Lisitskaya, T.V. Nesterova, group exercises are the most difficult type of competitive program in rhythmic gymnastics and have a number of differences from individual exercises. They are higher in complexity, the nature of motor actions and energy. Consistency, clarity, uniformity and unity of actions of the entire team make the exercise more spectacular (Nesterova, 2000; Pilyuk, 1998).

The purpose of the study. Improvement of special motor abilities of gymnasts aged 13-14 years in group exercises based on the distribution of special physical exercises in the preparatory period.

Research objectives: - to study the basic means and methodological features of motor training in group exercises;

- experimentally substantiate the optimal SPT complexes of gymnasts aged 13-14 years in group exercises.

## Methods

Pedagogical observations, pedagogical control tests, pedagogical experiment, methods of mathematical statistics.

Contingent of test subjects. The experiment involved 30 children aged 13-14 years, athletes of the children's and youth school of rhythmic gymnastics.

## Results and discussion

Gymnasts are required to be able to perform exercises at the same pace and rhythm, striving for complete synchronicity in movements, which in turn causes an increase in energy consumption of the body's systems.

Along with similar requirements for the composition and technique of performing individual actions, physical abilities in the interaction of partners are very important in group exercises.

The complexity of group exercises also increases due to twice their duration compared to individual exercises. The main criterion for selecting gymnasts for national teams, in addition to their weight and speed data, is physical and technical training.

The above is fully consistent with the opinion of sports theorists, I.V. Wiener, N.N. Pilyuk, V.N. Platonov, who believe that this is primarily the result of a specific training system. In fact, it involves solving a number of tasks that require their scientific justification, and first of all, improving the control system for the components of motor actions (Viner, 2003; Pilyuk, 1998; Platonov, 2004).

The analysis of competitive exercises, a survey of coaches allowed us to determine the rank position of physical qualities and developed SPT complexes directed in accordance with motor actions. The compiled complexes were aimed at developing flexibility, coordination and jumping ability. Three complexes were developed for each quality. The dosage of each complex was dosed with a gradual increase in the preparatory part of the training time, jumping exercises were repeated in the main part. The experiment was conducted in the preparatory period (Figure 1).

Figure 1 shows that indicators of special physical fitness vary between 5.6 points and 7.6 points. According to the current trend of increasing complexity of elements in the composition, the results are low. The next stage of the experiment was the task of effective use of complexes in microcycles of the training process (Table 1).

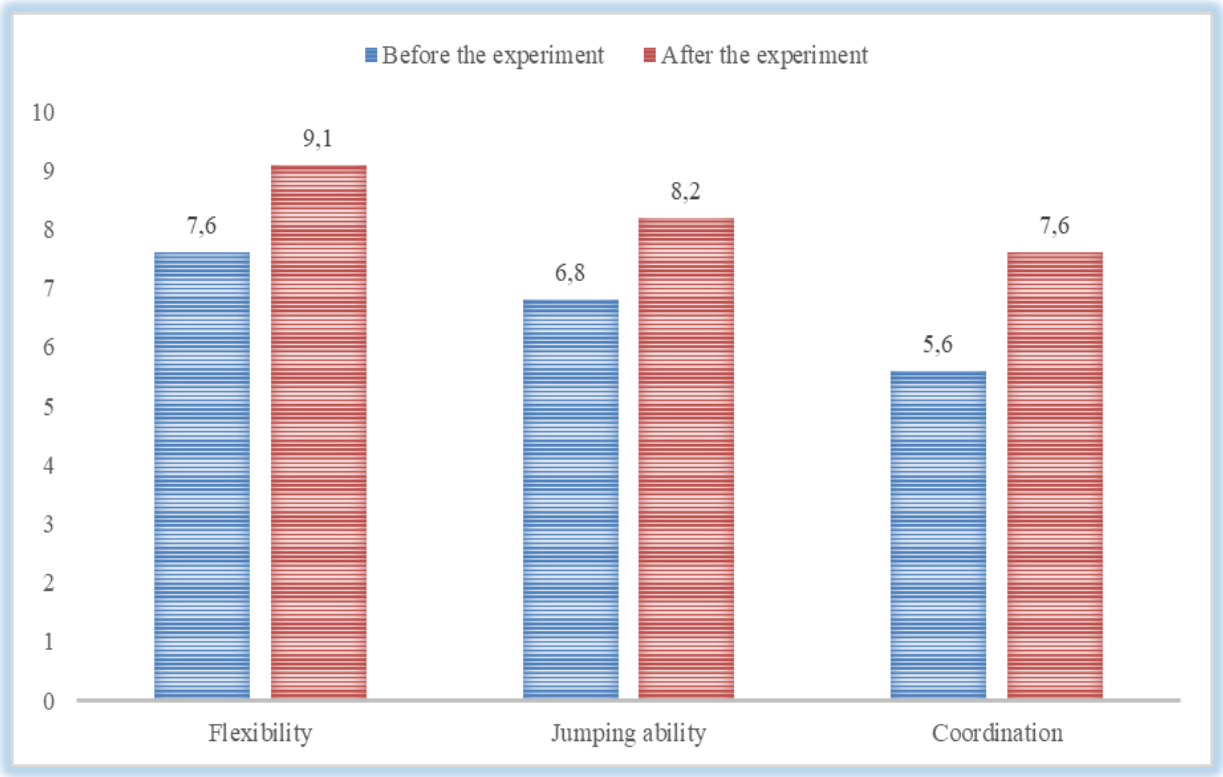



**Figure 1. Indicators of physical fitness before and after the experiment.**

At the end of the basic microcycle, control tests were performed, the results showed the dynamics of changes compared to the preliminary results. This confirmed our assumption about the efficiency of the proposed variant of the distribution of complexes in microcycles (Table 2).

In the distribution of complexes in mesocycles, tasks were set to increase the level of flexibility, jumping ability and coordination.

A set of coordination exercises includes technically complex competitive elements that are repeated several times in a series, the number of which in one exercise reaches eight, and are complex combinations connected by acrobatic elements. Performing coordination exercises in combination with subjects requires a

**Table 1.** **Distribution of exercises during the week.**

| Days | General training stage (6 microcycles) | | | |
|---|---|---|---|---|
| | Retracting mesocycle | | Basic mesocycle | |
| Monday | 1 complex Flexibility | Two microcycles 1st and 2nd | 1-2 complex Flexibility | Four microcycles 3rd-6th |
| Tuesday | 1 complex Jumping ability | | 1-2 complex Jumping ability | |
| Wednesday | 1 complex Flexibility | | 1-2 complex Flexibility | |
| Thursday | 1 complex Jumping ability | | 1-2 complex Jumping ability | |
| Friday | 1 complex Flexibility | | 1-2 complex Flexibility | |
| Saturday | 1 complex Jumping ability | | 1-2 complex Jumping ability | |

**Table 2.** **Distribution of exercises during the week.**

| Days | Special-preparatory stage (6 microcycles) | | | |
|---|---|---|---|---|
| | Control Mesocycle | | Grinding mesocycle | |
| Monday | 3 complex Flexibility Coordination | Three microcycles 7th-9th | 2 complex Coordination | Three microcycles 10th-12th |
| Tuesday | 3 complex Jumping ability | | 2-3 complex Jumping ability | |
| Environment | 3 complex Coordination Flexibility | | 3 complex Coordination | |
| Thursday | 3 complex Jumping ability | | 2-3 complex Jumping ability | |
| Friday | 3 complex Flexibility Coordination | | 3 complex Coordination | |
| Saturday | 3 complex Jumping ability | | 2-3 complex Jumping ability | |

combination of physical abilities, such as strength, special endurance, balance functions, and flexibility.

## Conclusion

Thus, the developed complexes took into account the motor structure of movement and the relationship between physical and technical training, the widespread use of conjugate impact exercises, which are typical competitive elements for gymnasts. At the stage of advanced training, it is necessary to use exercises and develop technical qualities, where muscle efforts contain in their structure such motor actions that are easily transferred to competitive elements and comprehensively develop the physical abilities of gymnasts.

Using the developed method of directed development of physical abilities in the preparatory period of the educational and training process, the following indicators significantly increased among gymnasts of the experimental group:

-the level of special physical fitness increased by 14.8%;

- technical readiness based on the results of an expert assessment-from 0.46 to 0.72 points;

- average risk scores in the composition by 0.9 points;

- the results of competitive assessments increased by 1.24 points.

The results of the experiment showed the effectiveness of using directional impact complexes, taking into account the motor structure of movement, which will allow young gymnasts to successfully master more complex competitive exercises.

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