

Improving the technical skills of gymnasts 8–9 years old in exercises with clubs

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Purpose: to justify the effectiveness of the use of organizational and pedagogical technology, increases the level of technical preparedness of gymnasts of 8–9 years old in exercises with clubs and helps to form a positive attitude towards rhythmic gymnastics.

Material & Methods: the study involved athletes of 8–9 years engaged in rhythmic gymnastics. The control group consisted of 10 gymnasts and the experimental – 10 gymnasts. To solve the tasks, the following research methods were used: theoretical analysis and generalization of literary sources; pedagogical observations, testing the level of technical preparedness in exercises with clubs, experiment; expert assessment method; methods of mathematical statistics.

Results: the author developed the organizational and pedagogical technology “Exercises with clubs”, which increases the level of technical readiness of young gymnasts in exercises with clubs and provides a steady interest in performing gymnastic exercises. The positive impact of the use of the proposed organizational and pedagogical measures that enhance the level of technical preparedness of gymnasts of 8–9 years old in exercises with clubs, accuracy of movements, development of a sense of rhythm is revealed.

Conclusions: the analysis of the results of the study indicates that the use of organizational and pedagogical technology “Exercises with clubs” increases the level of technical skill of young gymnasts in exercises with clubs and contributes to the formation of a positive attitude towards rhythmic gymnastics.

Keywords: rhythmic gymnastics, gymnasts 8–9 years old, organizational and pedagogical technology, exercises with clubs, technical skill.

Introduction

The rapid development of rhythmic gymnastics, the cyclical changes in the rules of FIG competitions [1] with increasing requirements for the technical preparedness of gymnasts and the constant complication of the components of the competitive activity of athletes determine the improvement of their sportsmanship and require the search for new ways to increase results [2; 3]. The aggravation of sports competition of national teams makes it necessary to pay special attention to coaches and scientists to increase the effectiveness of long-term training of athletes, to find various means of their preparation, which contribute to a more effective mastery of competitive exercises by young athletes [4; 5]. Modern fierce competition in rhythmic gymnastics leads to constant changes in the competitive programs of gymnasts. With the introduction of the new competition rules FIG [1] in rhythmic gymnastics, the development of complex competitive technical programs became a priority. An analysis of the video materials of international competitions and our own sports experience indicates that gymnasts who perfectly perform basic profiling elements (balances, turns, jumps) and demonstrate perfect work with the subject will be the leaders. This is possible only if modernization and increase the effectiveness of the training process, which is directly dependent on the means used in the classroom with athletes [4; 6; 7].

Thus, problems arise in sports training, which specialists in rhythmic gymnastics [2, 3, 8] associate before with insufficient basic training of exercises with objects, in particular, exercises with clubs. It is this theoretical and practical collision that determines the problematic situation of this study.

Purpose of the study: to substantiate the effectiveness of the use of organizational and pedagogical technology,

increases the level of technical preparedness of gymnasts of 8–9 years old in exercises with clubs and helps to form a positive attitude towards rhythmic gymnastics.

Material and Methods of the research

The study was conducted on the basis of a sports school “KPTI” in rhythmic gymnastics in Kharkov. The experiment was attended by 20 athletes 8–9 years old. In the course of the study, the following methods were used: theoretical analysis and generalization of literary sources; pedagogical (observation, testing, experiment); expert assessment method; methods of mathematical statistics. Testing the level of technical preparedness of gymnasts of 8–9 years old in exercises with clubs was carried out at the beginning and at the end of the annual training cycle. According to the results of initial testing, gymnasts were divided into two equivalent groups – control (CG) and experimental (EG) of 10 athletes. Training sessions of the CG gymnasts were conducted according to the generally accepted curriculum [9]. In the training process of the gymnasts of the EG, the developed technology was used, aimed at increasing the level of technical preparedness of young athletes in exercises with clubs. It provided for the use of gymnasts in the training process: a) a technique for increasing the level of technical preparedness for performing exercises with clubs; b) game and competitive tasks were developed that were used to increase the interest and motivation of gymnasts to master the technique of performing elements with clubs; c) a system of measures to attract gymnasts to training activities (Figure 1).

According to the author’s organizational and pedagogical technology “Exercises with clubs”, at the first stage of formation of motor skills of the gymnasts of the EG

in the preparatory part of the training session, the athletes performed a specially developed basic set of exercises. In the main part of the training session, according to the developed technology, the young gymnasts mastered the "foundation", the "school of movement" with clubs. At the end of this stage, the control provided for verification of the assimilation of the developed set of exercises and is better conducted by young athletes, as well as the assimilation of basic movements with clubs for evaluation.

A feature of the *second stage* was the gymnasts' independent exercise of the basic set of exercises with its subsequent complication: performing exercises on toes, without visual control, with an increase in the number of repetitions, using various positions of the head, arms, torso, as well as the use of rhythmic gymnastics and a combination of basic gymnastic exercises with dynamic work of the subject.

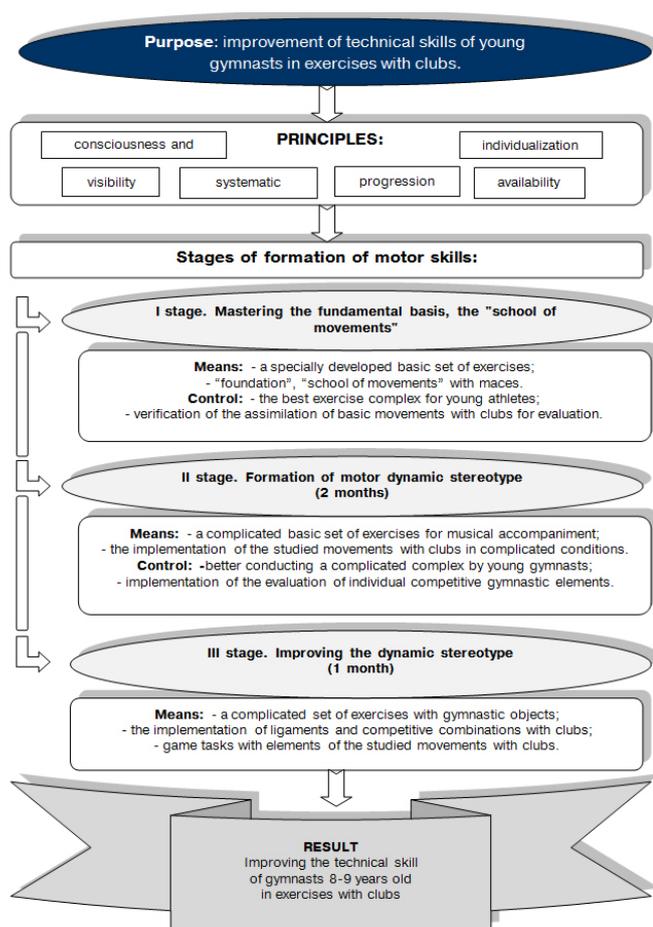


Fig. 1. Organizational and pedagogical technology "Exercises with clubs"

The exercises of the main part of the second stage were aimed at the formation of a motor dynamic stereotype in exercises with clubs. Athletes performed separate competitive gymnastic elements (jumping, balance, revolutions) simultaneously with the basic movements of the clubs, which was also a means of control at the end of the second stage.

The goal of the *third stage* was to improve the dynamic stereotype of performing exercises with clubs. In the preparatory part of the gymnast, a basic set of exercises was performed using objects of rhythmic gymnastics. In the main part of the training session, the gymnasts did not perform separate movements and elements with clubs, but their

combination in communication and competitive combinations. To increase the interest and motivation of young gymnasts, the competitive-game method was used.

Results of the research

To test the effectiveness of using the original technology of "Exercises with clubs," at the end of the study, a second test was conducted of the level of technical preparedness of gymnasts in the control and experimental groups (Table 1).

As can be seen from the materials presented, the expert assessment for the gymnasts performing the "Small circles with clubs" exercise is as follows: in the EG – 5,9 points, which corresponds to the average level of technical preparedness for these test tasks, and in kg – 7,0 points, which corresponds to a high level. The difference in the average group results by the Student criterion is statistically significant, since $t_p=3,46 > t_{gr}=2,10$. This means that in the EG, the results objectively improved in relation to the CG. Their growth amounted to 18.6% (Table 1). The following exercise "Vertical Mill" was evaluated by experts in gymnasts of the CG and EG, respectively, at 4.3 and 5.5 points – the average level of technical preparedness in exercises with clubs. Comparison of these results by the Student criterion shows that the difference between the group mean values is statistically significant ($p < 0,05$). The study indicates an improvement in the experimental group in relation to the control by 27.9% (Table 1). According to the results of the study, the gymnasts performed the "Asymmetry" exercise by experts at 6.4 points – EG (average level) and 7.3 points – CG (high level). In accordance with the student criterion, the difference between the average group results shown by gymnasts in this test task is statistically significant, since $t_p > t_{gr}$ (Table 1). It should be noted that the improvement in the result in the EG relative to the CG was 14.1%. An analysis of the results of the table indicates that the exercise "Alternate small throws of two clubs" by gymnasts of the CG, experts rated at 5.9 points, which corresponds to the average level of development of technical preparedness, and gymnasts of the EG at 7.3 points – corresponds to a high level of technical preparedness for this exercise. The difference between these indicators by the Student criterion is statistically significant, since $t_p > t_{gr}$. The increase in the results shown by the gymnasts of the EG in comparison with the CG is 23.7%. In the process of performing the exercise "Big throws and catching one club" with the right hand, the athletes of the CG received 4.6 points, and the EG - 5.8 points, which corresponds to the average level of technical preparedness in this exercise. In accordance with the student criterion, the difference between the average group indicators of this test exercise are statistically significant ($p < 0,05$). It should be noted that in the EG relative to the CG result improved by 26.1% (Table 1). The results of the introduction of the organizational and pedagogical technology "Exercises with clubs" also indicate that the greatest improvement in the result in the EG with respect to the CG – 35.7% – was observed according to the results of the same test exercise with only the left hand. The mark for performing the exercise "Big throws and catching one club" with the left hand in the CG and the EG is 2.8 points (low level) and 3.8 points (average level), respectively. The difference between these indicators is statistically significant, since $t_p=2,83 > t_{gr}=2,10$ (Table 1).

Positive changes in increasing the level of technical preparedness for the test exercises "Small circles with clubs," "Vertical mill" and "Asymmetry" were due to the use

Table 1
Level of technical preparedness of athletes 8–9 years old in exercises with clubs at the end of the experiment ($t_{gp.}=2,10$ at $p<0,05$)

Indicators of technical preparedness in exercises with clubs	Gymnasts		t_p	p	Increase in results	
	$\bar{X} \pm m$ (LTPEC*)					
	CG (n=10)	EG (n=10)				
1. Small circles with clubs	5,9±0,22 (C)	7,0±0,24 (B)	3,46	<0,05	18,6%	
2. Vertical mill	4,3±0,19 (C)	5,5±0,27 (C)	3,52	<0,05	27,9%	
3. Asymmetry	6,4±0,24 (C)	7,3±0,26 (B)	2,62	<0,05	14,1%	
4. Alternating small throws of two clubs	5,9±0,22 (C)	7,3±0,19 (B)	5,03	<0,05	23,7%	
5. Big throws and catching one club	right	4,6±0,21 (C)	5,8±0,30 (C)	3,25	<0,05	26,1%
	left	2,8±0,24 (H)	3,8±0,25 (C)	2,83	<0,05	35,7%

Remark. LTPEC – level of technical preparedness in exercises with clubs; H – low level; C is the average level; In – a high level.

of a specially developed set of exercises with its subsequent complication and the use of rhythmic gymnastics during its implementation. The improvement of the results for throwing test tasks can be explained by the inclusion of these exercises during relay races, game and competition tasks in the training process of young gymnasts of the EG. It should be noted that the greatest increase in the results of athletes of the EG in comparison with the results of the CG was observed in the exercise “Big throws and catching one club” with the left hand. This result can be explained by the fact that usually in the training process, young gymnasts perform most of the throwing movements with their dominant (right) hand. And the proposed organizational and methodological techniques provided by the technology “Exercises with clubs” were aimed at overcoming this drawback. It should be noted that the independent conduct by gymnasts in the preparatory part of the training session of the developed basic set of exercises contributed to the formation of a steady interest and positive attitude towards rhythmic gymnastics. The use of musical accompaniment and rhythmic gymnastics items brought the implementation of this basic complex closer to competitive exercises, contributed to the interest of gymnasts and increased the emotional background of the training session.

Conclusions / Discussion

The results of the study complement the theoretical provisions formulated in the works of G. Andreeva [3], N. Andreeva [10], P. Kizima, N. Bateeva [11] on the importance

of basic technical training, especially substantive, in the training process of young gymnasts. Problems and existing difficulties of technical skills of athletes involved in rhythmic gymnastics, associated, in particular, with regular changes in the rules of competitions and constant complications of their program of performances. Specialists, I. Wiener [2], R. Andreev, V. Leonov [12]; A. Mullagildina, I. Krasova [13], emphasize that one of the most relevant areas of advanced technical training in rhythmic gymnastics has been and remains to be the development of basic exercises with objects, the primary quality learning of which is the key to further successful progress in rhythmic gymnastics. The study also confirms the findings of V. Stopped, A. Deineko, A. Ryabchenko [4], A. Mullagildina [7], R. Andreeva [12] and other scientists that the constant complication of the components of competitive activity and the ultimate realization of the individual capabilities of gymnasts result in the exhaustion of reserves for improving their sportsmanship, prompting the search for additional tools that contribute to more effective mastery of motor skills by young athletes, and require new ways to increase results. Therefore, the results of a study to improve the skills of young gymnasts in exercises with clubs are relevant.

Prospects for further research are to introduce the developed organizational and pedagogical technology “Exercises with clubs” into the educational process of the Children’s and Youth Sports School, Sports School, sports clubs and specialized educational institutions for its further improvement.

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