

**IMPROVING THE TECHNICAL TRAINING OF RHYTHMIC  
GYMNASTICS ATHLETES BY MEANS OF FOLK-STAGE DANCE**

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**Purpose:** to experimentally substantiate the improvement of technical readiness of rhythmic gymnastics athletes aged 10-12 years by means of folk-stage dance.

**Material and methods:** theoretical analysis and generalization of data of special scientific and methodical literature, pedagogical observation, pedagogical testing, pedagogical experiment, method of expert assessments, methods of mathematical statistics. The study involved 14 gymnasts aged 10-12 years. Divided into two groups: control group (CG) 7 gymnasts and the main group (MG) 7 gymnasts.

**Results:** it was found that the level of technical training has increased significantly in the athletes of the main group, where in the training process used the means of folk stage dance.

**Conclusions:** the positive influence of folk-stage dance means on the dynamics of the level of technical readiness of female athletes in rhythmic gymnastics has been established. Confirmation of the effectiveness of the developed technique was a

statistical change in the gymnasts of the main group. The gymnasts of the control group showed positive dynamics of results, but no statistically significant changes were observed.

**Keywords:** rhythmic gymnastics, sportswomen, technical readiness, folk-stage dance.

## **Introduction**

The performance of competitive programs in modern rhythmic gymnastics requires high technical skill from gymnasts. Traditional means of technical training in the educational and training process of female gymnasts do not fully correspond to the modern dynamism and evolution of the structure of competitive programs and their implementation [14, 15]. Improving the technique of performing the difficulties of body movement (jumps, turns, balance) and the expressiveness of their implementation requires gymnasts to have all-round choreographic readiness, since one of the ways to increase the cost of the composition of the competition is possible by performing complex and "expensive" elements of body difficulties [8, 12, 13].

Improving the performance skills of gymnasts on the basis of improving choreographic training is considered in the studies of Guevara Perez Jorge Enrique (1994) and S.I. Borisenko (2000). Research by S.I. Borisenko (2000), associated with improving the performance skills of gymnasts based on improving choreographic training. She showed that the priority of national gymnastics is due not only to high sports and technical skill, but also to special aesthetics, which is reflected in the performances.

A number of scientists (I. Viner, 2003; L.A. Karpenko, 2007; R.I. Andreeva, 2011) pay attention to the fact that the specificity of training in rhythmic gymnastics is determined by the fact that the purpose of the exercises is to achieve harmony of movements. High results are determined by the absolute values of one of the components: speed, flexibility, strength, endurance, coordination, as well as special connections between different sides of motor manifestations.

The analysis of special scientific and methodological literature showed that the use of modern directions of choreography in the training of young athletes takes place, but the use of movements of the folk-stage dance of the part is not traced. The solution to the problems of this topic is timely, as the development of rhythmic gymnastics takes place throughout Ukraine. Each region of the country has its own flavor, folklore, which can give an inexhaustible bonfire of movements of both folklore and folk-stage dance [5, 10, 17]. When combining choreographic movements with the skill of performing exercises with objects, athletes of rhythmic gymnastics reproduce a unique palette of colors of female plastic, its transformation into different images according to the musical accompaniment and its drama [11, 16].

The characteristic features of folk-stage dance movements give grace and dynamism in their performance. The interweaving of the multifaceted content of folk-stage dance with a choreographic pattern, the emotional component of a musical work reflects its nationality and era. Folk-stage dance is characterized from calm round dance figurative folk sketches to rapid movement in a choreographic drawing with the performance of complex exercises in one episode or another in the theme of reproducing an era or the present [7]. The foregoing testifies to the incredibly rich, inexhaustible flavor of folk-stage dance, which is inherent in its qualities for use in the structure and implementation of a competitive program in the sport of rhythmic gymnastics. Despite this, our research, the impact of folk stage dance on the level of technical readiness of female athletes in rhythmic gymnastics is relevant.

*Connection of the study with scientific programs, plans, topics.* The study was carried out in accordance with the initiative theme of the scientific research of the Department of Gymnastics, Dance Sports and Choreography of KSAPC: “Theoretical and methodological foundations of the system-forming components of physical culture (sports, fitness and recreation) for 2020-2025, state registration number 0120U01215.

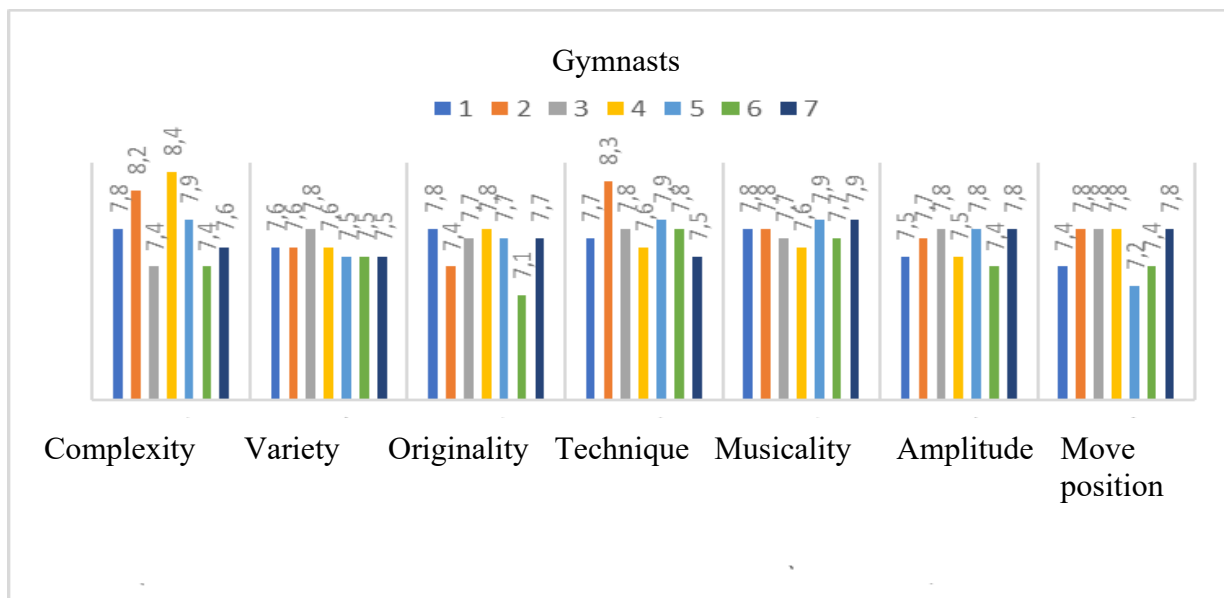
**Purpose of the study** to experimentally substantiate the improvement of technical readiness of rhythmic gymnastics athletes aged 10-12 years by means of folk-stage dance.

## Material and Methods of the research

Theoretical analysis and generalization of data from special scientific and methodological literature, pedagogical observation, pedagogical testing, pedagogical experiment, the method of expert assessments, methods of mathematical statistics. The study involved 7 gymnasts aged 10-12 years from the control group (CG) and 7 gymnasts aged 10-12 years from the main group (MG).

## Results of the research

At the initial stage of the study, the estimated scores of the components were determined according to the criteria when performing the competitive program in the control group (CG) and the main group (MG) fig. 1. and fig. 2.

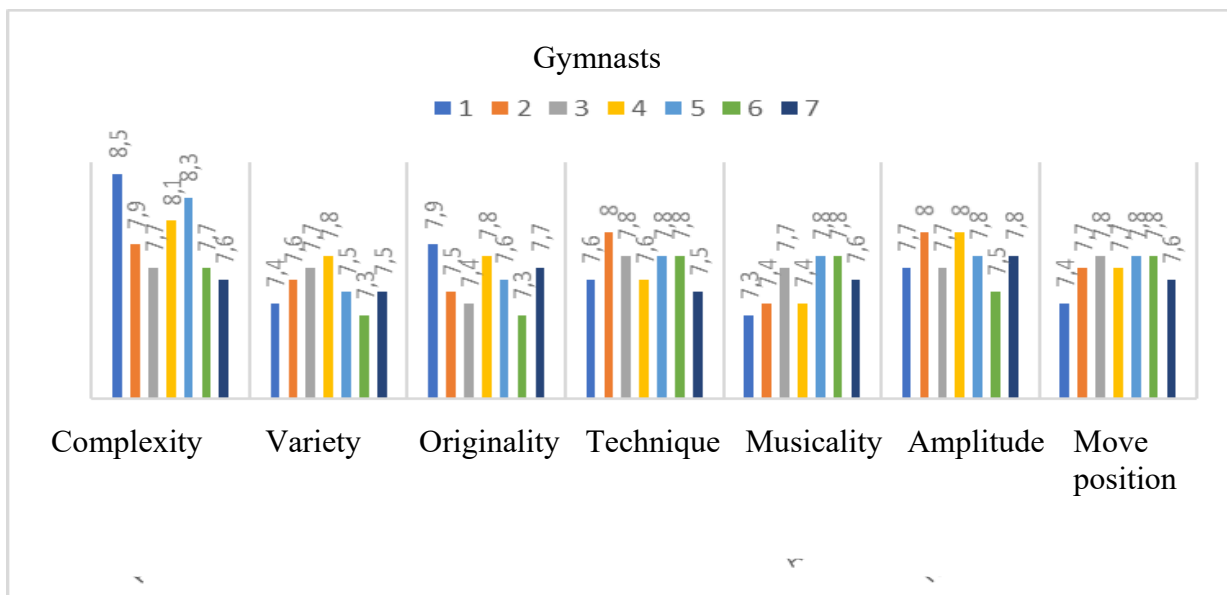


**Figure 1.** Results of testing the technical readiness of gymnasts at the initial stage of the experiment (CG, n=7)

The analysis of expert assessments of the performance of the competitive program by female athletes of this age at the beginning of the study in the control group gives reason to ascertain a large dispersion of individual results and the *greatest difference* in the level of technical readiness of female athletes in the component *complexity of elements* between their best and worst performance, which is 1.0 points from 7.4 points up to 8.4 points ( $V = 4,6\%$ ). Leading experts in rhythmic

gymnastics testify that at this age the difference in the level of technical readiness of rhythmic gymnastics female athletes in the technique of execution in the competitive programs of the *component complexity* of the elements has the *greatest difference* in the level of technical readiness than in the performance of other components, which is confirmed by expert assessments of testing in our study. As for other test results, in the *components, the diversity of body movements* from 7,5 points to 7,8 points (V – 1,3%), the *originality of elements and compounds* from 7,4 points to 7,8 points (V – 3,1%), *technique of performance of elements* from 7,5 points to 8,3 points (V – 3,0), *musicality of performance* from 7,6 to 7,9 points (V – 1,2%), *range of movements* from 7,4 points to 7,8 points (V – 2,1%), *movement across the site* from 7,2 points to 7,8 points (V – 3,1%) we have minimal differences in the dispersion of individual results, which make up the difference in the range from 0,6 to 0,3 points. The homogeneity of the group is obvious, where the coefficient of variation V% does not exceed 10 percent [9].

The primary testing of the level of technical readiness of female gymnasts of the main group (MG) was carried out (Fig. 2.)



**Figure 2.** The results of testing the technical readiness of female gymnasts at the initial stage of the experiment (MG, n=7)

The testing carried out in the main group at the beginning of the experiment showed, as in the control group, a large dispersion of results was recorded in the component *complexity of elements* and *the greatest difference* in the level of technical readiness of female athletes between their best and worst performance, which is 0.9 points from 7,6 to 8,5 points (V – 3,9%).

The difference in test results for other components does not exceed the limits from 0,6 to 0,3 points: *variety of body movements* from 7,3 points to 7,8 points (V – 2,1%), *originality of elements and compounds* from 7,3 points up to 7.9 points (V – 2,6%), *technique of performing elements* from 7,5 points to 8,0 points (V – 2,0%), *musicality of performance* from 7.3 points to 7,8 points (V – 2,5%), *amplitude of movements* from 7,5 points to 7,8 points (V – 2,0%), *movement on the site* from 7,4 points to 7,8 points (V – 1,8%).

On the basis of the conducted pedagogical research, we have developed a methodology for improving the technical readiness of female athletes in rhythmic gymnastics at the age of 10-12 years by means of folk stage dance. It included exercises for performing varieties of Ukrainian folk stage dance: characteristic parterre and in unsupported movement turns, tracks.

*Table 1*

**Statistical indicators of technical readiness of female gymnasts of the main group of the pedagogical experiment (n = 7, P < 0,05;0,01; 0,001)**

№ i/o	Components	Main group (n = 7)		tp	p
		before	after		
		$\bar{X} \pm m$			
1	Complexity of elements, points	7,99 ± 0,12	8,61 ± 0,18	2,87	< 0,05
2	Variety of body movements, points	7,61 ± 0,06	8,65 ± 0,07	11,28	< 0,001
3	Originality of elements and compounds, points	7,66 ± 0,08	8,31 ± 0,06	6,50	< 0,001
4	Technique for performing elements, points	7,67 ± 0,06	8,46 ± 0,07	8,57	< 0,001
5	Musicality of performance, points	7,64 ± 0,08	8,4 ± 0,08	6,72	< 0,001
6	Amplitude of movements, points	7,82 ± 0,06	8,24 ± 0,05	5,38	< 0,01
7	Moving around the site, points	7,73 ± 0,05	8,38 ± 0,06	8,32	< 0,001

We applied the technique of improving the technical readiness of rhythmic gymnastics athletes at the age of 10-12 in the main group (MG, n=7). The educational and training process in the control group (CG, n=7) was held according to the traditional method of training female athletes in rhythmic gymnastics. Folk-stage dance exercises were used in the main group in the preparatory and final part of the training session. The statistical test results at the end of the pedagogical experiment are presented in tables 1, 2.

The indices of evaluation of the components of the fulfillment of the competitive program before and after the pedagogical research in the MG showed the dynamics of change: the component "Complexity of elements" in the group in percentage terms increased by 7,8% ( $t_p=2,87$ ,  $p<0,05$ ); component "Variety of body movements" – by 13,6% ( $t_p = 11,28$ ,  $p<0,001$ ); component "Originality of elements and compounds" – by 8,5% ( $t_p=6,50$ ,  $p<0,001$ ); the component "Technique for performing elements" – by 10,3% ( $t_p=8,57$ ,  $p<0,001$ ); the component "Musical performance" – by 9,9% ( $t_p=6,72$ ,  $p<0,01$ ); the component "Amplitude of movements" – by 5,4% ( $t_p=5,38$ ,  $p<0,01$ ); the component "Move around the site" – by 8,4% ( $t_p=8,32$ ,  $p<0,001$ ).

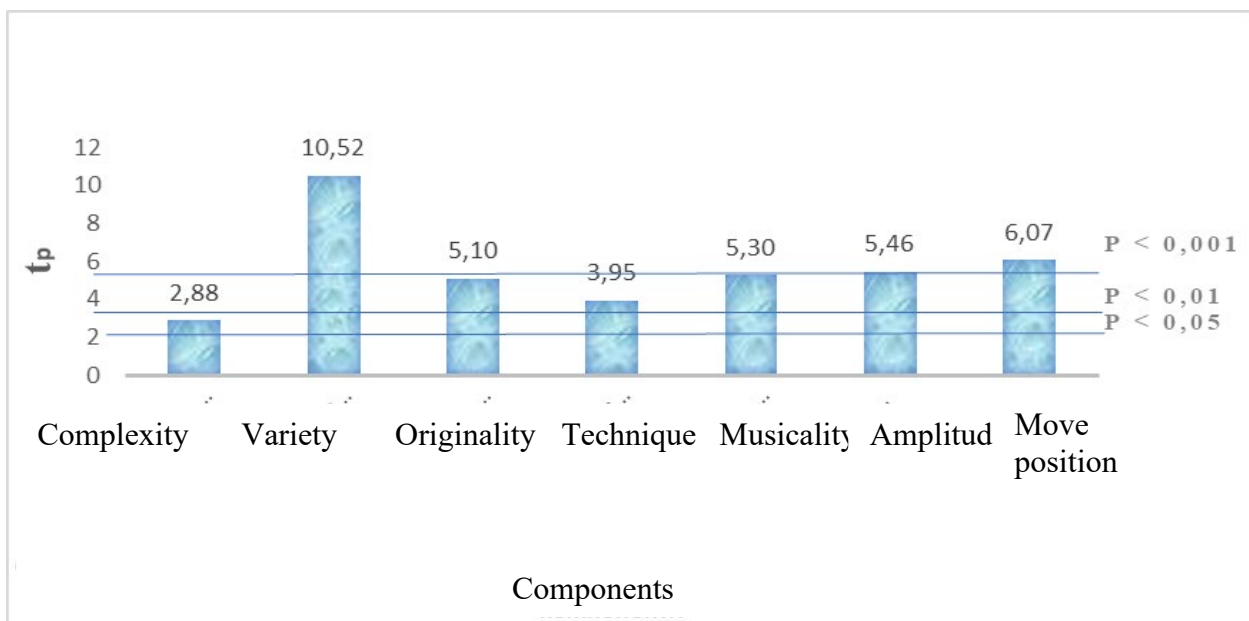
*Table 2*

**Statistical indicators of technical readiness of gymnasts from the control group of the pedagogical experiment (n = 7, P < 0,05)**

№ 3/II	Components	Control group (n = 7)		tp	p
		before	after		
		$\bar{X} \pm m$			
1	Complexity of elements, points	7,81 ± 0,15	7,97 ± 0,13	0,81	> 0,05
2	Variety of body movements, points	7,59 ± 0,04	7,68 ± 0,06	1,25	> 0,05
3	Originality of elements and compounds, points	7,60 ± 0,10	7,84 ± 0,07	1,97	> 0,05
4	Technique for performing elements, points	7,80 ± 0,10	8,01 ± 0,09	1,56	> 0,05
5	Musicality of performance, points	7,77 ± 0,04	7,9 ± 0,05	2,03	> 0,05
6	Amplitude of movements, points	7,64 ± 0,06	7,77 ± 0,07	1,41	> 0,05
7	Moving around the site, points	7,60 ± 0,10	7,82 ± 0,07	1,80	> 0,05

At the same time, the dynamics of changes in the assessment of the components of the implementation of the competitive program at the beginning and after the pedagogical research in the control group is highlighted in the results: the expert assessment of the component "Complexity of elements" in the group in percentage terms increased by 1,3% ( $t_p=0,46$ ,  $p>0,05$ ) component "Variety of body movements" – by 1,2% ( $t_p=0,71$ ,  $p<0,05$ ) component "Originality of elements and compounds" – by 1,1% ( $t_p=0,77$ ,  $p>0,05$ ); component "Technique of performing elements" – by 2,5% ( $t_p=1,28$ ,  $p<0,05$ ) component "Musical performance" – by 1,2% ( $t_p=0,54$ ,  $p<0,05$ ) component "Amplitude of movements" – by 1,2% ( $t_p=0,57$ ,  $p<0,05$ ) to the component "Moving around the site" – by 1,2 % ( $t_p=0,44$ ,  $p>0,05$ ).

When comparing the indicators of the level of technical readiness of the female gymnasts of the main and control groups, the reliability of the results is observed in all evaluative components of the competitive program (Fig. 3.)



**Figure 3.** Reliability of indicators of the level of technical readiness of female gymnasts of the main and control groups after the pedagogical experiment

In the comparative characteristic of the average statistical assessment of the components of the fulfillment of the competitive program by athletes of rhythmic gymnastics, a positive difference was established in favor of the main group. The percentage is: MG – 5,2%; CG – 1,4%.



## **Conclusions / Discussion**

Research on this topic has shown the inexhaustibility of scientific developments and practical approaches to the introduction of new innovations and folk-stage dance means into the training process in improving the technical readiness of rhythmic gymnastics athletes. Folk stage dance in its multifaceted unique reincarnation is a great treasure of all colors of the nationality, enrich not only our performance, but also play a big role in revealing the emotional and artistic state of rhythmic gymnastics athletes during the performance of the competitive program. A certain dynamics of changes in the indicators of the performance of competitive programs by female athletes of rhythmic gymnastics in percentage terms by groups indicates the effectiveness of the methodology for improving the technical readiness of female athletes of rhythmic gymnastics by means of folk stage dance proposed in the educational process.

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