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## Influence of the structure and content of physical training tourists-conductors 12–13 years on the level of physical fitness

**Abstract. Purpose:** to determine the effect of the structure and content of physical training tourists-conductors 12–13 years on the level of physical fitness. **Results:** significant differences in the level of development of basic motor qualities tourists conductors between the experimental and control groups. **Material and Methods:** the used theoretical analysis and synthesis of the literature, teacher testing, methods of mathematical statistics. The study involved 90 people, 64 of them – men and 26 – women. **Conclusions:** determined that the overall level of physical qualities tourists conductors is low; no single structure building training process of preparation tourists conductors 12–13 years; no innovative technologies; narrow range of physical training of athletes. Established that additional means of physical training significantly affect the level of physical qualities tourists conductors 12–13 years at a stage of previous base preparation.

**Keywords:** boating, physical qualities, additional means of physical preparation, the stage of preliminary base preparation.

**Introduction.** The carried-out analysis of the special scientifically-methodical literature concerning the planning of the educational and training process of tourists water-transport workers at a stage of the previous basic preparation, and also preparation for a future trip [2; 5] (competitions) established a need of studying of the matter. So, despite of the available scientific researches which were conducted recently [6; 7], remain insufficiently studied questions of training of tourists water-transport workers of 12-13 years old taking into account the main tendencies of the development of boating [4; 12]. It is established that a traditional model (training program) [8] of the plannings of the educational and training process today in connection with a continuous change of rules and conditions of competitions [2; 8] can't guarantee the high level of preparedness of tourists to trips and competitions [1; 5]. The search of new ways of creation of the training process, use, innovative technologies, nonconventional, additional resources in the training of tourists water-transport workers [12] at a stage of the previous basic preparation for increase of the level of physical fitness defined a need of carrying out researches for this direction.

According to scientists, V. Y. Ivanov (2007), Z. S. Marchukov (2010), T. I. Grineva (2012), sharply there is a question of creation of the effective process of physical preparation and development of those special physical qualities of tourists water-transport workers which manifestation would provide the best results at competitions and defined success of the competitive activity in general.

The works of V. M. Makarov (2003), I. I. Makhov (2007), S. Y. Makhov (2010), S. V. Riisky (2012) and others are devoted to the software of educational and training classes by sports tourism where young sportsmen should overcome natural and artificial obstacles with a use of equipment at distances which facilitates performance of technical and tactical tasks, guarantees safety and promotes their attraction to the subsequent participation in sports trips, including combined (T. I. Grineva) [6; 7].

However any of the researches didn't concern questions of definition of the structure and content of the process of physical training of tourists water-transport workers at a stage of the previous basic preparation. Therefore the development and experimental justification of the structure and the content of physical training of tourists water-transport workers of 12-13 years old at a stage of the previous basic preparation is one of the solutions of a problem of increase of efficiency of the process of training of sportsmen.

**Communication of the research with scientific programs, plans, subjects.** The research was carried out in Dnepropetrovsk state institute of physical culture and sport according to the Built plan of the research works of the Ministry of Ukraine for family, youth and sport, for 2011-2015 by a subject 2.6 "Theoretic-methodical bases of improvement of the training process and competitive activity in the structure of long-term training of sportsmen", number of the state registration is 0111U001168.

**The objective of the research:** to define influence of the structure and content of physical training of tourists water-transport workers of 12-13 years old on the level of their physical fitness.

*Research tasks:*

1. To introduce the structure and content of physical preparation in the training process of tourists water-transport workers at a stage of the previous basic preparation.
2. To check experimentally the efficiency of the introduced structure and content of physical training of tourists water-transport workers of 12-13 years old at a stage of the previous basic preparation.

**Material and methods of the research.** The following methods of the research were used for the solution of objectives: theoretical analysis and synthesis of references, pedagogical testing, methods of mathematical statistics.

The researches were conducted within September, 2013 – May, 2014 on the basis of clubs of sports tourism of the Dnepropetrovsk area: CBI physical and sports complex of V. M. Shkurenko (Pavlograd), SC "Avangard" (Dnepropetrovsk). 90 people took part in the research, from them 64 – boys and 26 – girls. Boys and girls were divided into control and experimental groups for carrying out the forming experiment. Each group consisted of 45 persons (32 boys and 13 girls).

During the research we used 13 control exercises which basis was made by tests of the state system of Ukraine and tests offered by V. A. Romanenko [10; 12]. We applied exercises on which the end result of a performance in competitions depends for the research of special preparedness. They are "Passing of the return gate" and "Passing of a competitive distance".

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**Results of the research and their discussion.** We carried-out an assessment of the level of physical fitness of tourists water-transport workers at a stage of the previous basic preparation at the beginning of the forming experiment.

The statistical indicators of the level of physical fitness of boys proved that low indicators were watched all tests of a power orientation in the majority of them at a stage of the previous basic preparation (81% of boys showed low result in the test "Pullings up on a cross-piece" and 71% – in the test "Bendings extensions of hands in an emphasis, lying"). In tests of a high-speed and power orientation low indicators were watched in 62% of boys by test "Long jump from a place", 70% and 72% – respectively in the test "Trunk raisings in a sit" and "Throw of a stuffed ball weighing 2 kg". Low results showed 85% of boys in the test of a high-speed orientation ("Run of 60 m"). The low level was shown by 85% of boys in the tests of a coordination orientation ("Shuttle run of 4x9 m" and "Run by a "snake" of 30 m", and results of performance of the test of Romberg were unsatisfactory in 100%. The level of the development of endurance was estimated by the test "Run of 1500 m" where the low result was shown by 80% of boys. Besides, the development of flexibility by the test "Trunk inclination forward" didn't satisfy to the age norms in 72% of boys [9; 11].

The statistical data of indicators of the level of physical fitness of girls was also established by low indicators by all tests: "Pulling up on a cross-piece" – in 88%, "Bending extension of hands in an emphasis, lying" – in 70%, "A long jump from a place" – in 69%, "A trunk raising in a sit" – in 69%, "A throw of a stuffed ball weighing 2 kg" – in 81%, "Run of 60 m" – in 81%, "Shuttle run of 4x9 m" – in 88%, "Run by a "snake" of 30 m" – in 85%, indicators of the test of Romberg – in 100%, "Run of 1500 m" – in 88%, "A trunk inclination" forward – in 65% of girls.

The assessment of the level of special physical fitness was carried out by the tests which are most often applied in sports practice of tourists water-transport workers of different qualification and completely display the level of preparedness of sportsmen at each stage of long-term training ("Passing of the return gate" (against the current) and "Passing of a competitive distance" (10 gate, min).

Results of the correlation analysis between the noted above indicators, established a close interrelation between indicators of physical fitness that confirmed data on need of attraction of a wide range of means of physical preparation for the increase of their level.

Results of the fixed experiment, calendar of competitions for 2013-2014 and volume of loadings according to recommendations of the leading researchers of the branch of sports boating and basic provisions of the theory of sport were put in a basis of the experimental structure and content of physical training of tourists water-transport workers at a stage of the previous basic preparation [9; 10; 13].

The experimental structure and the content of physical training of tourists water-transport workers at a stage of the previous basic preparation provided 216 hours and contained a redistribution of the content of special physical preparation according to the provision of the theory of sport [10] and to the experience of leading experts of the branch of sports boating [3; 10]. The annual cycle of preparation was under the construction on the basis of the one-cycled planning of the training process which was defined by the existence of the main regional competitions.

The offered experimental structure and content of physical training of tourists water-transport workers at a stage of the previous basic preparation were planned only for the preparatory period of a macrocycle which lasted 6 months (November, 2013 – April in 2014) in which additional resources of physical preparation were used which are most approached by the work of certain groups of the muscles involved in the work of tourists water-transport workers, an amplitude and direction of the movement, a size of efforts, a movement speed in the competitive activity but which don't answer it in general which were aimed at the development of power, high-speed and power and coordination qualities.

Due to the lack of standards for this age of sportsmen in the training program of [8] improvements of the level of special physical fitness estimated in dynamics before and after the experiment. So, the time of passing of the "return" gate made 38,03 s before the experiment in the control group of boys, and the time of passing of a competitive distance – 3 min. The time of passing of the "return" gate decreased on 0,28 s after the experiment (that made 0,7%) and made 37,75 s, and the time of passing of a competitive distance decreased on 5 s (2,8%) and made 2,55 min.

In the experimental group of boys the time of "Passing of the return gate" before the experiment made 37,5 s, after – 32 s. Therefore, during the preparatory period the time of passing of this distance improved on 5,5 s (17%). Also the improvement on 39 s (25%) is noted and the test "Passing of a competitive distance" (from 3,11 min to 2,38 min). That is the developed by us structure and the content of physical training of tourists water-transport workers had a positive effect at a stage of the previous basic preparation with a use of additional resources of physical preparation that is confirmed with the above-stated data and data which are provided in tab. 1.

The insignificant deterioration of results in tests of special physical fitness is traced among girls-tourists of 12-13 years old of the control group. So, the time of "Passing of the return gate" before the experiment made 44,46 s, after – 45 s, a deterioration made 0,54 s (1,2%). The time of passing of a competitive distance also increased on 15 s (6%) (from 3,45 min to 4 min). A deterioration of results took place due to the lack of systemacity and specificity of loadings in the training process.

The tendency to a reduction of the time of passing of distances and improvement of results are traced in the experimental group of girls. So, the time of "Passing of the return gate" decreased on 5,31 s (14%) (from 44,31 s to 39 s). The improvement on 20 s (10%) is noted and in the test "Passing of a competitive distance" (from 3,50 min to 3,30 min). The received results also confirm the expediency of the structure developed by us and the content of physical training of tourists water-transport workers with a use of additional resources of physical preparation, the data are provided in tab. 2.

The analysis of results of the forming experiment showed considerable changes of indicators of physical fitness of tourists of the experimental group.

The reliable improvement ( $p < 0,05$ ) is defined on all indicators of physical fitness at boys of 12–13 years old (see tab. 1).

Table 1

**Indicators of physical fitness of boys of the control and experimental groups before and after the forming experiment (n=64)**

№	Indicators	Conditions of registration	CG		EG	
			$\bar{X} \pm S$	p	$\bar{X} \pm S$	p
1	Pulling up on a cross-piece, time	before the experiment	5,37±2,30	>0,05	5,09±1,76	<0,05
		after the experiment	5,88±1,34		7,90±1,30	
2	Bending extension of hands in an emphasis lying, time	before the experiment	18,13±4,40	>0,05	17,65±1,75	<0,05
		after the experiment	19,20±2,30		20,30±3,10	
3	Long jump from a place, sm	before the experiment	164,30±5,70	>0,05	164,53±3,07	<0,05
		after the experiment	165,70±6,10		169,25±5,90	
4	Trunk raisings in a sit, time	before the experiment	24,20±4,45	>0,05	26,40±2,84	<0,05
		after the experiment	27,6±1,60		30,60±2,70	
5	Throw of a stuffed ball weighing 2 kg, m	before the experiment	4,01±0,55	<0,05	4,03±0,35	<0,05
		after the experiment	4,65±0,50		4,80±0,30	
6	Run of 60 m, s	before the experiment	11,10±0,48	<0,05	11,24±0,45	<0,05
		after the experiment	10,84±0,20		10,60±0,42	
7	Shuttle run of 4x9 m, s	before the experiment	12,34±0,80	<0,05	12,35±0,46	<0,05
		after the experiment	11,8±0,28		11,50±0,37	
8	Run by a snake of 30 m, s	before the experiment	6,68±0,36	<0,05	6,53±0,33	<0,05
		after the experiment	6,22±0,22		6,00±0,30	
9	Run of 1500 m, min	before the experiment	7,59±0,42	>0,05	7,53±0,31	<0,05
		after the experiment	7,51±0,37		7,34±0,20	
10	Trunk inclination from situation, sitting, sm	before the experiment	6,72±1,80	>0,05	6,84±0,72	<0,05
		after the experiment	7,65±1,08		7,90±1,30	
11	Passings of the "return" gate, s	before the experiment	38,03±4,50	>0,05	37,5±1,92	<0,05
		after the experiment	37,75±1,12		32,00±2,70	
12	Passings of a competitive distance, min	before the experiment	2,99±0,43	>0,05	3,11±0,07	<0,05
		after the experiment	2,55±0,30		2,38±0,10	
13	Romberg's test, s	before the experiment	24,56±4,65	<0,05	24,06±1,46	<0,05
		after the experiment	31,50±4,80		36,00±2,20	

The most considerable reliable gain ( $p < 0,05$ ) is observed by the indicators of Romberg's test, "Passing of the return gate" and "Passing of a competitive distance", the tests "Pullings up on a cross-piece", "Bending extension of hands in an emphasis, lying", "Run of 60 m", "Shuttle Run of 4x9 m", "Run by a snake of 30 M", "Trunk raising in a sit", "Trunk inclination from situation, sitting" among indicators of physical fitness at girls of the experimental group. Training classes with a use of additional resources of tourists water-transport workers of girls of 12-13 years old were directed on qualities which measure these indicators. The reliable differences aren't recorded by such tests as "A long jump from a place", "A throw of a stuffed ball" and "Run of 1500 m" ( $p > 0,05$ ) (see tab. 2).

Carrying out the comparative analysis and the research of dynamics of a gain of indicators of physical fitness at a stage of the previous basic preparation testify to the efficiency of application of the offered technique of physical preparation in the experimental group, than the use of traditional volumes of loading in the control group.

#### Conclusions:

1. The data of T. Y. Krutsevich, N. V. Moskalenko, V. V. Prikhodko and other scientists about the discrepancy of the level of the development of physical qualities to standard requirements and age of boys and girls of 12-13 years old are confirmed in the work by the results of the fixed experiment. The analysis of physical fitness shows that the development of motive qualities in tourists water-transport workers happens unevenly. Besides, the data of B. Volkov, V. N. Volodin, L. P. Sergienko and others about compliance of anthropometrical indicators to the standard level with a tendency to decrease in body weight, in connection with specifics of this sport were confirmed in the work by the results of the fixed experiment.

2. The results of the made experiment finished the efficiency of the developed by us experimental structure and the content of physical training of tourists water-transport workers of 12-13 years old at a stage of the previous basic preparation on the basis of use of additional resources of physical preparation. It is proved that indicators of physical fitness, both among girls, and among boys of tourists of 12-14 years old, have more reliable improvement in the experimental group, than in the control.

**Prospects of the subsequent researches.** The research of influence of nonspecific funds of physical training of tourists water-transport workers for the level of development of their physical qualities is provided.

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Table 2

**Indicator of physical fitness of girls of the control and experimental groups before and after the forming experiment (n=26)**

№	Indicators	Conditions of registration	CG		EG	
			$\bar{X} \pm S$	p	$\bar{X} \pm S$	p
1	Pulling up on a cross-piece, time	before the experiment	6,92±2,33	>0,05	5,46±0,84	<0,05
		after the experiment	7,84±2,20		11,46±1,60	
2	Bending extension of hands in an emphasis lying, time	before the experiment	7,85±2,90	>0,05	8,08±1,40	<0,05
		after the experiment	9,07±1,00		10,38±1,00	
3	Long jump from a place, sm	before the experiment	139,46±2,60	>0,05	137,77±1,96	>0,05
		after the experiment	140,50±3,20		143,15±5,70	
4	Trunk raisings in a sit, time	before the experiment	24,07±4,14	<0,05	24,69±3,65	<0,05
		after the experiment	29,20±1,60		31,00±2	
5	Throw of a stuffed ball weighing 2 kg, m	before the experiment	4,38±0,29	>0,05	3,94±0,58	>0,05
		after the experiment	4,58±0,13		4,47±0,3	
6	Run of 60 m, s	before the experiment	12,06±0,70	>0,05	11,69±0,38	<0,05
		after the experiment	11,80±0,50		11,20±0,40	
7	Shuttle run of 4x9 m, s	before the experiment	12,90±0,38	>0,05	13,40±0,30	<0,05
		after the experiment	12,56±0,31		12,30±3,6	
8	Run by a snake of 30 m, s	before the experiment	7,18±0,61	>0,05	7,33±0,31	<0,05
		after the experiment	6,87±0,40		6,48±0,30	
9	Run of 1500 m, min	before the experiment	10,05±1,00	>0,05	10,02±1,27	>0,05
		after the experiment	9,58±0,67		9,34±0,20	
10	Trunk inclination from situation, sitting, sm	before the experiment	10,00±3,96	<0,05	9,69±1,26	<0,05
		after the experiment	11,00±2,40		11,00±1,70	
11	Passings of the "return" gate, s	before the experiment	44,46±4,68	>0,05	44,31±1,5	<0,05
		after the experiment	<b>45,00±2,54</b>		39,00±2,60	
12	Passings of a competitive distance, min	before the experiment	3,80±0,53	>0,05	3,90±0,30	<0,05
		after the experiment	<b>4,00±0,65</b>		3,50±0,40	
13	Romberg's test, s	before the experiment	19,15±2,64	>0,05	20,15±0,80	<0,05
		after the experiment	23,00±1,40		34,80±1,02	

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