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Highly qualified boxers' technical-tactical training optimization

Mariya S. Leonteva*, Aleksandr E. Pavelis

*Russian State University of Physical Culture, Sport, Youth and Tourism
Moscow, Russia*

*ORCID: 0000-0002-9402-4251, leontyeva72@mail.ru**

ORCID: 0000-0001-8152-1665, alexander.Pavelis@yandex.ru

Abstract: The urgency of the research connected with the presented problem is conditioned by constant demands increase claimed on physical and technical-tactical readiness of athletes in different kinds of sport, including boxing. This situation happens owing to the increasing competition between the representatives of the national boxing schools. **Materials and Research Methods.** Scientific and methodical sources analysis and summarizing, experiment, methods of mathematical statistics. **Results.** Valid increase of group results in all studied indices shows the reliability of the used approach to general and special physical training means selection, based on the preliminary use of the supplying exercises. The goal and new approaches in the training exercises use give an opportunity to solve such an important problem, as the balance between the processes of general and special training. They happen during micro and macro cycles. Special orientation of the exercises provides the following important conditions, observed in the training process: continuity of studying and a boxer's technical movements improvement; side effects decrease caused by traditional exercises of general physical training use. **Conclusion.** The presented optimization of technical-tactical training among highly qualified boxers; conditions, which influence the effectiveness of sports training; the created supplying exercises provided valid increase of group results in all studied indices.

Keywords: technical and tactical training, highly qualified boxers, training process, general and special physical training, supplying exercises.

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Introduction

The urgency of the research connected with the presented problem is conditioned by constant demands increase claimed on physical and technical-tactical readiness of athletes in different kinds of sport, including boxing. This situation happens owing to the increasing competition between the representatives of the national boxing schools. The strongest opponents of the Russian boxers are the athletes from Cuba, the USA, Bulgaria, Kazakhstan, Uzbekistan. The effectiveness of highly qualified boxers' competitive activity, is usually conditioned by sufficient maturity and an individual methodology of the training process organization during training boxers for the main competitions.

In spite of the fact that sufficient amount of scientific works is dedicated to the questions of boxers' pre-competitive training and their competitive activity (A.V. Grigoreva, 2002; I. Filimonov, 2003, 2006; A.V. Gaskov, 2004, 2010; I.S. Kolesnik, 2005, 2009, 2010; O.V. Menshikov,

2007; G.I. Mokeev, 2007, 2009; P.V. Galochkin, 2009 and others), most specialists consider this process from the point of view of the training means selection and distribution. They don't control correspondence between adaptive changes, which happen in an organism of athletes and the structure and content of the training loads, the objectives set during the training planning.

Nowadays we can define the following contradictions:

- between classical traditional forms of the training process organization and the necessity to introduce an individual influence on the qualitative characteristics of a boxer owing to the corresponding organization of the training process;

- between an objective necessity to create special conditions, which provide adaptation of boxers' organisms to competitive activity and its insufficient maturity.

Nowadays we don't have necessary data concerning this question, and it is conditioned both

by the evolution of boxing technique, combat tactics, the methods of training and the changes in the rules of competitions.

The urgency of the research is conditioned by the necessity to search for an optimal system of pedagogical influences (technical-tactical exercises). They form a boxer's readiness to realize a combat with the representatives of different technical-tactical manners of combat conduct.

It should be noted that there is no unified approach to the problem of the training process modeling, organization and control in the practice of highly qualified boxers.

Taking into account the necessity to search for modern methods of the training loads redistribution in boxing, we considered it possible to specialize the greatest part of general physical and functional training by means of created by us supplying exercises. We set two main objectives: minimize traumatism, connected with boxing owing to the volume of work in pairs decrease and increase the level of functional and general physical training with the help of the supplying exercises, fulfilled in an aerobic regimen, increasing the level of technical-tactical mastery, instead of traditional, generally adopted means of general physical training use [1,2,3].

The experiment was held on the basis of fitness club "Zvezda", Tula. Taking into account planned for the schools of higher sports mastery and sports schools for children amount of the training work hours, the experimental group

fulfilled the yearly volume of 1218 academic, (1020 astronomical) hours [2]. Weekly volume was 20 academic (18 astronomical) hours, daily volume—4 astronomical hours. Increasing the amount of time given to the supplying exercises we took 20 minutes from warming-up during each evening training, as the supplying exercises of the facilitated character were natural continuation of warming-up. Additional 20 minutes were taken from the main part of training (decreasing the amount of pair work in boxing gloves) [3]. In general 40 minutes were given to the supplying exercises during the evening trainings, about 16-18 hours a month, till 200 hours a year (table 1).

It should be noted that classical means of general physical training fulfillment during a year were given 6% of general time, as the main stress was on the supplying exercises.

All supplying exercises were held in an aerobic regimen, realizing the objective of general physical and functional training level increase, preserving and developing the achieved earlier level of technical-tactical mastery.

Moreover, general (non-specific) organism resistance increase to unfavorable factors owing to the supplying exercises of aerobic orientation use proved the information concerning general organism resistance increase to unfavorable factors. It was seen in the fact that general health level and the training level indices increased significantly and the amount of nasal hemorrhage decreased or disappeared at all.

Table 1
Yearly plan-diagram of educational-training classes of boxers

Indices of educational-training process	Monthly												Total training classes	From general volume, %
	January	February	March	April	May	June	July	August	September	October	November	December		
1. Training days	23	20	22	21	22	22	22	22	21	23	21	22	261 days	-
2. Training classes	42	36	39	38	39	37	40	39	38	42	37	40	467	
3. Hours of trainings	84	72	78	76	78	74	80	78	76	84	74	80	1218	
4. Supplying exercises of general physical training, h	60	60	40	-	60	60	20	60	30	14	14	18	446 h	35

5. Supplying exercises of special physical training, h	15	18	20	46	11	8	-	14	22	13	22	16	206 h	14
6. Supplying exercises special training, h	4	6	20	40	10	8	-	10	29	16	8	8	120 h	10
7. special technico-tactical training in pairs, h	1	12	14	16	6	10	-	1	14	14	14	16	122 h	10
8. special technico-tactical training on gymnastic apparatuses, h	14	14	16	14	16	14	-	14	16	14	16	14	162 h	11
9. Sparrings, h	2	2	2	2	-			-	2	2	2	2	16 h	2,5
10. Moves, h			2	2	4	2	2	4		2	2	2	46 h	3,5
11. Traditional general physical training, h	8	6	8	6	8	6	8	6	8	6	8	6	90 h	6

Yearly plan-diagram of educational-training classes, offered by us, was tested in the group of highly qualified boxers. Materials of the pedagogical experiment prove considerable motor and physical readiness improvement among boxers (table 2).

Table 2
 Dynamics of boxers' motor and physical readiness activity during the experimental period

№	Test	Change of		Results		t	P
		beginning		end			
		$x \pm m$	a	$x \pm m$	a		
1	Pull-up , amount of cycles	17,4±0,5	1,5	26,6±0,6	1,8	18,7	<0,001
2	Arms bending in prone position, amount of cycles	58,0±2,1	7,1	90,3 ±2,0	6,6	10,1	<0,001
3	Legs lifting to the bar, amount of cycles	13,0±0,4	1,2	19,0±0,5	2,0	9,4	<0,001
4	30 m running, sec.	4,9±0,01	0,04	4,5±0,03	0,09	6,0	<0,001
5	100 m running, sec.	13,4±0,05	0,15	12,3±0,08	0,26	11,7	<0,001
6	Standing long-jump, cm	235±1,2	4,0	260±1,2	4,1	19,4	<0,001
7	Blows on a punch bag, amount within 10 sec.	89±0,8	2,6	104±0,8	2,6	14,1	<0,001
8	Blows on a punch bag, amount within 120 sec.	538±5,8	19,2	576±5,4	17,8	5,68	<0,001
9	3000 m running, sec.	695±5,2	17,2	612±3,1	12,3	3,59	<0,01
10	Shot-put with the left hand, cm	757±11,5	38,3	803±11,2	37,1	2,55	<0,05
11	Shot-put with the right hand, cm	834±11,2	37,2	895±11,3	37,4	3,77	<0,01

Valid increase of group results in all studied indices shows the reliability of the used approach to general and special physical training means selection, based on the preliminary use of the supplying exercises.

The goal and new approaches in the training exercises use give an opportunity to solve such an important problem, as the balance between the processes of general and special training. They happen during micro and macro cycles.

Special orientation of the exercises provides the following important conditions. They should be observed in the training process:

- continuity of studying and a boxer's technical movements improvement;
- side effects decrease caused by traditional exercises of general physical training use.

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Mariya S. Leontyeva – Doctor of Pedagogics, Associate Professor, Russian Journal of Physical Culture, Sport, Youth and Tourism, 105122, Russia, Moscow, Sirenevyy blvr., House 4, e-mail: leontyeva72@mail.ru

Aleksandr E. Pavelis – Post-graduate, Russian State University of Physical Culture, Sport, Youth and Tourism, 105122, Moscow, Russia, Sirenevyy blvd, House 4, e-mail: Alexandr.Pavelis@yandex.ru
