THE RELATIONSHIP BETWEEN THE COMPONENTS OF SPORTS TRAINING AND MAXIMIZING THE PERFORMANCE OF VOLLEYBALL PLAYERS AGED 15-16 YEARS

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Abstract

In this paper we tried to highlight the close relationship between the components of sports training and performance. Using a very well developed, complex training plan, I tested a series of parameters. Following the final tests, it was proved that the methodology used paid off, that the means introduced in the training brought an important contribution to the performance capacity. From a statistical point of view, the experiment proved to be a success.

Introduction

Undoubtedly, the need for novelty and evolution is present everywhere, so even in the vast field of volleyball, they appear. We believe that in order to progress physically, technically, tactically, we must be able to see the multiplicity of this complicated process, trying to find the most appropriate means to achieve maximum efficiency.

Within the sports training, the training program has a defining role in obtaining the performance of Carp I.P., Docu A. [1]. The development of a well-structured program, which reaches the sensitive points of the players, can maximize their contribution to the team, default volleyball game. Dragnea A. [2. p. 295] points out that "the structure of sports training is largely determined by the principles underlying it: the cyclical nature, continuity, dynamics of effort, the relationship between general and specific training, etc.".

The specialist in the field of physical culture and sports Raţă G. [8 p. 84] makes a hierarchy of school design documents that are the basis for the performance process sports (Figure 1).

The author Dragnea A. [2, p.302] considers that in order to develop a reliable training macrocycle, a series of rules must be observed:

a. „the training effort must take place after an ascending dynamic from the beginning of the macrocycle and culminate with the last large-scale competition of the competitive calendar;

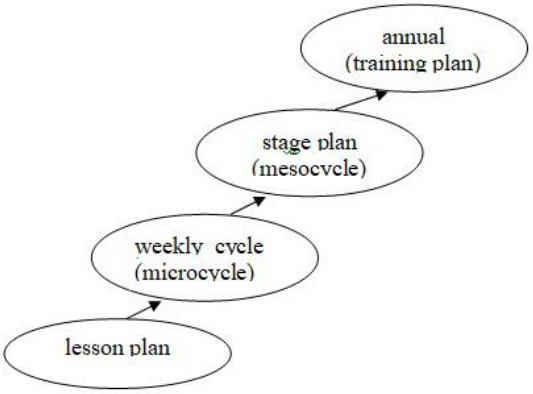

Figure 1 school design documents that are the basis for the performance process sports - Raţă G.

b. ensuring the continuity of training by moving from relatively extensive to intensive efforts;
c. ensuring in mesocycles the restoration of the capacity of effort that would favor the transition to a higher stage of adaptation;
d. ensuring an optimal relationship in the structure of the training and the competitive calendar;
e. within the macrocycle the whole range of principles, requirements, and characteristics of adaptation must be concretized ”.

Material-method

As it appears from the staggering on components of the sports training proposed by us, the physical component contains 165 hours, representing 30%, the technical component has 110 hours, representing 20%, the tactical component is characterized by 110 hours, respectively 20%, the psychological component and intellectual 22 hours, respectively 4%, the specific component (video analysis) has

TRAINING FACTORS	15-16 years	
	NO. HOURS OF TRAINING	PERCENTAGE
The physical component	165	30%
General physics	88	16%
function	35	6%
morphologically	27,5	5%
motor skills	27,5	5%
Specific physics	77	14%
segment action	22	4%
the muscle chains involved in important actions	22	4%
combined motor qualities	33	6%
Technical component	110	20%
isolated technical processes	55	10%
technical procedures in the game situation	55	10%
Tactical and psychological component	110	20%
tactical actions in defense	55	10%
tactical actions in attack	55	10%
tactical actions in play with taking decision immediately	22	4%
Specific component (analysis video)	44	8%
Official games and check	99	18%
Total	550	100%

Table 1 Components of the sports training

distributed 44 hours, representing 8%, and the official and verification games represent 18%, 99 hours (Table 1).

The content of the experimental training program for 15-16 year old volleyball players has a special importance, because through it, among other things, we can stagger the number of hours given to each component of sports training. [6,10] This rescheduling was done following the notification of the technical deficiencies of the experiment group in order to maximize the technical and tactical potential of athletes at this age.

We hope that through this draft program we will optimize the instructive-educational process of training volleyball players, thus obtaining a superior performance.

The specialist Zabet B. [9, p. 336] considers that "the essence of planning consists in arguing, processing and finalizing the content and sequence of actions of the teacher (teacher, coach) to solve the tasks of training and education in the shortest possible time."

The game model of 15-16 year old juniors

The main objective of this period is the selection and promotion of gifted players, corresponding to the specialization on the job. The players sought must be proportionate, have a waist of at least 190 + 5 cm, a strong osteo-articular system, balanced neuro-affective, have qualities and motor skills specific to volleyball players. [4]

In order to maximize the training performance, we focused on a game model that has a 4T + 2R attack system, respectively 5T + 1R.

The attack actions characteristic of this model are based on combinations with entry from zones 1 and 6 upon receipt of the service, respectively from zone 1 during the game phase. [3] The lift for the attack is high, looking for a point as high as possible to hit the ball, alternating with the short one, as well as with the one stretched forward.

The defense actions are based on a system with the player from zone 6 withdrawn, the blocking is done in two players both on the ball and on the area, the emphasis is on defending the diagonals, both short and long, respectively on dubbing and auto- double. [7] Another possibility is for 4 players to be placed in a semicircle upon receipt of the service, taking over either at the elevator in zone 3, or at the entrance in zone 2. [5]

Hypothesis: We started from the premise that using a well-structured training plan, with specific elements, we will maximize the performance of volleyball players aged 15-16.

Methods: studying the literature, the method of video analysis, the experiment, the graphical and tabular method

The research was conducted between August 2013 and June 2014 on a sample n = 15 athletes gr. CSS experiment Nicu-Gane Fălticeni, n = 15 athletes gr. control LPS Piatra-Neamţ

The research consisted in the implementation in the preparation of the experiment group, during the experiment, a series of different means that resulted from the careful study of the experiment group through the video means.

Results:

The results presented above are summarized in the table .

We will analyze a series of tests that have undergone changes following the implementation of the program proposed by us.

Nr.	TESTS	Groups and statistics	Statistical indicators			
			INITIAL $\bar{X} \pm m$	FINAL $\bar{X} \pm m$	t	P
1	Jumping with one hand	M	294,40±2,72	296,20±2,70	0,70	> 0,05
		E	294,40±2,72	303,54±2,35	3,87	< 0,01
		t	0,05	2,05	—	—
		P	> 0,05	< 0,05	—	—
2	Endurance running (800m)	M	166,46±2,77	164,31±2,65	0,84	< 0,05
		E	166,26±2,72	156,54±2,58	3,87	< 0,01
		t	0,05	2,10	—	—
		P	> 0,05	< 0,05	—	—
3	Pass with two hands from above between areas 2-3 of the ball thrown by the coach	M	49,89±3,87	47,26±3,86	0,72	< 0,05
		E	49,04±3,85	36,00±3,80	3,60	< 0,01
		t	0,16	2,08	—	—
		P	> 0,05	< 0,05	—	—

Table 2 Tests and statistical indicators

In the test - Jumping with one hand, the arithmetic mean of the control group, at the initial test is 294.40 cm, with an average error ± m = 2.72, and at the final one, it is 296.20 cm with an average error ± m = 2.70. The experiment group, at the initial test, obtains an arithmetic mean of 294.20 cm, with an average error ± m = 2.71, and at the final test 303.54 cm, with an average error ± m = 2.35. Interpreting the differences between the tests of the control group, we observe that the calculated "t" is 0.05, lower than the tabular "t", which denotes insignificant differences between tests (P> 0.05). Regarding the tests of the experiment group, we

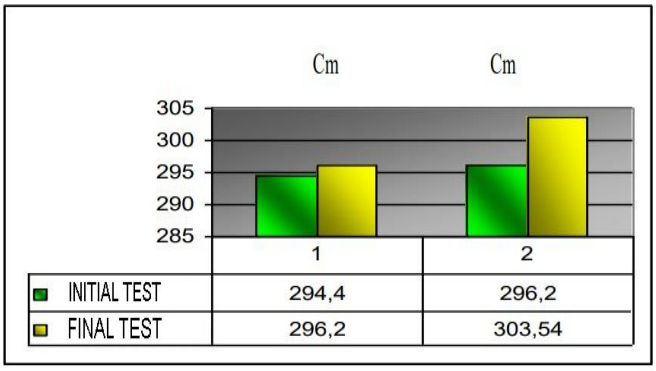

Figure 2 Jumping with one hand

notice that the calculated “t” is 3.87, higher than the tabular “t”, which proves that the differences between the tests are significant (P <0.01).

Processing test data - Endurance running (800m) we notice that the average value of the control group, at the initial test is 166.46 seconds, with an average error ± m = 2.77 and at the final test, it is 164.31 seconds, with an average error ± m = 2.65. Regarding the experiment group, at the initial test, it obtains an arithmetic mean of 166.26 seconds, with an average error ± m = 2.72, and at the final test it obtains 156.54 seconds, with an average error ± m = 2 , 58.

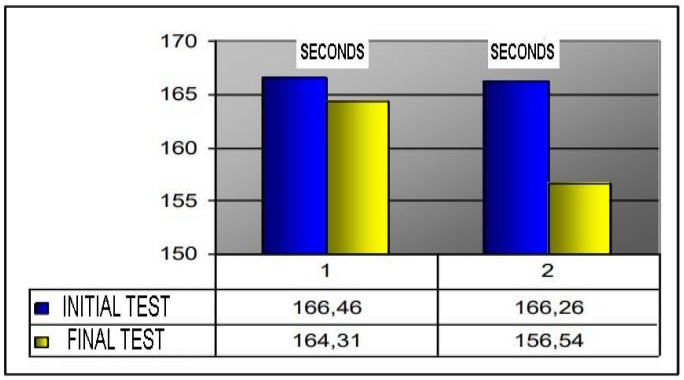

Figure 3 Endurance running (800m)

Interpreting the differences between the tests of the control group, we notice that the calculated “t” is 0.84, lower than the tabular “t”, which proves that the differences between the tests are insignificant (P> 0.05). Regarding the tests of the experiment group, we notice that the calculated “t” is 3.87, higher than the tabular “t”, which proves a qualitative increase, and the differences between the tests are significant (P <0.01). Analyzing from a statistical point of view the differences between the final tests of the two groups, we notice that the calculated "t" is 2.10, higher than the tabular "t", which proves that the differences between the two groups are not significant, although the experiment group had superior results (P <0.05).

During the testing of the technical procedure - Pass with two hands from above between areas 2-3 of the ball thrown by the coach at the initial test, the value obtained by the control group is 41.04 mistakes execution, with an average error of ± m = 3.41, and at the final test the arithmetic mean obtained is 40.64 execution errors, with an average error ± m = 3.39. In the same test, the experiment group obtains at the initial test an arithmetic mean of 40.62 execution errors, with an average error of ± m = 3.40, and at the final test it obtains an arithmetic mean of 31.04 execution errors, with an average mean error of ± m = 3.24 Analyzing the differences between the tests of the control group, we observe that the calculated “t” is 0.12, smaller than the tabular “t”, P> 0.05, which proves that differences are insignificant between tests.

Figure 4 - Pass with two hands from above between areas 2-3 of the ball thrown by the coach

Regarding the tests of the experiment group, we notice that the calculated "t" is 3.05, higher than the tabular "t", P <0.01, which shows that the differences between the tests are significant in favor of the experiment group. Interpreting from a statistical-mathematical point of view the differences between the final tests of the two groups, we observe that the calculated "t" is 2.05, higher than the tabular "t", P <0.05, which proves that the differences between the two groups are significant, with the experimental group performing better than the control group

Conclusions:

Analyzing comparatively the results obtained by the two groups at the final test we can see that at all stages of the process the experiment group obtains better results, which shows that the means used in the experiment were favorable.

In this context, a well-developed training plan, in which all the components of the training to be involved lead to the maximization of the performance obtained by the 15-16 year old volleyball players.

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