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OPTIMIZING THE CONTENTS OF TRAINING FOR THE MEN'S REPRESENTATIVE VOLLEYBALL SCHOOL TEAM

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Abstract: *The purpose of the paper was to select the most efficient means to acquire the technical and tactical procedures specific to volleyball, to explain and use them during the physical education class or the optional discipline, and the results obtained should prove their efficiency in attaining the goals. It may be asserted that training based on a judicious planning and on using in teaching modern acting system – selected and systematized following the model of competitive game – leads to a substantial increase in the level of manifestation of motor qualities during the game, as well as to the increase of game action acquisition, which ultimately reflects on the image of the game practice by the team. In this respect, the methodology used, the action systems and the means used must be administered in a logical sequence; they should be precisely dosed, quantified and highly efficient.*

Keywords: *optimization, volleyball, motor qualities.*

1. Introduction

Volleyball game is played in an unstable setting, characterized by a great variability of the coordinates that, associated to the important number of informational clues, to the specific way of playing the ball and to the ball high flight speed, determine a series of perception difficulties and a very short time to analyse all the information. Thus, the identification of the significant indices characterizing a situation is essentially based on the perception selectiveness [1]. Specialists do not propose to provide standardized "recipes", but they intend to offer a set of information, methodical rules and working techniques, out of which a coach may select and adopt those ensuring the highest efficiency in attaining objectives under the concrete circumstances of their activity [5], [6]. Several specialists have highlighted the need to start special training to learn the technique of

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volleyball as early as possible [4], [7]. In childhood, correct technical skills are founded, a minimum a basic tactical knowledge is acquired and increased attention is paid to an improvement of motor qualities.[8]

2. Objectives

In the research, aiming to assess the training activity of the school representative volleyball team, I was persuaded that by conducting a proper study, by monitoring the entire activity of the middle school representative volleyball team, I can find suitable methods to increase the efficiency of the learning process and to improve game actions at this level. Hence, one of these solutions may definitely be to use modern means in training.

Thus, this assumption that I proposed to assess practically can be achieved through a direct research on the middle school group of students.

3. Material and Methods

The subjects of this study are the components of men's school representative volleyball team of the Garabet Ibrăileanu National College Iași. the study comprised a sample of 12 subjects. The study was carried out for 12 months. The main method used for assessing the working assumption was represented by the games of the team during the phases of city, county and region competition, thus attaining the proposed performance objectives. Also in order to assess the working assumption and the progress made by the students, I used a system of control tests and standards, which highlighted both general and specific physical development, and the degree of technical and tactical acquisition of game actions. The testing events took place twice, at the beginning of the study and at the end of the study.

These tests were divided into three groups, as follows:

Group I - tests to determine general physical development;

Group II - tests to determine specific physical development;

Group III - tests to determine the level of technical and tactical acquisition of game actions.

Group I comprises:

1. Standing long jump: - from standing, legs slightly apart, long jump, lifting both feet at the same time; each student executes two jumps, and the best jump is recorded;
2. 20-m speed run: - the test was carried out twice at the best time was recorded; the run had a high start, on a visual signal.
3. Overhead forward throw of 2-kg medicine ball: each student had two attempts, thus recording the best results, in centimeters.

Group II comprises:

1. High jump with take-off: test for measuring explosive power, using a system of horizontal beams (a special device for measuring explosive power), which by touching indicates how high the student's arm reached; by calculating the difference the jump height and the total height (of the student with outstretched hand), the

value of explosive power results; three attempts were performed, and the best was recorded.

2. Lateral movement 4 x 6 meters: moving with added steps between two parallel lines, situated 6 meters from each other; cover the distance at peak speed, four times; perform twice, record the best time.

1. Moving back and forth on 6 meters: running forward (twice) and backward (twice), between two parallel lines situated 6 meters from each other; perform twice, record the best time.
2. Combined jumps for block:- moving 5 times between areas 3 and 4 with block jumps and touching with both palms balls held by two students above the net, in the two areas, without touching the net; the ball is held 20 cm above the net and 10 cm in the opponents' field; perform twice, record the best time.

Group III comprises:

1. Serve on half a field (in areas 3 and 5): the test consists of performing 10 serves (serves in each area); record the number of successful executions in each area.
2. Serve interception (from areas 3 and 5): the test consists of executing 10 serve interceptions (5 services from each area) towards the setter's area (the height of the take-over must be 1-2 meters above the net, in a 1.5/2 meters rectangle, situated between areas 2 and 3); record the number of successful executions in each area;
3. Attack in area 4: the test consists of attacking using normal steps, from area 4, in the presence of individual block, towards the opponents' areas 3 or 5; record the number of successful attacks out of 10 executions; a successful attack is scored when the ball – even if it touches the block a little – falls in one of the two areas of the opponents' field (1 or 5).

4. The Action Systems used for Training the Team

It is extremely useful to introduce any kind of novelty in a given activity, because it is easier for people supporting the activity to do their job, obtaining many times superior outcomes.

In this respect, in my research, my aim was to assess whether the training of a representative school team including modern action methods and systems, with increased efficiency in the training of students. Among them, a top spot belong to the modelling method, to help elaborate a concrete team game and training model; with the help of algorithms, to systematize and optimize the action systems used for designing the model. [3] Also by using the two main methods, one can schedule and plan judiciously and efficiently the team training, pursuant to the game model, to the demands and contents of current volleyball [2].

It is worth mentioning that most students within the representative team are part of a classroom with sports-based curriculum. Hence, within the study, the action systems used address mainly a routine for the overall game of the team, depending on the instructive objectives and on the proposed goal for the National School Championship, after the training period, if possible.

5. Results and Discussions

In order to confirm the assumption made at the beginning of the research, the results obtained by the students at the 10 tests physical and technical-tactical control tests, during the two testing events – initial and final. The results highlight an improvement of general and specific motor qualities, and of game action acquisition.

Hence, in the tests for general physical development, the following results were recorded:

1. In standing long jump, most students within the team had notable progresses, and the average progress was 8 cm, which demonstrates a good choice of the means used for better leg power.
2. In 20-m speed run, testing the start and movement speed on short distance, crucial for volleyball, students have also progressed from one testing to another, with an average progress of 0.45 seconds and a progress area between 0.6 and 0.4 seconds.

Table 1

Centralizing table of average progress in the control tests

No.	Control test	Initial test average	Final test average	Average progress
1	Standing long jump (cm)	199	207	8
2	20-m speed run (sec)	3,68	3,23	0,45
3	Medicine ball throw (m)	6,3	6,6	0,3
4	High jump with take-off (cm)	40,75	48	7,25
5	Side step 4 x 6 m (sec)	7,83	7,45	0,4
6	Move back and forth 4 x 6 m (sec)	8,3	7,8	0,5
7	Combined jumps (sec)	11,1	10,5	0,6
8	Overhead serve (no. of successful executions) D1	2,6	3,8	1,2
	Overhead serve (no. of successful executions) D5	3,1	4,5	1,4
9	Serve take-over (no. of successful executions) D1	3,2	4	0,8
	Serve take-over (no. of successful executions) D5	2,4	3,4	1
10	Attack in area 4 (no. of successful executions)	4,3	7,3	3

The overhead forward throw of 2-kg medicine ball, which tested mainly the explosive power of arms, also had good results, and the average progress of the entire team was 30 centimeters, the great progress was 55 cm, while the lowest was 20 cm.

Through the results obtained in these tests in order to determine physical development, the progress is representative, mostly because there was not a focus on improving them, which

confirms the need of choosing and using in training well structured, well dosed and systematized action means, specific to quality training.

In the tests that determine specific physical development, the students within the representative team obtained the following results:

In test 1, which determined explosive power (high jump with take-off), during the first test, students jumped an average of 40.75 cm, in the final test 48 cm, thus making an average progress compared to the initial test of 7.25 cm. Taking into account that this test assesses one of the essential qualities for volleyball, explosive power, progress and results obtained are really worth noting. In this test, all 12 players scored between 36 and 46 cm in the initial test and between 43 and 53 cm in the final test.

This fact proves that the selection of players for the representative team is relatively good, from the perspective of explosive power. The level of the results and the progress made throughout the study are mostly due the specific action systems used for developing explosive power, the means used and judiciously scheduled throughout the entire year, mostly given that explosive power is an indispensable quality for volleyball players and that it is very hard to develop it.

In tests 2 and 3 – namely side step 4 x 6 m and move back and forth 4 x 6 m – I tested speed and skill using distances and walks or runs specific to volleyball. In both tests, after using throughout the entire period proper exercises and means, specific to the education of these motor qualities, strictly necessary to the game and to which more attention was given, the average progress of the group was 0.4 seconds and 0.5 seconds, respectively. The results, though they may not seem notable, are important taking into account that both motor qualities tested – speed and skill – are qualities hard to improve, and spectacular results appear slowly, after long periods.

Test 4 – the last within the group of specific physical development – is the test of combined jumps through which I tried to test the movement speed, specific skill and resistance in jumps, strictly necessary qualities for blocking.

Being a relatively difficult test, the results obtained are contradictory, the results ranging between 10.4 and 11.8 seconds in the initial test and 9.8 and 11.1 seconds in the final test, with an average progress of 0.6 seconds (between 0.4 and 0.8 sec). I believe that the results obtained are not conclusive because, at this age, the level of acquiring the block is low, which prevented the unfolding of the test in good conditions (in many cases, the net was touched or the ball was hit wrong, the students highlighting the final duration of the test, not the technicity of the execution).

After conducting the tests and after the results obtained, I have concluded there is a lack of knowledge concerning the execution of block, manifested by most players, and it was a generalized problem at this level.

The progress obtained after training the students is due to a better organization of the activity and to proper weighting given to each component of the practice within the training model.

In the test used for determining the degree of technical and tactical acquisition of game actions, the following results were obtained:

1. ***Serve per area (in areas 1 and 5)***, which tested the accuracy in the execution of serve per area (5 executions in area 1 and 5 executions in area 5), the success average in the initial test was 2.6 successful serves in area 1 and 3.1 successful serves in area 5, and in the final test, the average was 3.8 successful serves in area 1 and 4.5 successful serves in area 5. Between the two tests, the average progress on team level of 1.2 successful executions in area 1 and 1.4 successful exercises in area 5. The progress in the execution of serve is undeniable and it is due mainly to the way serve was prepared, given that it was executed permanently while taking over from serve and during game conditions; the action systems used were suitable and they took into account the contents of the game. The aforementioned means used were adjusted when the necessities of teaching imposed such thing, in order to achieve efficiency.

2. ***Serve per area (in areas 1 and 5)***, which tested the accuracy in the execution of serve per area (5 executions in area 1 and 5 executions in area 5), the success average in the initial test was 2.6 successful serves in area 1 and 3.1 successful serves in area 5, and in the final test, the average was 3.8 successful serves in area 1 and 4.5 successful serves in area 5. Between the two tests, the average progress on team level of 1.2 successful executions in area 1 and 1.4 successful exercises in area 5. The progress in the execution of serve is undeniable and it is due mainly to the way serve was prepared, given that it was executed permanently while taking over from serve and during game conditions; the action systems used were suitable and they took into account the contents of the game. The aforementioned means used were adjusted when the necessities of teaching imposed such thing, in order to achieve efficiency.

6. Conclusions

After the research conducted for 12 months and based of the results obtained in the research, a series of conclusions may be drawn regarding the action systems and the teaching means used for training the middle school representative volleyball team.

Hence, training should be based on modern action systems, selected and systematized according to the actual contents of the game, which has proven to be superior to the classical approach, because it is more practical. It saves time and it provides a permanent view of the team's training level.

A careful analysis of the progress made during the control tests highlights that volleyball practices based on modern operational systems, judiciously selected and dosed, positively influence the learning process and the improvement of game actions, as well as the development of general and volleyball-specific motor qualities. This was proven by the obvious progress made in all tests, while the results in competitions have shown the students acquired volleyball techniques properly.

The advantage of using these action systems is that it allows a permanent assessment based on the self-record by the students of the progress made during the training. In addition, all students may show equal interest throughout the practices; in the end, practices have higher motor density because they have a conscious and active participation. This active and jointly interested participation was stimulated mainly by the fact that – by using the action systems within the teaching process – we have exercised game actions within the bilateral game, which represents an important factor in students' motivation for practicing this sports game.

Concerning the game, it may be asserted that the students within the representative volleyball team practiced a superior game level, due to the training based on action systems, which include the means systematized according to the contents and model of competitive game. This has also been confirmed by the results recorded in the official competitions they have attended. In addition, the superior play level of the team is also due to the practicing of game model components at superior loading and efficiency parameters.

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