

ASPECTS REGARDING THE METHODOLOGY AND METHODS OF LEARNING VOLLEYBALL IN THE BEGINNER GROUPS

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Abstract: *Purpose: Taking into account that the finality of the instructive-educative process at the level of the beginners' group is to accomplish as much as possible the model of player and the team's game model and on this basis, promotion to the teams of advanced I, my goal in this paper was to help enrich the theoretical, practical-methodical of the volleyball game at the level of beginners, based on the most recent views provided by the scientific literature. The research was carried out for a year with a group of 25 children (girls) aged 11±1. The students were monitored within the Physical Education classes and, by their somatic skills, they were selected in the beginners' group. Following the study, it has been concluded that positive results were obtained at the final evaluations, which confirms once again the formative valences of the training activity in the attaining of the objectives proposed.*

Key words: *volleyball, beginner, methodology, method*

1. Introduction

Volleyball is a team sport involving short explosive activity bursts, such as serves, receptions, passes, spikes, short sprints, jumps and high-speed movements with change of direction [2], [6]. Successful volleyball players are tall and lean, and are characterized by a high level of jumping ability, as well as technical and tactical skills [5].

Previous research has shown that anthropometric and physical variables are able to discriminate players as starters versus non-starters or selected versus

non-qualified [1], [3]. For instance, a review of literature concluded that anthropometric data were correlated with volleyball skills' proficiency and game performance, especially in female players. Gabbett and Georgiev (2007) [1] highlighted the importance of anthropometric characteristics in junior volleyball players, by showing that as the playing level increased, junior volleyball players were taller and leaner. In contrast, Smith et al. (1992) [4] found that volleyball players of a national team did not differ in anthropometric characteristics compared with a university

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team, but were significantly faster and had greater vertical jump performance, as well as superior strength and aerobic fitness.

2. The purpose

The aim of the research concerns the finality of the instructive-educative process at the level of the beginners' group, provided by attaining as ideally as possible the model of player and the team's game model and, on this ground, promotion to the teams of advanced I. My goal was to help enrich the theoretical, practical-methodical of the volleyball game at the level of beginners, based on the most recent views provided by the scientific literature. The main tasks of the research were the following: scientific documentation by consulting the scientific literature; determining the stages of the research and the sample within the experiment; pointing out the orientation and trends of the volleyball game worldwide, as well as the somatic motor profile of performance volleyball players; identifying the game model applied internationally; developing the training model and the operational means; evaluating the sample at the end, after applying the training models; processing and interpreting the initial and final results and the comparative analysis of the results with the somatic and motor model nationwide.

3. Hypothesis

By using methodologies and methods adapted to the particularities of age and psycho-morphofunctional of the children, as well as by selecting and dosing

efficiently the specific means, we have concluded a correct acquisition of the procedures specific to the volleyball game in the beginners' group.

4. Material and Methods

The research was carried out at the Middle School in the municipality of Iaşi. The research activity was carried out for a year, with a group of 25 children (girls) aged 11 ± 1 . The students were monitored within the Physical Education classes and, by their somatic skills, they were selected in the beginners' group. Afterwards, the somatic, motor and technical skills were applied in order to determine the initial level of the motor training. At somatic level, we have evaluated the following: height; weight; chest circumference; span;

At motor level, the following tests were applied: explosive power - girls -35cm; standing long jump -girls- 175cm; walking back and forth 6x6m - girls -14.5 sec; walking to the side, 10x3m - girls -12.6 sec.

At technical level, several tests were applied, as follows: overhand pass with both hands (to the wall); - 5/5 points; underhand serve; - 5/5 points; underhand passes with two hands (takeover); - 5/5 points.

After their analysis, we have determined the training stages and the percentage per training components. Hence, in beginner children, physical training accounts for 50%, thus monitoring mostly the multilateral physical development. The same 50% pertains to technical training and it focuses on the correct acquisition of the basic procedures: position and movement in the field, overhand pass, and overhead pass, takeover, underhand and lateral serve.

Statistical analysis at somatic level

Table 1

Statistical components	Height		Weight		Span		Chest circumference	
	I	F	I	F	I	F	I	F
X	145.2	147.32	36.96	36.96	144.72	146.84	61.76	63.8
$\sum (X-x)^2$	8.06	55.44	320.03	302.03	45.04	45.36	66.56	36.00
As	0.11	0.31	0.74	0.72	0.27	0.28	0.33	0.25
CV	0.07	0.21	2.002	1.94	0.18	0.19	0.53	0.39
Am	0.004	0.01	0.02	0.02	0.01	0.01	0.01	0.01
W	9	7	11	11	6	7	6	4
Me	144	147	39	39	144	147	61	64
Mo	145	147	38	38	145	147	62	64

Statistical analysis at motor level

Table 2

Statistical components	Explosive power		Standing long jump		Walking to the side 10x3m		Moving back and forth 6x6m	
	I	F	I	F	I	F	I	F
X	28.4	30.8	153.4	157.12	13.89	13.65	13.94	13.68
$\sum (X-x)^2$	45.36	257.66	1580.8	1411.68	4.72	5.02	3.90	4.57
As	0.28	0.66	1.65	1.56	0.09	0.09	0.08	0.08
CV	0.98	2.14	1.07	0.99	6.47	6.59	5.73	5.84
Am	0.03	0.02	0.06	0.06	0.003	0.003	0.003	0.003
W	13	14	25	32	2.1	2	2.1	2.1
Me	31	33	158	162	13.8	13.6	13.8	13.5
Mo	29	30	147	160	13.8	13.9	13.9	13.6

Statistical analysis at technical level

Table 3

Statistical components	Overhand passes with two hands (to the wall)		Underhand serve		Underhand passes with two hands (takeover)	
	I	F	I	F	I	F
X	1.28	3.56	0.72	2.64	0.76	2.4
$\sum (X-x)^2$	5.04	14.17	7.05	13.77	6.58	6.00
As	0.09	0.15	0.11	0.15	0.10	0.10
CV	70.31	4.21	15.27	15.27	13.15	13.15
Am	0.003	0.006	0.004	0.006	0.004	0.004
W	1	3	2	3	2	1
Me	2	4	2	4	1	3
Mo	1	3	1	3	1	2

5. Results

The tests were applied at the beginning of the research (initial), in the month of October and at the end of May (final). The results obtained were recorded, analysed, interpreted and compared. We have also conducted the statistical analysis of each test, on both a somatic and a motor level, while the somatic and motor evolution was illustrated graphically. Within the research, we have calculated the arithmetic mean (\bar{X}) of the sample for each test and we have operated with it for the statistical analysis, for elaborating the graphs, as well as for recording the progress obtained.

5.1. At somatic level

Height

- Arithmetic mean at the initial testing is 145.2cm, while the final one has recorded 147.32cm, the progress accounting for 2.12cm;
- Range (W) - is 9 cm at the initial testing and 7 cm at the final testing;
- Standard deviation (A_s) – the average is ± 0.11 , at the initial testing and ± 0.31 at the final testing;
- Deviation from the mean (A_m) – is 0.004cm at the initial testing and 0.01cm at the final testing.
- Variability coefficient (VC) at the initial testing is 0.07, while at the final testing 0.21 – this leads to very good homogeneity for the group.
- The median (Me) is 144 at the initial testing and 147 at the final one.
- The module (Mo): features three values: 145, 146, 147 at the initial testing and 147 at the final one.

Weight

- Arithmetic mean at the initial testing is 36.96kg, while the final one has recorded 36.96, the progress accounting for 0;
- Range (W) - is 11 at the initial testing and 11 at the final testing;
- Standard deviation (A_s) – the average is ± 0.74 , at the initial testing and ± 0.72 at the final testing;
- Deviation from the mean (A_m) – is 0.02 at the initial testing and 0.02 at the final testing.
- Variability coefficient (VC) at the initial testing is 2,002, while at the final testing 1.94.
- The median (Me) is 39 at the initial testing and 39 at the final one.
- The module (Mo): is 38 at the initial testing and at the final one it features two values: 38 and 39.

Span

- Arithmetic mean at the initial testing is 144.72cm, while the final one has recorded 146.84cm, the progress accounting for 2.12cm;
- Range (W) - is 6cm at the initial testing and 7 cm at the final testing;
- Standard deviation (A_s) – the average is ± 0.27 , at the initial testing and ± 0.28 at the final testing;
- Deviation from the mean (A_m) – is 0.01cm at the initial testing and 0.01cm at the final testing.
- Variability coefficient (VC) at the initial testing is 0.18, while at the final testing 0.19.
- The median (Me) is 144 at the initial testing and 147 at the final one.
- The module (Mo): is 145 at the initial testing and 147 at the final one.

Chest circumference

- Arithmetic mean at the initial testing is 61.76cm, while the final one has recorded 63,8cm, the progress accounting for 2.04cm;
- Range (W) - is 6cm at the initial testing and 4cm at the final testing;
- Standard deviation (As) – the average is ± 0.33 , at the initial testing and ± 0.25 at the final testing;
- Deviation from the mean (Am) – is 0.01cm at the initial testing and 0.01cm at the final testing.
- Variability coefficient (VC) at the initial testing is 0.53, while at the final testing 0.39.
- The median (Me) is 61 at the initial testing and 64 at the final one.
- The module (Mo): has two values: 62, 63 at the initial testing and 64 at the final one.

5.2. At motor level**Explosive power**

- Arithmetic mean at the initial testing is 28.4cm, while the final one has recorded 30.8cm, the progress accounting for 2.4cm;
- Range (W) - is 13cm at the initial testing and 14cm at the final testing;
- Standard deviation (As) – the average is ± 0.28 , at the initial testing and ± 0.66 at the final testing;
- Deviation from the mean (Am) – is 0.03cm at the initial testing and 0.02cm at the final testing.
- Variability coefficient (VC) at the initial testing is 0.98, while at the final testing 2,14.
- The median (Me) is 31 at the initial testing and 33 at the final one.

- The module (Mo): is 29 at the initial testing and at the final one features two values: 30 and 31.

Standing long jump

- Arithmetic mean at the initial testing is 153.4cm, while the final one has recorded 157.12cm, the progress accounting for 3.72cm;
- Range (W) - is 25cm at the initial testing and 32cm at the final testing;
- Standard deviation (As) – the average is ± 1.65 , at the initial testing and ± 1.56 at the final testing;
- Deviation from the mean (Am) – is 0.06cm at the initial testing and 0.06cm at the final testing.
- Variability coefficient (VC) at the initial testing is 1.07, while at the final testing 0.99.
- The median (Me) is 158 at the initial testing and 162 at the final one.
- The module (Mo): is 147 at the initial testing and 160 at the final one

Walking to the side 10x3m

- Arithmetic mean at the initial testing is 13.89sec, while the final one has recorded 13,65sec, the progress accounting for -0.24sec;
- Range (W) - is 2.1sec at the initial testing and 2sec at the final testing;
- Standard deviation (As) – the average is ± 0.09 sec, at the initial testing and ± 0.09 sec at the final testing;
- Deviation from the mean (Am) – is 0.003sec at the initial testing and 0.003sec at the final testing.
- Variability coefficient (VC) at the initial testing is 6.47sec, while at the final testing 6,59sec.
- The median (Me) is 13.8sec at the initial

testing and 13.6sec at the final one.

- The module (Mo): features two values at both the initial testing and the final one, namely 13.8sec and 13.9 sec at the initial testing and 13.9sec and 13.7sec at the final testing.

Moving back and forth 6x6m

- Arithmetic mean at the initial testing is 13.94sec, while the final one has recorded 13.68sec, the progress accounting for -0.24sec;
- Range (W) - is 2.1sec at the initial testing and 2.1sec at the final testing;
- Standard deviation (As) – the average is ± 0.08 sec, at the initial testing and ± 0.08 sec at the final testing;
- Deviation from the mean (Am) – is 0.003sec at the initial testing and 0.003sec at the final testing.
- Variability coefficient (VC) at the initial testing is 5.73sec, while at the final testing 5.84sec.
- The median (Me) is 13,8sec at the initial testing and 13.5sec at the final one.
- The module (Mo): is 13.9sec at the initial testing and 13.6 sec at the final testing.

5.3. At technical level

Overhand passes with two hands (to the wall)

- Arithmetic mean at the initial testing is 1.28 successes out of 5 executions, while the final one has recorded 3.56 successes out of 5 executions, the progress accounting for 2.28 successes;
- Range (W) - is 1 at the initial testing and 3 at the final testing;
- Standard deviation (As) – the average

is ± 0.09 , at the initial testing and ± 0.15 at the final testing;

- Deviation from the mean (Am) – is 0.003 at the initial testing and 0.006 at the final testing.
- Variability coefficient (VC) at the initial testing is 70.31, while at the final testing 4.21.
- The median (Me) is 2 at the initial testing and 4 at the final one.
- The module (Mo): is 1 at the initial testing and 3 the final one.

Underhand serve

- Arithmetic mean at the initial testing is 0.72 successes out of 5 executions, while the final one has recorded 2.64 successes out of 5 executions, the progress accounting for 2.28 successes;
- Range (W) - is 2 at the initial testing and 3 at the final testing;
- Standard deviation (As) – the average is ± 0.11 , at the initial testing and ± 0.15 at the final testing;
- Deviation from the mean (Am) – is 0.004 at the initial testing and 0.006 at the final testing.
- Variability coefficient (VC) at the initial testing is 15.27, while at the final testing 15.27.
- The median (Me) is 2 at the initial testing and 4 at the final one.
- The module (Mo): is 1 at the initial testing and 3 the final one.

Underhand passes with two hands (takeover)

- Arithmetic mean at the initial testing is 0.76 successes out of 5 executions, while the final one has recorded 2.4 successes out of 5 executions, the

progress accounting for 2.28 successes;

- Range (W) - is 2 at the initial testing and 1 at the final testing;
- Standard deviation (As) – the average is ± 0.10 . at the initial testing and ± 0.10 at the final testing;
- Deviation from the mean (Am) – is 0.004 at the initial testing and 0.004 at the final testing.
- Variability coefficient (VC) at the initial testing is 13.15, while at the final testing 13.15.
- The median (Me) is 1 at the initial testing and 3 at the final one.
- The module (Mo): is 1 at the initial testing and 2 the final one.

6. Conclusions

1. Following the literature review, the analysis of age particularities of the beginners' group, it may be concluded that the training programs have methodological contents that are closely connected with the morpho-functional characteristics of the female players pertaining to this age category.
2. Upon the experimental study conducted in the previous experiment, it has been concluded that positive results were obtained at the final evaluations, which confirms once again the formative valences of the training activity in the attaining of the objectives proposed.
3. The results of the investigations reflect a progress from the somatic, motor and technical perspectives.
4. The main form of organisation for the training model was the practice targeting the influence of all the components, through methods and

strategies specific to the set purpose.

5. The values close to the somatic and motor model confirm that the means selected and used in the training of the beginners' group were efficient.
6. After interpreting the results obtained, we have drawn the following conclusions:
 - the beginners' group comprises children with a good somatic level, but who fail to meet the requirements of the optimal selection model.
 - the motor level of the sample is very close to the demands, but efforts should still be made to attain the maximum levels required. A real progress has been recorded between the initial and motor tests, as well as a visible difference between the final results and the motor model.
 - technical level, a progress was also recorded from the initial testing to the final one, which demonstrates that the means selected to attain the objectives proposed were efficient.

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