

COMPARISON AMONG SEVERAL ANTHROPOMETRIC AND MOTOR VARIABLES IN FEMALE GYMNASTS OF THE FIFTH AND SEVENTH IN THE SUCCESSFUL INTERPRETATION OF SOME ELEMENTS OF RHYTHMIC GYMNASTICS

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Abstract

Research sport rhythmic gymnastics elements has been the target of our experimental work to students aged 10 and 12 years of which are applied to elements of rhythmic gymnastics sports. The sample was 80 elementary school students of "Zenel Hajdini" from Pristina. Experimental work was done between the two measurements that the initial and final, and also between different age groups which have managed to show that according to the results achieved indicate lodged interpretation successful in achieving the tasks of the elements of rhythmic gymnastics sports.

Key words: *anthropometry, students, sports and rhythmic gymnastics.*

Introduction

Research anthropometric status and motor tests is a predictor of successful interpretation of the elements of rhythmic gymnastics sports because sports rhythmic gymnastics representing one important issue in the field of sport with the goal of forming a pattern of anthropometric and motor level high as rhythmic gymnastics and sports on the basis of scientific results (Šebić-Zuhrić, L., et al., 2008).

Period aged 11 to 12 years is the time of progress, further learning and improving the training of all parts of the body, but also the time when the technique is reached exercises based on natural movements' forms (Moskovljević, L., et al., 2013). Should given this period which relates to the development of intensive movements timely coordination, performance rhythmic movement, the response to visual stimuli of which are characterized during aged 9 to 11 years (Aleksic et al., 2008; Moskovljević, L., et al., 2013). Topics addressed in this paper is the recognition, training and interpretation of movements with and without requisites rhythmic gymnastics.

The purpose of this research is based on some technical elements of the sport of rhythmic gymnastics, the evaluation of the situation inciale (initial) to (technical elements) movements with and without requisites, and final evaluation of the results achieved in the implementation of technical elements rhythmic gymnastics sports and Nemes comparing initial and final state, as well as the acquisition of elements between groups of children aged 10 and 12 years \pm 6 months.

Methods

Subject

The research sample includes 80 pupils, the female between the ages of 10 and 12 years \pm 6 months. The sample in this paper are pupils of elementary

school "Zenel Hajdini" in Pristina in class the fifth and seventh. During testing - measuring pupils should be in a good physical condition and physical norms fulfilled without disorders different anthropometric parameters.

The sample of variables

For the realization of this research are applying these variables manifestos. *Anthropometric variables:* Body weight (APESH), Body height (ALARA).

Motor test

Motor tests without props: Pas chasse, Pas balance, Pirouette, Arabesque. Motor tests (elements of rhythmic gymnastics) with props: Ball elements: With top1 (Horizontal spiral with ball), With top2 (360 rotation of the body and acceptance of the ball from right hand to left). Round elements: With about 1 (Rotation of the corrugated circle of the body in front), With about 2 (Eight with frontal circle at the front end). Measuring instruments were taken as a model by the authors (Miletić,., Et al., 2004; Miletić, Đ., Et al., 2006).

Work program

The plan and program of work from rhythmic sports gymnastics will be: in 8 classes, 4 from class V and 4 from class VII, the group of students will consist of the number of students in the class (from 8-12 students). In the case of initial measurements, the teacher demonstrates the elements (only once), then they are imitated by the students, where the evaluation is done by the working group consisting of 3 people. You will work 1 month intensively 40 minutes a day, while 80 minutes a week with a group (according to the Physical Education class schedule). After the end of the program implementation period, the evaluation is done by the same working group with 0-5 points (Miletić, Đ., Et al., 1998; Miletić, Đ., Et al., 2006; Moskovljević, L., et. al., 2013).

For the realization of this research we have made the work plan as follows. Stage I - identification of each girl (name, surname, date of birth) and anthropometric measurements (body weight-height), where in all groups the same is done.

Stage II - Where for the demonstration of movements the same person is defined in all groups. The first element is demonstrated in front of the first group, and one by one they demonstrate the same, and are evaluated by the three determinants of the evaluators, where they will be the same throughout the work process, where it will be evaluated from 0-5 points.

0-completely misinterpretation;
1-poor interpretation;
2-unclear interpretation;
3-insufficient interpretation;
4-almost similar interpretation;
5-same and correct interpretation.

Phase III - Will be implemented in three parts;

The first part - Rhythmic elements, preparatory exercises, differences in the treatment of step and running, (normal nature of the steps, jumping step with stretching the toes, rhythmic steps (whole toes), steps with heels, etc., as well as running easy, running with outstretched toes, high-knee running, high-jump running, etc. During performances or exercises will be accompanied by musical time with 4/4, 2/4 and 3/4.

The second part - Exercises for muscle tension, where the exercises are different for stretching the muscles of the body. In performing the exercises the students should notice the elasticity of the

muscles. The exercises are repeated 2-4 times and then 4-16 times. Care will also be taken. is devoted to keeping the body straight.

Part Three - Movements of the technical elements of the gym rhythmic sports nastika, where we start the elements without props and then with props. In the program we will have the necessary logical understanding of the exercises and fixing them by repeating them often. By mastering the exercises, their success is achieved. The increase in load will gradually come from simple exercises to more complex ones. After mastering the preparatory exercises, students will find it easier to master the new and difficult movements of learning the technical elements of rhythmic sports gymnastics.

The concluding part deals with the final assessment of the girls.

During the evaluation, attention should be paid to the artistic side of the girls during the execution of movements without props, as well as with props of the technical elements of rhythmic gymnastics.

The results were processed using the SPSS version 12 computer program and methods were applied for calculating the arithmetic mean (Mean), standard deviation, (Std.Dev.) Minimum result (Min), maximum result (Max), and standard error (Standard). error). The T-test was applied to find significant differences between the groups.

Results

In table no. 1 presents the initial descriptive parameters of the fifth grade for anthropometric and motor variables, as well as some elements from the technique of rhythmic sports gymnastics.

Table 1. Descriptive statistics of fifth grade students in initial measurements for anthropometric and motor variables, as well as technical elements of rhythmic sports gymnastics.

Variable	Mean	Min.	Max.	Std.Dev.	Standard Error
APESH	35.26	26.00	40.00	3.33	.51
ALART	136.87	126.00	146.00	3.97	.60
Pas chasse	1.45	.00	4.00	1.09	.17
Pirouette	1.16	.00	3.67	.75	.11
Pas balanc	.87	.00	2.33	.63	.10
Arabresqu	1.89	.33	3.67	.78	.12
With about 1	.67	.00	1.67	.51	.08
With about 2	.84	.00	2.67	.73	.11
With top 1	1.19	.00	3.33	.85	.13
With top 2	1.33	.00	3.33	.72	.11

The mean arithmetic mean (ALART) values for students in this class are 136.87 cm, while the standard deviation (Std. Dev.) Is 3.97, while the body weight variables (APESH) are worth the arithmetic mean. of 35.26 kilograms and standard deviation (Std. Dev) worth 3.33. In the execution of the elements of the technique of rhythmic sports gymnastics in the possibility of evaluation from 0 to

the grade 5 students on average the highest grade have reached the test without arabesque pose (Arabesque) requisites worth 1.89 points, standard deviation (Std. Dev.) was worth 3.67. Meanwhile, the lowest average grade was achieved by the test of rotation of the corrugated circle of the front body (Circle 1) with a value of .67, while the standard deviation (Std. Dev.).

Table 2. Descriptive statistics of fifth grade students in the final measurements for anthropometric and motor variables as well as technical elements of rhythmic sports gymnastics.

Variable	Mean	Min.	Max.	Std. Dev.	Standard Error
APESH	35.26	26.00	40.00	3.33	.51
ALART	136.87	126.00	146.00	3.97	.60
Pas chasse	3.30	2.00	5.00	.88	.13
Pirouette	3.05	2.00	4.67	.62	.09
Pas balanc	2.77	1.67	4.33	.56	.09
Arabresqu	3.67	2.00	5.00	.75	.11
With about 1	2.63	1.33	3.67	.52	.08
With about 2	2.61	1.00	4.00	.68	.10
With top 1	2.83	1.00	4.67	.81	.12
With top 2	2.98	1.00	4.67	.76	.12

In table no. 2 the final descriptive parameters of the fifth grade for anthropometric and motor variables are presented, as well as some elements from the technique of rhythmic sports gymnastics. The test without precision follow-up step (After chasse) managed to have the arithmetic mean in the final measurement for 3.30 points, the standard deviation (Std. Dev.) Worth 5.00. Also in the tests which are executed without requisites, respectively the Arabesque pose test according to the arithmetic mean has managed to have the maximum grade compared to other tests which is worth 3.67 points, while the standard deviation (Std. Dev.)

Has value of 5.00. The eighth test with frontal circle at the front end (With about 2) are rated weaker with a value of 2.61, but the standard deviation (Std. Dev.) Is 4.00. The minimum score (Min.)

During the assessment was achieved with a grade of 2.00, which was achieved in the following step variables (After chasse), rotation (Pirouette) and arabesque pose (Arabresqu), while the maximum result (Max.) In the following step variables (After chasse) and Arabesque pose which were realized without props.

Table 3. Descriptive statistics of seventh grade students in initial measurements for anthropometric and motor variables as well as technical elements of rhythmic sports gymnastics.

Variable	Mean	Min.	Max.	Std.Dev.	Standard Error
APESH	43.30	35.00	59.00	5.38	.83
ALART	143.95	134.50	152.00	4.40	.68
Pas chasse	2.30	.33	4.33	.93	.14
Pirouette	1.96	.67	3.67	.77	.12
Pas balanc	1.77	.33	3.67	.86	.13
Arabresque	2.62	1.00	4.33	.79	.12
With about 1	1.64	.00	4.33	.98	.15
With about 2	1.61	.33	4.00	.88	.14
With top 1	1.87	.67	3.67	.76	.12
With top 2	2.03	.67	4.00	.89	.14

In table no. 3 presents the initial descriptive parameters of the seventh grade for anthropometric and motor variables, as well as some elements from the technique of rhythmic sports gymnastics. Std. Dev.) Has a value of 4.40, while body weight (APESHA) is worth 43.30 kilograms, while standard deviation (Std. Dev.) Is worth 5.38. The Arabesque positionless test has a minimum score (Min.) Of 1.00 points, while we have three maximum scores (Max.) That are rated 4.33.

The arithmetic mean means the assessment of all senior students is in the Arabesque pose test with a value of 2.62 points, the standard deviation (Std.

Dev.) Of .79, and the smallest is in the eight-point test with approx. frontal at the front end (With about 2) has a grade point average of 1.61 points.

Table no. 4 presents the descriptive statistical parameters of the final measurements of the seventh grade for anthropometric and motor variables, as well as some elements from the technique of rhythmic sports gymnastics. The arithmetic average of the assessment in the follow-up test for the students of this class in the final measurements is 4.11 points. The performance of the Arabesque pose test in students was assessed with an average of 4.42 points. The test that was most difficult for the students to execute, according

to the assessment, was the rotation of the body 360 and the acceptance of the ball from the right hand to the left (With about 2), which has an average grade of 3.61. The minimum grade of

evaluation has the horizontal spiral test with the ball (With about 1), while all the elements of rhythmic sports gymnastics with and without props have reached the maximum grade 5.

Table 4. Descriptive statistics of seventh grade students in the final measurements for anthropometric and motor variables as well as technical elements of rhythmic sports gymnastics.

Variable	Mean	Min.	Max.	Std.Dev.	Standard Error
APESH	43.30	35.00	59.00	5.38	.83
ALART	143.95	134.50	152.00	4.40	.68
Pas chasse	4.11	2.67	5.00	.74	.11
Pirouette	3.84	2.00	5.00	.71	.11
Pas balanc	3.63	2.00	5.00	.81	.12
Arabresque	4.42	2.67	5.00	.58	.09
With about 1	3.63	1.67	5.00	.88	.14
With about 2	3.61	2.33	5.00	.78	.12
With top 1	3.91	2.67	5.00	.72	.11
With top 2	3.99	2.33	5.00	.81	.13

Table 5. Differences of arithmetic and T-test meshes for initial and final measurements between fifth and seventh grade of primary school.

Variable		Mean (Class V)	Mean (Class VII)	T (Class V)	T (Class VII)
Pas chasse	Initial	1.45	2.30	-33.20	-19.74
	Final	3.30	4.11		
Pirouette	Initial	1.16	1.96	-42.61	-26.92
	Final	3.05	3.84		
Pas balanc	Initial	.87	1.77	-38.74	-20.96
	Final	2.77	3.63		
Arabresque	Initial	1.89	2.62	-26.41	-21.77
	Final	3.67	4.42		
With about1	Initial	.67	1.64	-40.34	-24.20
	Final	2.63	3.63		
With about2	Initial	.84	1.61	-27.16	-26.24
	Final	2.61	3.61		
With top1	Initial	1.19	1.87	-27.47	-21.58
	Final	2.83	3.91		
With top2	Initial	1.33	2.03	-36.83	-22.06
	Final	2.98	3.99		

According to the observation of table no. 5 we compared the differences of the T-test value for the fifth and seventh grade. Based on these differences in T-test value, we can see in which class the improvements are most pronounced. We can see that the differences that have occurred in the fifth grade from the initial measurements in the final ones are greater compared to the seventh grade. The much higher T-test values that have been achieved for the fifth grade tell us that very great advances in all space of the elements from the technique of rhythmic sports gymnastics have in the fifth grade compared to the seventh grade.

From these data it is very clear that the earlier the selection, the more successful it is. Care must be taken in selecting the development of physical education activity.

Conclusion

In this paper, a continuous effort is presented in finding the sample of entities, based on the dimensions of the elements from the technique of rhythmic sports gymnastics. From the space of the elements from the technique of rhythmic sports gymnastics, it has been possible to determine the

assessment of the initial state of knowledge on movement without and with props. After the implementation of the plan and program on the assessment of the initial and final situation, we have reached a conclusion that the earlier the selection, the greater the success of knowledge, but it should be borne in mind the situation and the opportunities it has. rhythmic-sports gymnastics. The practice of rhythmic-sports gymnastics is interested in scientific-experimental research,

which provides useful information for certain relations in order to select and select children in rhythmic gymnastics based on the space presented in the research.

This evaluation system only directs us to the criteria of rhythmic gymnastics, where from tests to research and processing of results we are enriched with a theoretical and practical value for the selection of children to be done at an earlier age.

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