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ACQUISITION OF SOME ELEMENTS OF RHYTHMIC SPORTS GYMNASTICS BY STUDENTS OF PRIMARY FIFTH GRADE

1. INTRODUCTION

In early age, knowledge on physical development of pupils is very important, because development of anthropometric (muscles, bones, etc.) and motor (flexibility, coordination, strength, etc.) masses takes place at that time. Therefore, understanding morphological features of pupils implies the application of a methodology and system of measurement procedures, as the single objective tool for validating quantity and quality variables during the educational process of pupils.

Rhythmic gymnastics is a discipline in which sports and arts intertwine, with ballet components and movement habits of the body, joined in rhythm and rational movements of a free-weight body, and the use of other means such as balls, hoops, pins, ropes and ribbons. All these are accompanied by instrumental music, thereby requiring a high level of coordination, artistic expression and motion ability.

The objective of this paper is to provide several tests of situational motor skills (technical elements) in the rhythmic gymnastics, and to assess the initial condition of movements, with and without additional tools, and a final assessment and grading in terms of progress in implementing technical elements of rhythmic gymnastics, and a comparison of success between the initial and the final condition, and the acquisition of elements between groups of children of the age of 10 ± 6 months.

The main issue and scope of this paper is acquisition, training and interpretation of movements, with and without tools, in rhythmic gymnastics.

In acquiring and interpreting movements, where knowledge is assessed by a visual scoring presented in marks, the primary problem, including this paper, is acquisition and assessment of several elements of situational motor skills in rhythmic gymnastics in children of the age of 10 ± 6 months.

2. RESEARCH METHODOLOGY

2.1 Working method

The plan and program of the paper in rhythmic gymnastics shall be: in 8 classes, 4 from the 5th grade and 4 from the 7th grade, the group of children will comprise the number of children in a classroom (8-12 pupils). In initial assessment, the teacher demonstrates the elements (only once), which are further imitated by pupils, movements which are assessed by a working group of 3 individuals. The full duration of assignment is 1 month, with an intensity of 40 minutes/day, and 80 minutes per week with one group (according to Physical Education class schedules). Following the program period, the final assessment takes place, with the same working group, scoring

from 1 to 5 points. The sample of this paper covers 80 female pupils of the age of 10 ± 6 months

2.1.1 Variables Samples

1. Body weight
2. Body height

2.1.2. Motor tests, no tools:

1. Pas chasse (following step)
2. Pas balance (leading step)
3. Pirouette (rotation)
4. Arabesque

2.1.3. Elements with ball

1. Hoop1
2. Hoop2
3. Ball1
4. Ball2

For each anthropometric and motor variable calculated:

1. **central and dispersion parameters:**
 - minimum value (**Min**),
 - maximum value (**Max**),
 - arithmetic average (**Mean**),
 - standard deviation (**Std. Dev.**),
2. In order to assess the differences between the two results (at the beginning and end) in the rhythmic gymnastics discriminant analysis was applied t-test

3. RESULTS AND DISCUSSION

Table 1. Descriptive statistics for fifth graders in initial assessment, for anthropometric and motor variables in rhythmic gymnastics

Variables	Mean	Min	Max	Std.Dev.	Standard Error
Weight	35.26	26.00	40.00	3.33	.51
Height	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 balance	.87	.00	2.33	.63	.10
Arabesque	1.89	.33	3.67	.78	.12
Hoop1	.67	.00	1.67	.51	.08
Hoop2	.84	.00	2.67	.73	.11
Ball1	1.19	.00	3.33	.85	.13
Ball2	1.33	.00	3.33	.72	.11

Table 1 presents descriptive initial parameters of fifth graders for anthropometric and motor variables. Average body height value for pupils of this class is 136.87 cm., while the body weight is 35.26 kilogram. In executing motor tests, with a scoring range from 0 to 5, the pupils reached the highest average score in the Arabesque test, at the value of 1.89, and in executing motor tests, the lowest average score was reached at the value of 0.67, in the Hoop1 test.

Table 2. Descriptive statistics for fifth grade female pupils, in final measurements for anthropometric and motor variables in rhythmic gymnastics.

Variables	Mean	Min	Max	Std.Dev.	Standard Error
Weight	35.26	26.00	40.00	3.33	.51
Height	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 balance	2.77	1.67	4.33	.56	.09
Arabesque	3.67	2.00	5.00	.75	.11
Hoop1	2.63	1.33	3.67	.52	.08
Hoop2	2.61	1.00	4.00	.68	.10
Ball1	2.83	1.00	4.67	.81	.12
Ball2	2.98	1.00	4.67	.76	.12

Table 2 presents the final descriptive parameters for fifth graders, in anthropometric and motor variables. The average score reached in the Pas Chasse test in this final test was 3.30. In the Arabesque test, the pupils were scored a maximum average value in comparison with other tests, in the value of 3.67. the test marking the lowest average score was the Hoop2 test, with 2.61. The minimal average score registered in assessment, by a score of 2.00 was in variables Pas chasse, Pirouette and Arabesque, while the maximum score was registered in Pas chasse and Arabesque tests.

Table 3 presents changes to arithmetic means in motor tests, in initial and final measurements in fifth graders. The test with the highest improvement was the Hoop1, reaching an average score for 1.96 times higher in final measurements, in comparison with initial measurements. The poorest progress marked between initial and final measurements was in the test Ball1, which was only scored between for 1.64. One can easily ascertain that in the p probability column, all tests applied have scored large changes between initial and final measurements.

Table 3. Changes to arithmetic means between initial and final assessment, for motor variables, for fifth grade pupils.

Variables	measurements	Mean	Diff.	t	p
Pas chasse	Initial	1.45	-1.85	-33.20	.00
	Final	3.30			
Pirouette	Initial	1.16	-1.88	-42.61	.00
	Final	3.05			
Pas balance	Initial	.87	-1.90	-38.74	.00
	Finale	2.77			
Arabesque	Initial	1.89	-1.78	-26.41	.00
	Final	3.67			
Hoop1	Initial	.67	-1.96	-40.34	.00
	Final	2.63			
Hoop2	Initial	.84	-1.78	-27.16	.00
	Final	2.61			
Ball1	Initial	1.19	-1.64	-27.47	.00
	Final	2.83			
Ball2	Initial	1.33	-1.66	-36.83	.00
	Final	2.98			

4. CONCLUSION

This research represents a continued effort of finding the entity sample based on certain dimensions in rhythmic gymnastics. In the field of motor indicators, we will determine the initial condition of knowledge of movement, with and without tools. Following the plan and program for evaluation of initial and final conditions, with the support of statistical program, we have reached the conclusion that the earlier the selection is made, the success in acquiring knowledge is better.

After the statistical processing, we have collected the following outcomes: the average weight in fifth grade girls is 36.26, while the height is 136.87. From the basic statistics, after the scoring from 0 to 5, in initial measurements, the fifth grade girls had the highest average score of 1.89 in the Arabesque test, while in the final measurements, also reached a maximum score of 3.67. In terms of the final values of fifth grade girls, the relation at the probability level of 0.05, there is a good correlation between the variables, e.g. in weight, almost everything is correlated with motor variables, while height has no relation with any motor variable, which means that there is no relevance in terms of body height in relation to execution of movements in rhythmic gymnastics. In motor indicators, the largest correlation was marked in tests Hoop2, Ball1, at the value of 0.82. Following the presentation of changes in arithmetic means in motor tests, for initial and final measurements in fifth grade girls, the test which recorded the largest improvement was the Hoop1, with 1.96.

5. LITERATURE

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Key words: *Rhythmic gymnastics, anthropometric variables, motor variables.*