

RELAY RACES, MOVEMENT GAMES AND COMPETITIONS IN OPTIMIZING SPEED FOR CHILDREN

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Abstract

The purpose of primary education is to make sure that children acquire the knowledge, capacities and attitudes which will allow the continuation of education (Cârstea., 1993; Bota, 2006).

Through the theme chosen, this paper proposes as main objectives to determine the level of development of the speed as motor quality of pupils in primary education (9-10 years old); to select, develop and implement acting systems (movement games, relay races and competitions), in physical education classes, to contribute to speed development and to form the habit of independent practice of physical activities.

For the investigated group, acting systems consisting of competitions, movement games and relay races were selected and applied in the physical education classes.

The results obtained after the application of the selected means indicate that this motor quality can be developed successfully at the age of 9-10, if the specific characteristics of the group are taken into account, but also the volume, intensity and complexity of the proposed acting systems.

After applying the selected means, at the final testing, better results have been recorded for the tested indicators, showing significant progress when comparing the two tests; the conclusion was that the game was the primary acting means by which it meets the requirements of modern teaching educational process, the use of movement games, of relay races and competitions having a major role in increasing the speed indicators.

Keywords: primary education, speed, motion games, relay races, competitions

1. Introduction

Motor qualities, defined as qualities of the movements were approached in the context of analyzing the motor ability of man (Dragnea, Bota, 1999).

In the literature of specialty there are many authors (Alexe, 1993; Cârstea, 1993; Tudor, 1999; Bompa, 2001; Dragnea, Teodorescu-Mate, 2002) who expose their theories related to the methods and means to be used for speed development.

Virgil Tudor (1999) proposes to develop the speed of reaction by "the reaction" to various signals with the start from different positions. In order to develop the execution speed, the author proposes the repetition of singular motor acts. For the development of repetition speed he proposes means for the increase of frequency movements. For the development of acceleration capacity, he proposes means to form a sense of accelerating progressively and to develop the travel speed for runs of 20-100 m.

Objectives - to select and to apply the most effective acting systems in order to develop the quality of speed on the level of primary student groups.

The hypothesis of this research starts from the premise that, if in the process of training young children aged 9-10 highly selected acting systems are used (motion games, races and relay races) will have positive influences on the quality of the training process and higher values of the indices of speed development.

2. Methods

b. Protocol of the research

The study was conducted at "Stefan cel Mare" Elementary School of Galati, from 20th September to 31st March 2016 2017//20-30 September-initial tests on the level of development of the speed of movement, reaction and

execution; 1.10-28.02.2017-development and application of relay races, of motion games and competitions in order to increase speed indicators; 1-31.03.2017-final testing results, analysis and processing of data.

b. Subjects

The sample group was represented by students of the two 3rd grades of "Stefan cel Mare" Galați Elementary School, grade 3rd D representing the experimental group (32 students: 17 boys and 15 girls) and grade 3rd A (group of 29 students: 13 boys and 16 girls). Both the experimental group and the control group had two classes of physical education per week included in the curriculum, set outdoors (field: 25 x 50 m) and indoors (room: 40 x 20 m). For the experimental group, learning units were planned to develop speed, made of motion games and relay races and competitions, and for the witness group classical acting systems were proposed for speed development.

c. Evaluated Parameters/8 tasks were applied to determine the development level of speed:

A. Speed running on 25 m with upright start (**AV**);

B. "Shuttle run" 5 x 5 m (**NV**) (edituraedu.ro/.../ghid%20de%20evaluare%20educatie%20fizica%20cl.%20I.doc)-two parallel lines are drawn at a distance of 5 m-behind the starting line ,the performer starts running up the opposite line, gets over it with both feet and returns to the line of departure;

C. Speed test (**PV**) (<https://documents.tips> > Documents)-two squares with 5 m sides drawn on the ground, placed one in line with each other, united in one of the corners-the performer starts from corner no. 1 to corner 2, then to corner 3 and further to other corners (4, 5, 6, 7 and 8) till he comes back to corner 1-Fig. 1a;

D. Test of agility (**TA**) (www.referatele.com/psihologie/teste-de-echilibru624.php)-on the ground 3 parallel lines will be drawn at a distance of 5 m-the performer starts running from the middle line to the left and touches the left line with his left foot, then runs towards the right extremity and puts his right foot on the line on the right, and afterward she sprints to the central line he must touch with his hand-fig. 1b;

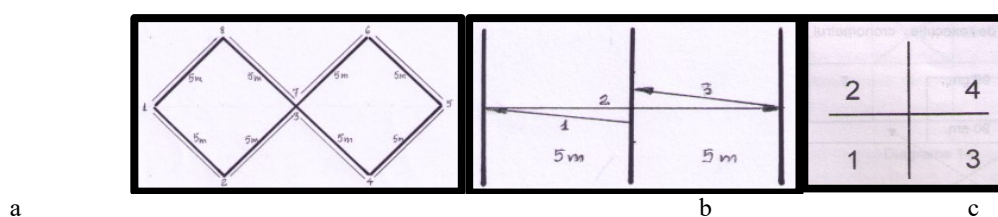


Fig. 1 Shape representation of applied physical samples

E. „Adams” quickness test (**TR**) (docslide.com.br Documents) –2 intersecting lines with a length of 1 m are drawn on the ground. The four spaces are numbered in Fig. 1 c. -the performer carries out jumps on both legs in number order for 15 seconds-it is considered a fault to touch the line or not to touch the ground with both feet;

F. The falling ruler test (**RC**) ([www.usefs.md/PDF/.../Teoria%20si%20metodica%20educatiei%20fizice\(Lectia6\).pdf](http://www.usefs.md/PDF/.../Teoria%20si%20metodica%20educatiei%20fizice(Lectia6).pdf)) The teacher supports a 50 cm ruler of its upper end (50 cm off the ground) which he lets fall among the fingers of the subject prepared to catch it.

G. Timer test (**TC**) (<https://documents.tips> > Documents)-the subject holds a timer which he starts and then stops as soon as possible;

H. passing to the wall for 30 seconds (**PP**) (<https://documents.tips> > Documents)-the performer standing behind a line situated 2 m from a wall; on the wall there is a circle with a diameter of 50 cm and a height of 150 cm. At the sound signal he starts passing the ball to the wall for 30 seconds, the executions being counted.

3. Results and discussions

At the initial tests the results recorded on the level of speed development were relatively low, both for the experimental group and the control group.

As a result of the differentiated use of acting means (experimental group-motion games, relay races, competitions and the control group-classical means), the final testing results show higher rates in the experimental group-table 1.

Thus, for the 2 m speed running, the values of the arithmetic means of the final results are better than the initial ones, especially in the experimental group, showing low variability and high homogeneity. The "t" values are over the threshold of 0.01, so there are significant differences with a 99% certainty.

At the 5x5m "shuttle" test, the boys' experimental group recorded an average progress of 0.9 seconds, while the control group scored only 0.04 seconds.

The experimental group of girls showed an average progress of 0.09 sec and the girls' control group 0.03 sec. The coefficient of variability indicates high homogeneity (less than 10%) in both grades and at both tests and the "t" values are above the threshold of 0.01, with significant differences.

The speed test indicates an improvement of the results between the two tests, the average progress in the boys' experimental group being 1.19 seconds, and for the girls of 0.33 seconds, while the progress of the boys' control group was 0.15 sec, and the girls 0.03 sec. The amplitudes are relatively medium, the results showing low variability and high homogeneity in both grades and at both tests.

For the agility test, the greatest progress of the average was recorded by the experimental group of girls (0.69), followed by the boys' experimental group (0.65), the control groups showing an almost insignificant average increase. The calculated amplitudes prove that results have a high degree of homogeneity, at both grades and in both tests. The falling ruler test indicates significant differences between the results of the two tests in the experimental grade for both boys (7.48) and girls (7.00 cm). The evolution of the average values of the control groups is much smaller. The coefficient of variation shows high homogeneity of the results on both groups and tests.

For the timer test the results were positive for both the experimental group and the control group but with higher representative values in favor of the experimental group. The high variability of the results indicated the lack of homogeneity, and the "t" values over the threshold of 0.01, demonstrated that the differences were significant with a 99% certainty.

Passing to the wall for 30 seconds is the test where the best results were recorded by the experimental group of boys with a progress of 4.71 repetitions. Amplitudes were average, so the results were scattered on average, relatively homogeneous ranges.

The Adams test "indicates the highest difference between the initial and the final tests at the boys in the experimental group (progress of 4.35 repetitions). The arithmetic means of the initial and final results are better for the experimental group, in both boys and girls. The results present a high degree of homogeneity at the final tests and average homogeneity at the initial tests-fig. 2.

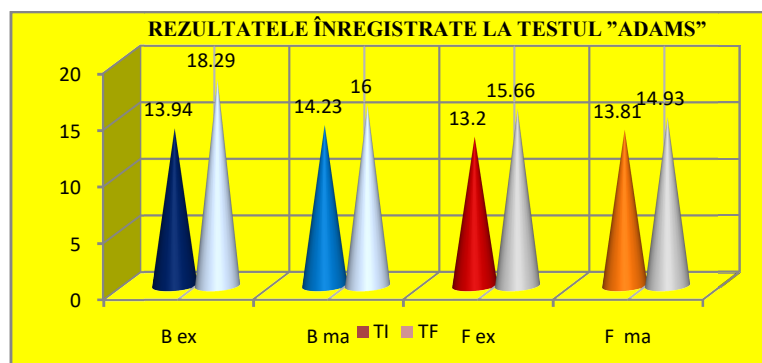


Fig. 2 Dynamics of Adams test results

4. Conclusions

From the analysis of the results the following conclusions were drawn:

The working hypothesis was confirmed, the use of relay races, competitions and motion games in the physical education classes of children in the primary school, show the testing of speed as motor quality.

At the tests regarding the level of development of the various forms of manifestation of speed, the boys' groups recorded better results than the girls' groups.

The study demonstrated the importance of the games, as a means of acting in developing motor skills, underlining the importance of taking part in races, the profit being major for winners as well as for those who lose.

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