

**STUDY ON PROPELLENT (MOTOR) QUALITY
DEVELOPMENT SPEED-ABILITY USING RUGBY-TAG
ELEMENTS AT GYMNASIUM LEVEL**

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Keywords: rugby-tag, propellent (motor) quality, speed, skill.

Abstract: The purpose of the paper is to study the extent to which the development of speed-skill propellent quality can be influenced by the specific means of rugby-tag game at the level of the 7th grade.

The first part of the paper is the scientific basis for it and includes: the history of the theme, its importance and its relevance in the literature, the conceptual delimitations: the rules of the rugby-tag game, the rugby-tag game as a means of physical education and sport, and skill, the propellent qualities of speed and skill, the development of propellent skills through the rugby-tag game and the biopsychosocial particularities of the subjects under investigation.

The methodology used for research is described in the second part of the paper. We formulated the hypothesis, the purpose, the reason, the tasks, the objectives and the stages of the research. The third part of the paper is the actual research and contains: the data about the subjects, the place and the period of the research; the training program with the means and methods specific to the rugby-tag game; the results of the initial and final tests as well as their interpretation.

The last part dedicated to the conclusions of the paper.

Introduction: Rugby designates a ball sport that originates from England. The name of the game comes from the English town with the same name, where the rules of this sport have been formulated. The ball with which rugby is played is of oval shape, so this sport is often referred to as "oval balloon sport". [2,5]

The rugby-tag game we are going to talk about in this paper is a simplified version of the official rugby game, suitable for beginners or students because it does not involve direct contact with the opponent. In 2010, the rugby-tag game was introduced as an alternative school subject in the Physical Education and Sport School Program.[3,4] Physical education and sports teachers can use rugby-tag in physical education

and sports lessons, making it a safe and effective means to meet the objectives of physical education and sports.[1]

Material-method: In conducting the research, we started from the hypothesis that: the rational use of the exercises and specific games to rugby - tag according to the biopsychosocial particularities of the 7th grade pupils will contribute to a rapid and visible increase of the parameters of propellent quality speed – skill.

The specific means of rugby-tag game can help to develop students' overall propellent ability, to the harmonious physical development, to the maintenance of the optimal health, and the formation of moral and character traits during the competitive play.

The research tasks can be presented as follows:

1. Studying the literature on the theme of this paper (information about the rugby-tag game, the biopsychosocial developmental characteristics of the gymnasium students, the propellent skills and the methods and means of their development);
2. Developing a test program to objectively show the level of development of the subjects involved in the experiment;
3. Establishing the test conditions for the subjects selected for research, initial testing of the subjects and registration of results;
4. Choosing the most appropriate means specific to rugby-tag game for the development of speed-skill propellent skills;
5. Applying the specific means of rugby-tag game to students of the 7th grade - experiment
6. Dosing of exercises according to the biopsychosocial developmental particularities and the level of general propellent ability of the pupils;
7. Final testing of pupils under the same conditions;
8. Interpretation of the obtained results;
9. Drawing conclusions.

Several objectives were underpinning the research, each of them required time for information and data collection:

- to inform about the rule of the rugby-tag game
- to develop a training program for the development of speed-skill propellent skill using specific means of rugby-tag
- to select the most conclusive tests to demonstrate the hypothesis from which we started
- to demonstrate that through rugby-tag specific means the speed-skill propellent quality indices increase

- to promote rugby-tag game among all Physical Education and Sport teachers and students

In order to carry out this experiment, I chose to work with the students from two classes of seven graders from The Secondary School Number 10 Suceava. Students from class VII A-experimental class will work differently from the students of the class VII B-witness class. Students from the two classes will be tested in relation to their level of propellant skills speed and skill, followed by applying to the experimental class a program for the development of propellant skills speed and skill by methods and means specific to the rugby-tag game and the witness class will follow a program to develop the propellant skills of speed and skill through the specific means provided in the curriculum.

At the end of the training programs, the speed and skill propellant skills indices will be tested again.

The experiment itself took place at the The Secondary School Number 10 from Suceava, which had all the necessary materials. The research was conducted in the school year 2016-2017, between January and May.

The research lasted four months as follows:

- in January: the choice of classes to work with and the initial testing of pupils;
- in February - May: documenting about the chosen topic; designing the training program using the specific means of rugby – tag game and applying it to the experiment class twice a week; observing pupils' evolution;
- in May: re-evaluating students from both classes undergoing the experiment; recording the results and drawing conclusions after the statistical and mathematical data processing.

Materials used in research:

- rugby balls, equipment for players, tag belt, colorful scarves, milestones, balls of other sizes and weights

Results and discussions The probes chosen for speed manifestations were: running speed test 50 m for running speed test of ball commuting for the execution speed and ball shuttle for speed as skill. The overall skill was assessed through the Matorin test and the in square test.

After the data were recorded in the tables and arithmetic means were calculated, the results of the initial and final testing for each class were compared, as well as the comparisons of the averages of the two classes with which we worked. The difference between the results was

expressed in seconds, number of passes or meters, as well as in percentage.

At the 50m Speed Running test, which showed that the specific methods and means in the rugby-tag game help to develop the speed of movement, one can notice the obvious evolution of the students in the experiment class compared to the students in the witness class who attended the lessons of physical education according to school curriculum (see Chart I).

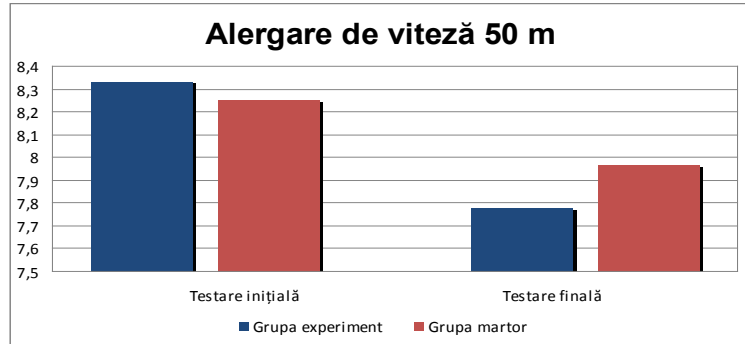


Chart 1 Speed running 50 m

At the initial testing, the results of the two classes were quite close (8.33 experiment class and 8.25 witness class, respectively). Instead, in the final test under the same conditions, both classes have achieved an evolution, but more obvious is that of the experimental class that went through the training program using the means from the rugby-tag game (7.78 experiment class, respectively 7.97 witness class).

After the mathematical and statistical interpretation of the data, the apparent progress of the experimental class was observed, where the difference between initial and final testing is 0.55 seconds on average (7.11% percentage difference), while in the witness class the difference between initial and final testing is 0.28 seconds on average (3.53% difference).

Table 1 Initial and final testing Speed running 50 m

Speed running 50 m			
Experiment Class		Witness Class	
T.I	T.F	T.I	T.F
8,336	7,782	8,253	7,971
Difference (D)			
0,554		0,282	
Percentage difference (D %)			
7,119%		3,538%	

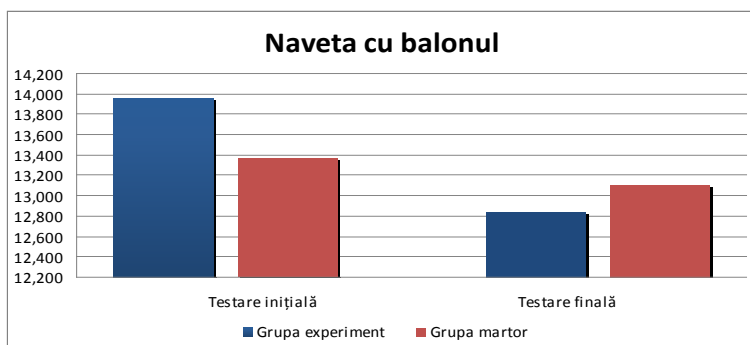


Chart 2 Ball shuttle

Observing the results obtained at the tests from the Ball shuttle probe that targeted the speed as skill (Chart II), the evolution of the experiment class is evident.

In the schooling phase, the propellant capacities are permanently developed irrespective of the means by which they operate, both classes displaying a certain evolution of the speed as skill, but the results of the experimental class where the training program was applied by means and methods specific to rugby-tag games, exceed those achieved by the witness class.

At the initial testing, the results obtained by the two classes had quite close values: 13.95 seconds on average in the experiment class and 13.37 seconds on average in the witness class.

After applying the training program with the means and methods specific to the rugby-tag game in the experiment class, the final test class gained a result of 12.84 seconds on average and the witness class averaged 13.11 second.

There is a difference between the results of the initial and final tests: 1.11 seconds on average, 8.65% in the case of the experimental class and 0.26 seconds, 2.01% in the witness class.

Table 2 Initial and final testing Ball shuttle

Ball shuttle			
Experiment Class		Witness Class	
T.I	T.F	T.I	T.F
13,956	12,844	13,378	13,114
Difference (D)			
1,112		0,264	
Percentage difference (D %)			
8,659%		2,013%	

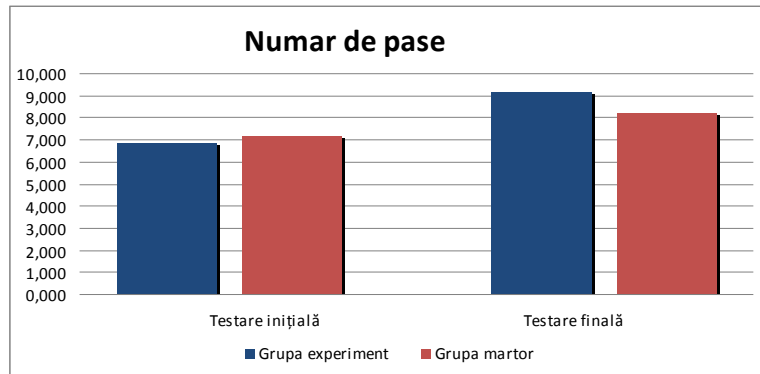


Chart 3 Number of passes

At the initial testing, in the case of the students in the witness class there was an average number of performed passes of 7.21 versus 6.89 average obtained by the students in the experimental class (chart III). At the final tests, we observe the evolution of both classes, but obviously the better result is obtained by the experimental class which obtains an average of 9.25 vs. 8.28 the average obtained by the witness class.

It is noted that from the initial test to the final test the average of the experimental class increased by 2.35 passes, the average of the witness class increased by only 1.07 passes on average. The percentage difference is of 34.19% for the experimental class and 14.85% for the witness class.

Table 3 Initial and final testing Number of passes

Number of passes			
Experimental Class		Witness Class	
T.I	T.F	T.I	T.F
6,893	9,250	7,214	8,286
Difference (D)			
2,357		1,071	
Percentage difference (D %)			
34,197%		14,851%	

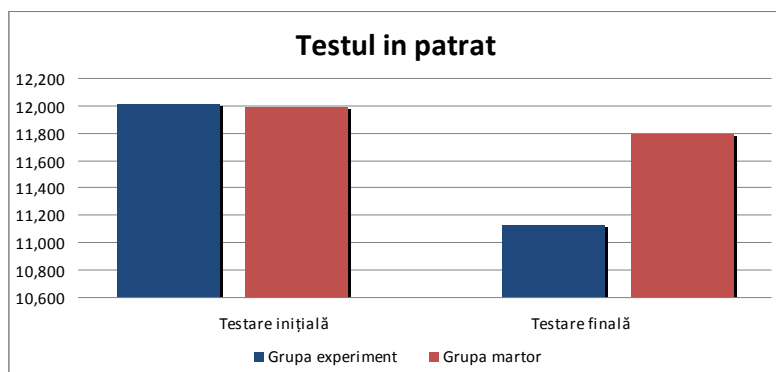


Chart 4 Test in square

Agility, speed and balance are qualities required in any sporting game. These can be measured with the in square test. The results of the test, graphically represented, (chart IV) prove once again the visible and rapid development of the propellant quality indices in the experiment class.

At the initial test, the experiment class averaged 12.01 seconds, and the witness class averaged 11.99 seconds. After applying the training program with specific means of rugby-tag to the experiment class, at the final test the class obtained 11.13 seconds and the witness class 11.79 seconds on average.

Table 4 Initial and final testing Test in square

Test in square			
Experiment Class		Witness Class	
T.I	T.F	T.I	T.F
12,016	11,136	11,995	11,796
Difference (D)			
0,880		0,200	
Percentage difference (D %)			
7,906%		1,693%	

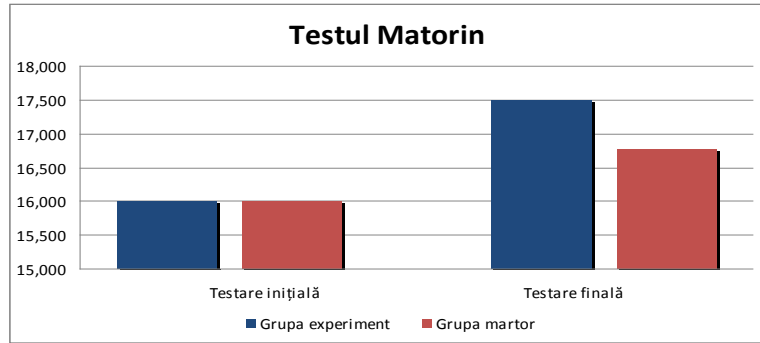


Chart 5 Matorin Test

At the Matorin Test regarding general coordination, the same results were obtained at the initial testing, respectively 16 in the case of the two classes.

After applying the training program to the experimental class, the results from the final test recorded an increase of 1.5 points on average and the results of the witness class that attended the education lessons according to the school curriculum increased by 0.78 points on average.

The percentage difference between the results of the two classes is significant, the increase is 8.57% at the level of the experimental class and only 4.68% at the level of the witness class.

Table 5 Initial and final testing Matorin Test

Matorin Test			
Experimental Class		Witness Class	
T.I	T.F	T.I	T.F
16,000	17,500	16,000	16,786
Difference (D)			
1,500		0,786	
Percentage difference (D %)			
8,571%		4,681%	

Conclusions: The aspects revealed in the content of this paper converge to the following conclusions:

1. The use of methods and means specific for the rugby-tag game in physical education lessons is an element of improvement of the didactic process.
2. Interpretation of test results in the experiment showed that the pupils' motion indexes are for the majority of pupils over the scales of the National Assessment System in both the experimental and the witness classes.

3. After applying the rugby-tag training program, the evolution of the pupils' results in the experimental class is significant compared to the results of the pupils in the classroom where the traditional means of education were used in the physical education lessons, according to the curriculum.

References:

- [1] BADEA D. (2001) RUGBY – Fundamente teoretice si metodice. Ed. Fest, Bucuresti;
- [2] CARSTEA G. (2000) Teoria si metodica educatiei fizice si sportului. Editura AN-DA, Bucuresti;
- [3] CONSTANTIN, V., (1985) Rugby – pregătirea copiilor și juniorilor, București, Editura Sport – Turism;
- [4] CONSTANTIN, V., (2004) Rugby- tehnică și tactică, Editura FEST, București;
- [5] SAVESCU I. (2007) Educatie fizica si sportiva scolara. Editura Aius PrintEd, Craiova ;

**STUDIUL PRIVIND DEZVOLTAREA CALITĂȚII MOTRICE
VITEZĂ-ÎNDEMÂNARE UTILIZÂND ELEMENTE DIN RUGBY-
TAG LA NIVEL DE GIMNAZIU**

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Cuvinte cheie: rugby-tag, calitate motrică, viteză, îndemânare.

Rezumat: Scopul lucrării este de a studia măsura în care poate fi influențată dezvoltarea calității motrice viteză-îndemânare prin intermediul mijloacelor specifice jocului de rugby-tag la nivelul clasei a 7-a.

Prima parte a lucrării este baza științifică a acesteia și include: istoricul temei, importanța și relevanța ei în literatură, delimitările conceptuale: regulile jocului de rugby-tag, jocul de rugby-tag ca mijloc de educație fizică și sport, abilități, motrice viteză-îndemânare, dezvoltarea calității motrice viteză-îndemânare prin jocul cu tag-ul rugby și particularitățile biopsihosociale ale subiecților aflați în studiu.

Metodologia utilizată pentru cercetare este descrisă în partea a doua a lucrării. Am formulat ipoteza, scopul, motivul, sarcinile, obiectivele și etapele cercetării. A treia parte a lucrării este cercetarea reală și conține: date despre subiecți, locul și perioada cercetării; programul de instruire cu mijloacele și metodele specifice jocului de rugby-tag; rezultatele testelor inițiale și finale, precum și interpretarea acestora.