

## **IMPROVING THE COORDINATIVE CAPABILITIES THROUGH BADMINTON GAME FOR CHILDREN OF 4TH GRADE**

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**Keywords: coordination skills, speed, improvement, badminton, children, attractiveness**

### **Abstract**

The aim of the research was to track the effects of badminton play, on the coordination capabilities and on some forms of manifestation of speed motor quality. The experiment took place in the gymnasium of the "Ștefan cel Mare" General School in Putna, on a group of 17 students from the 4th grade. They formed the experimental group. The control group consisted of 14 pupils of the fourth grade at Gura Putnei General School. The independent variable consisted in applying badminton-specific means to the experimental group.

After applying the badminton means, there was a faster progression of the coordination and velocity indexes in the experimental group compared to the control group qualities. Badminton game, a new, beautiful and dynamic game for students, has influenced the level of coordination and speed, but has also made impact on the more active and enjoyable involvement of children in Physical Education and Sports lessons. Teaching badminton at any age complements children's motorcycle baggage in a surprising way.

### **Introduction**

Physical education and sport has the task of developing the biological potential of man in line with current social requirements. As in any educational field, in physical education, a particularly important role belongs to the ways, means, methods and forms by which the established tasks are attempted.

If we observe the lessons of physical education in our country, it is obvious that badminton has become an option that is not chosen by physical education teachers. Many of the teachers know nothing about this game. However, badminton play is an effective and safe means to meet the goals of physical education. Teaching badminton at any age complements the child's motorcycle baggage in a surprising way, which

implicitly increases the level of coordination capabilities, speed, resistance, physical condition in the general, and leads to the acquisition of as much skill as possible and skills.

The pleasure of badminton children blends perfectly with the attainment of physical education goals. When pleasure merges with work, with the proposed tasks, goals will be met with greater ease and efficiency. Thus, we are constantly trying to find as many possibilities as possible for the development of man through physical education, by establishing the most diverse hypotheses that will be confirmed before, enriching this field of activity.

It is known that at the young school age the greatest emphasis is put on the development of speed and skill, which, according to some specialists, have the highest heritability indices. Within the school curriculum of the 3rd and 4th grades there are a series of contents that aim to educate these motor skills. In school, badminton is rarely an option of the physical education teacher, who are choosing the most influential games in our class and presented and explained in the school curriculum - volleyball, handball, football and basketball.

Because badminton does not have a great popularity, students are not accustomed to their specific skills, so exercises aimed at educating skill will not be very difficult.

The student is primarily trained to learn and consolidate basic technical skills as well as to develop the skills to apply them in the game. In badminton, exercises to develop skill and speed will primarily aim at reacting as quickly as possible to visual stimuli, shifting in all directions in as short a time as possible, and transmitting the racket flyer over the net.

### ***Material and method***

The research hypothesis: *we consider that badminton-specific means will lead to a much faster and more visible increase in the indices of the manifestations of the motoring qualities: coordination and speed.* Moreover, badminton means can successfully contribute to the development of students' overall ability, harmonious physical development, and to the formation of moral and character traits during competitive play, which leads to the achievement of the main objectives of Education Physics and Sports.

*Research goal:* what we have been aiming for in this research was to develop the general motricity of students with a focus on their

coordinating capacities. The main goal is to find the best means of action in badminton play, in order to confirm the hypothesis.

Research subjects: *In research we had two groups of students. From the experimental group were 17 pupils of the fourth grade from the "Ștefan cel Mare" General School in Putna. The control group was attended by a total of 14 pupils of the fourth grade, from Gura Putnei General School. For the experimental group, the independent variable was applied: badminton game and means for the development of coordination capabilities.*

Tests used in research:

- 1 Square Test: in this test, the student must jump on both legs in the square with the number "0" to the "10" square, passing through the correct numbers. (Niculescu, I.,I.,2009, pp.93-94).
- 2 Agility Test 20 meters: the subject must run back and forth within 20 meters. (Niculescu, I., I., 2009, p.79).
- 3 Throwing the ball: the subject must throw the tennis ball in a basket of 2.5 m; the correct executions of the 10 attempts are recorded. (Niculescu, I.I., 2009, p.96).
- 4 *Touch the boards*: is part of the Eurofit test battery, where the subject has two plates; the time for the 25 cycles (right-left) is timed. (Neagu, N., coord., 2014, p.90).
- 5 "T" Drill Test: the subject must run on a "T" path by forward and side travel; the route has a total distance of 40 meters. (Neagu,N., coord., 2014,p. 86)
- 6 Flamingo Test; maintaining balance on a stick; the subject is on the right foot. (Simion, Gh., Et al., 2009, p.280)

*The research methods*: the methods used in this research were: the study of the specialized literature, the test method, the statistic method, the mathematic method, the graphic method, the tabular method.

The means used in research:

- *means specific to badminton game for the development of speed manifestations (reaction speed, execution speed, speed of repetition, speed in coordination mode);*
- *means specific to badminton game for the development of general skill;*
- *means for the development of badminton specific skills;*
- *bilateral badminton game etc.*



### Results

After testing out the theory, the results for the initial and final tests are as follows:

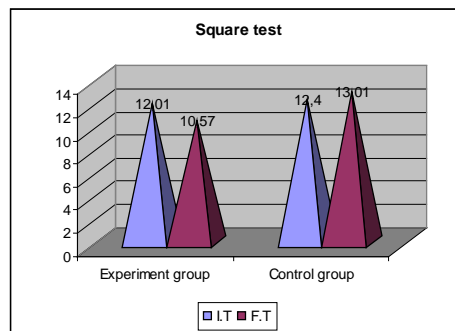


Figure 1 Square Test

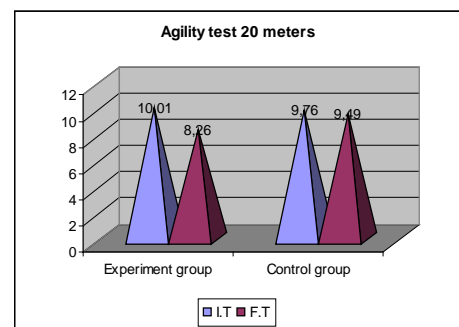


Figure 2 Agility test

As we can see from graphs 1 and 2, the differences between the two groups in the two tests (initial and final) are significant. Regarding the square coordinate test, the experimental group had a progress of 1.44 seconds, and the control group of 0.61 seconds in the control group. In the second test - the agility test at a distance of 20 meters, the experimental group showed a progress of 1.75 seconds and the control group had an insignificant progress of only 0.27 seconds.

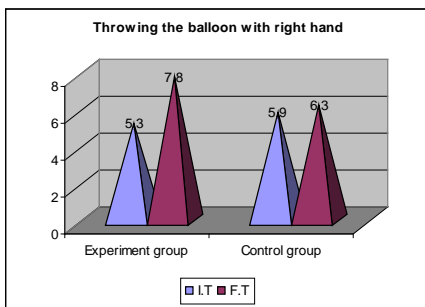


Figure 3 Throwing the balloon with right hand

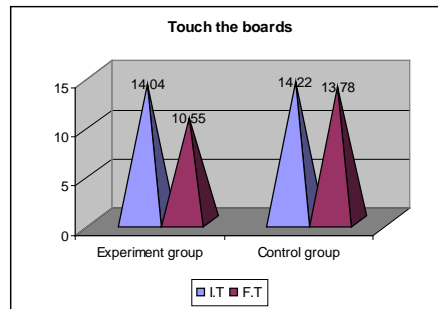


Figure 4 Touch the boards

In graphical representations 3 and 4, the results were as follows: in the throwing the balloon with right hand test, the result of the experimental group improved on average by 2.5 throws, and the control group with only 0.4 throws on average. On the next test - the touch test, that is part of the EUROFIT test battery, there was a 3.9 seconds average progress on the group that practiced badminton game, and in the control group also there was a progress, but insignificant, of 0.44 seconds.

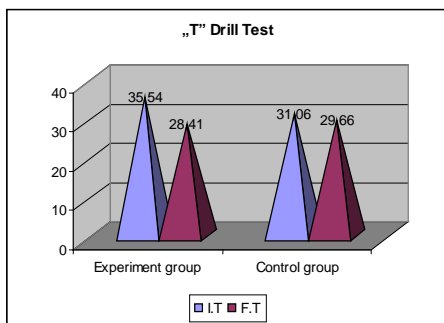


Figure 5 „T” Drill Test

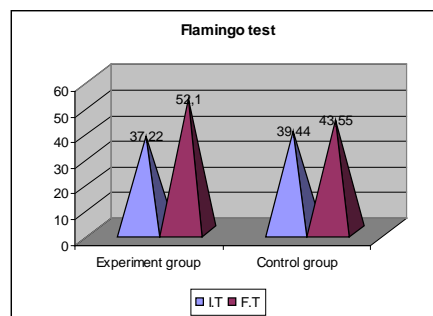


Figure 6 Flamingo Test

In the last two tests, the influence of the badminton game was again observed. If on the "T" Drill test (where the subjects had to run forward and sideways on a route in the letter T - total 40 m), the experimental group obtained a result of 35.54 seconds on average at the first test at the final test, the result improved, the subjects gaining 28.41 seconds. In the case of the control group, the mean difference between the two tests was only 1.4 seconds (31.06 seconds on average on the first test and 29.66 seconds on average on the final test).

In the Flamingo balance test, which is part of the EUROFIT test battery, it was found that the experimental group's students also

*improved their static balance through badminton play, but also through other means of general skill.*

### **Conclusions**

By the obtained results, it can be said that the use of badminton game provided an increased efficiency of the lessons, thus confirming the hypothesis formulated initially in the experiment. The means chosen to improve the qualities of speed and skill have contributed with success, with progress being visible.

Badminton has made all students a superior motivation and pleasure, and has led them to participate in physical education lessons. Regarding the coordination capabilities and speed capability, an ascending curve is observed for all manifestations.

The experiment confirms the statements of all field specialists, namely that the low school age is a good time for the development of psychophysical skills the speed and coordination because they are in progressive dynamics, which confirms that these indicators are perfectionable. These physical qualities have continuous progress for all subjects, but sensitive periods differ in age. The periods with the highest increases were established as the third and fourth grades, which included the subjects chosen for this research.

As a result of badminton play in the physical education and sports lessons, all the investigated indicators recorded increases compared to the results of the pupils in the witness group, where the teaching of the lessons was carried out by traditional means and according to the curricula.

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## ÎMBUNĂTĂȚIREA CAPACITĂȚILOR COORDONATIVE PRIN JOCUL DE BADMINTON LA COPIII CLASEI A IV - A

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**Cuvinte cheie:** capacități coordonative, viteză, îmbunătățire, badminton, elevi, atractivitate

### **Rezumat**

Cercetarea de față a avut drept scop urmărirea efectelor produse de practicarea jocului de badminton, asupra capacităților coordonative și asupra unelor forme de manifestare ale calității motrice viteza. Experimentul s-a desfășurat în cadrul sălii de sport a Școlii Gimnaziale „Ștefan cel Mare” Putna, pe un eșantion de 17 elevi din clasa a IV –a, aceștia constituind grupa experimentală. Grupa martor a fost compusă din 14 elevi ai Școlii Gimnaziale Gura Putnei, de asemenea din clasa a IV –a. Variabila independentă a constat în aplicarea mijloacelor specifice jocului de badminton în cazul grupei supuse experimentului. După aplicarea mijloacelor specifice, s-a constatat un progres mai rapid a indicilor capacităților coordonative și a vitezei la grupa experimentală,

comparativ cu indicii calităților la grupa de control. Jocul de badminton, joc nou, frumos și dinamic în cazul elevilor, a influențat atât nivelul indicilor coordonării și vitezei, dar a avut impact și în implicarea mult mai activă și mai cu plăcere a copiilor în cadrul lecțiilor de Educație Fizică și Sport. Predarea jocului de badminton la orice vârstă completează bagajul motric al copiilor în mod surprinzător.