

## MIDDLE SCHOOL CHILDREN COORDINATIVE CAPACITY DEVELOPMENT THROUGH FOOTBALL GAME SPECIFIC MEANS

**Daniel CIOCANESCU, Dumitru BARBU, Doru STOICA**

*University of Craiova*

**Abstract:** Football is one of the most popular sport branches and discipline, extremely loved by students. This paper attempts to determine if, when used in the physical education class, motor structures specific to football game, we can see an improvement in coordinative capacity of schoolchildren, which will help develop the subjects' motor ability. Thus, a group of 24 students (aged 12-14 ) was applied weekly football specific means during the physical education class. At the end of the experiment, segmental coordination improved as well as the accuracy of the shot on goal both with the skillful kick and with the fumble one.

**Keywords:** *coordination, football, students.*

### Introduction

Football is taught in school from primary school up to high school, since this is an initiation into the practice and is not a sport specialization, the latter means joining sports clubs or sports performance associations. In the physical education class, the teacher's role is to initiate students into practicing the football on reduced field, instilling them the pleasure of playing, thus contributing to the objectives of physical education at various levels.

Football game positively affects the motor ability of practitioners. Previous research has highlighted the fact that football asks for a particular spatio-temporal coordination [1]

In the literature, the meaning of coordination is synonymous with the skill, ability, skill, precision, accuracy, finesse, grace, balance, stability, craftsmanship, all of which are the ability of an individual to learn and quickly combine new moves to conduct smooth and efficient movements in a given time with a low energy consumption [2]. Manno, R., referring to the importance of coordination in the implementation of the motor act , considers coordination a "necessary condition to the execution as faithful as possible to the motor model, it depends in turn on the accuracy of information from analysts whose integrity and level of training plays a dominant role here. [3] The paper seeks to identify the role of specific football game means in coordinative capacity building in middle school students, aiming particularly at segmental coordination and brilliance of shot.

### Methods

The research was conducted at School 32, Alexander Macedonski in Craiova, the experiment group subjects were 24 boys in the

eighth grade A and B, which undertook specific football game means into the physical education classes. Typically, these means were applied fundamentally in the 2nd part of the lesson, the last topic regarding the game of football. The experiment was conducted during November 2014 to May 2015 in the gymnasium of the school and on the field, outdoor, the subjects were tested before and at the end of the experiment.

- the Tapping test - two circles marked on the ground with a radius of 15 cm, at a distance of 20 cm from the circumferences of circles. In 30 seconds we record the number of beats in the circle on the right for the right foot and the number of beats in the circle on the left for the left foot and vice versa. The test aims to speed repetition, but also the segmental coordination in our case that of lower limbs.

- Hitting the ball from distance. We draw a corridor with a width of 10 meters, the ball being placed at one end of the corridor. The subject hits the ball with power 3 times with each leg, taking into account the best hit. We measure the distance between the spot where they stroke the ball and the spot where the ball touches the ground, but only within the corridor.

- Hitting the ball with precision. We draw a 2 m wide -corridor, from 16 m line to the goal line, perpendicular to it. The subject hits the ball placed on the line of 16 m, so as not to exceed the corridor and not to hit the ground before the goal line. We record the number of successes in 10 trials conducted with each leg.

- Hitting ball after successive jumping over fences. We have eight parallel fences with heights of 40 cm, before the 16 m line and parallel to it, the last fence was placed at a distance of 2 meters of the penalty area. On this line is placed a ball. Each player performs successive jumpings on both feet beating over

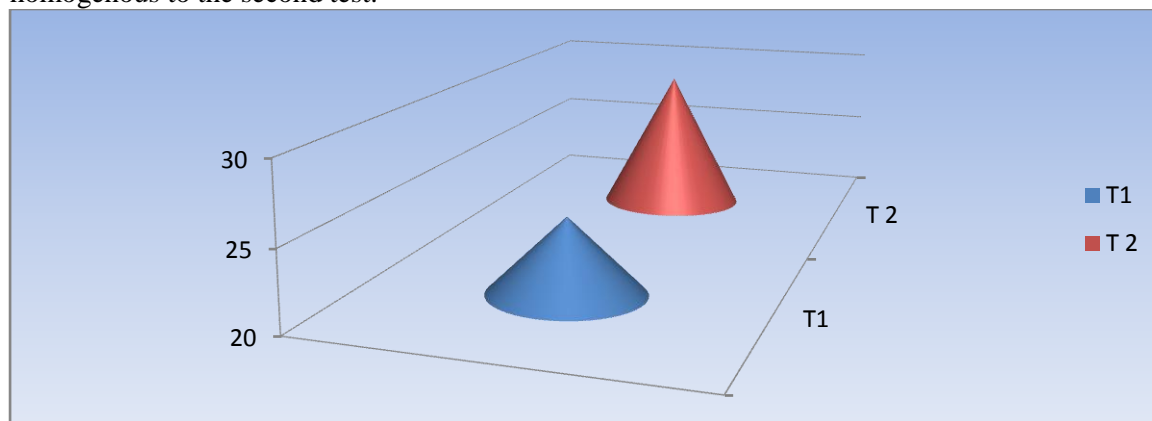
8 fences and then shoots the ball so that it goes into the goal without touching the ground. They perform two timed trials and we record the best result. Each failure is charged with 0,1 sec. - Each failure (breaking a fence, the ball touching the ground before the goal line or leaving it outside the goal.

### Results

**Table no. 1 The statistical parameters for the tapping test**

	TI	TF
MEAN	20.83	23.48
STD. DEV.	3.02	2.85
MIN	20	22
MAX	26	30
CV	12.03	9.85

In the petition speed testing, the initial testing records an average of 20.80 repetitions, and at the final test the average is 23.48 repetitions. The standard deviations are small and therefore the arithmetic averages are representative for this sample. In the initial test, the values are between 20 and 26 repeats, while in the end, the minimum and maximum values are between 22 and 30 repeats. The coefficient of variation indicates a group in the first test with an average homogeneity, becoming very homogenous to the second test.



**Chart no. 1 The statistical parameters for the tapping test**

**Table no2. The statistical parameters for kicking the ball from distance with the skillful foot**

Parameters		
	T <sub>1</sub>	T <sub>2</sub>
arithmetic Mean	29,00	33,17
Standard deviation	5,96	5,3
Maximum	30	35
Minimum	12	18
Amplitude	18	17
Variation coefficient	15,1	9,08

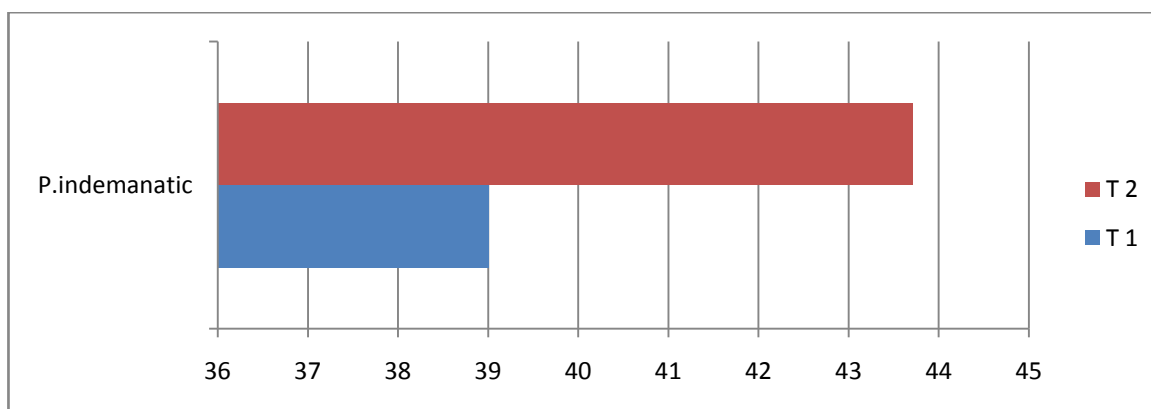


Chart No.2 Kicking the ball forward with the skillful foot - arithmetic mean chart

The final testing of the foot kicking the ball with the skillful, is an increase of 13.39% (5.73 m) from the initial testing. The coefficient of variation decreases, which means that the group is very uniform at the end of the experiment.

Table no. Two statistical parameters for kicking the ball away with the clumsy foot

Parameters		
	T <sub>1</sub>	T <sub>2</sub>
arithmetic Mean	18.08	20.62
Standard deviation	3,82	2,62
Maximum	25	27
Minimum	15	18
Amplitude	10	9
Variation coefficient	14,79	10,61

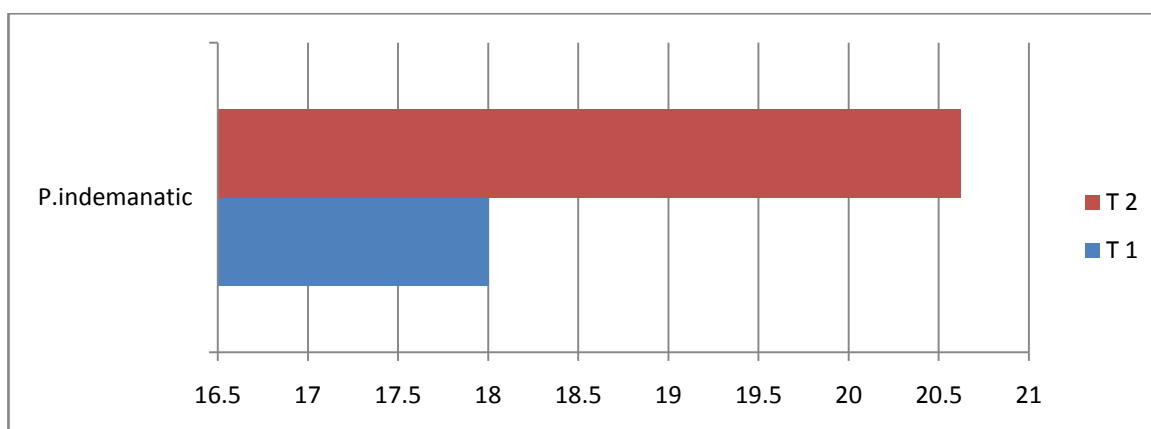


Chart no.2 hitting the ball away with the clumsy foot – arithmetic mean chart

Parameters	Grupa de control	
	T <sub>1</sub>	T <sub>2</sub>
arithmetic Mean	5,26	6,84

Standard deviation	1,1	1,01
Maximum	7	9
Minimum	4	6
Amplitude	3	3
Variation quotient	15,13	12,32

Table no. 3 The statistical parameters for kicking the ball with precision using the skillful foot

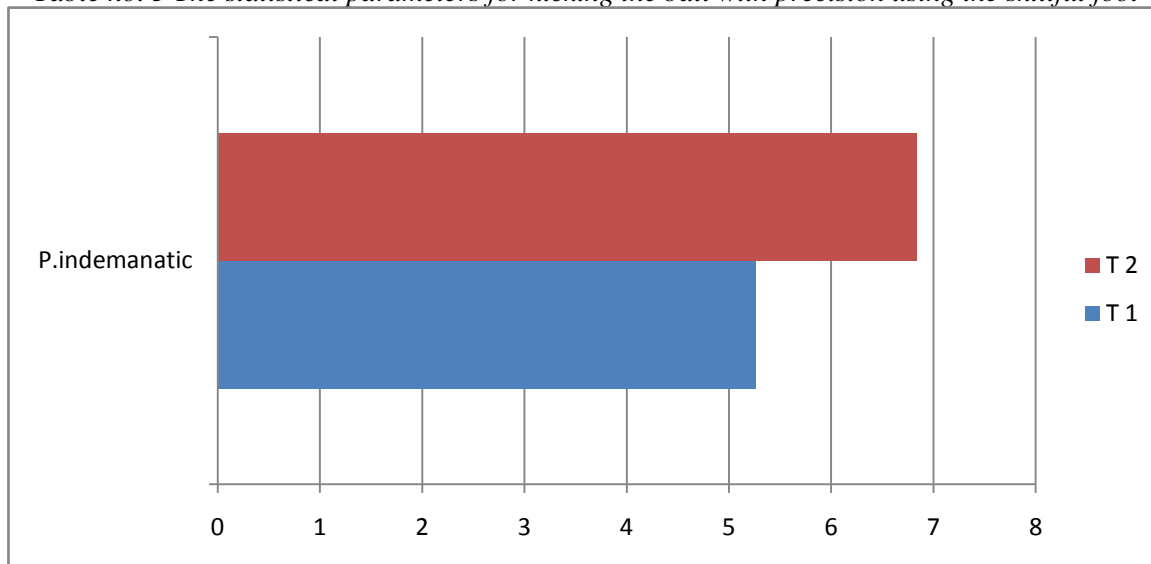


Chart no. 4 kicking the ball with precision using the skillful foot - arithmetic mean chart

In kicking the ball with precision, with the skillful foot, there is an average of 5.26 executions and in the final testing there is an increase of 30.03% (1.58 successful) against the initial testing.

Table no. 4 statistical parameters for kicking the ball with precision with the clumsy foot

Parameters		
	T <sub>1</sub>	T <sub>2</sub>
arithmetic Mean	3,37	4,42
Standard deviation	0,96	0,92
Maximum	6	7
Minimum	3	4
Amplitude	3	3
Variation quotient	22,48	16,82

In precise kicking the ball away with the clumsy foot, there is an average of 3.37 executions and at the final test of 4.42, registering a growth of 30.03% (1.58 successful) against the initial testing. Such progress is observed for both the dominant part (the majority being straight legged) and the non-dominant one, the football game specific means contributing to the favorable evolution of the results achieved by students.

### Conclusions

A good motor coordination leads to the possibility to submit responses regardless of the complexity of the motor task motive. The quality of the response is shaped by the precision of movements and is conditional on characteristics of spatial, temporal and dynamic movement. The favorable evolution of a sportsman career is guaranteed by the ability to learn new gestures quickly and efficiently, learning speed economy, showing a capital interest in training.

Coordinative skills development give stability to motor execution, which is due to the processing of the information received from analysts, scheduled for reception, decoding, routing and initial development of this information, the precision of their execution depending on the fidelity towards the established model.

It is recommended that training that addresses the development of coordination follow some principles such as: the early development of this quality, the continuity of learning, the variety of the development processes, the integration of this training program into the general qualities of the athletes. Considering the results we affirm that they are positive, the coordination abilities were positively influenced by specific programs

applied in the physical education class, the research hypothesis, that the use of motor structures specific to football game into the physical education class positively affects the coordination of middle school pupils, being confirmed.

#### References:

- [1] Lames M., Erdmann J, Walter F., (2010), Oscillations in football-Order and disorder in spatial interactions between the two teams, International Journal of Psychology, 41, p.85
- [2] Rață, G., Rață, B., (2006), *Aptitudinile în activitatea motrică*, Editura EduSoft, Bacău, p.243
- [3] Manno, R., (1996), *Bazele teoretice ale antrenamentului sportiv*, CCPS, nr.371-374, București, p. 136