

# THE ROLE OF MOVEMENT GAMES IN THE EDUCATION OF SPEED INDICES IN THE PRE-UNIVERSITY SYSTEM

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**Abstract:** *Exercise games form basic motor knowledge, skills and abilities such as: walking correctly, running economically, jumping and throwing efficiently, while developing the basic motor skills needed in daily life or for subsequent sports. The aim of the research is the possibility to educate the motor quality, speed, through the introduction in the didactic projects of some dynamic and varied movement games at the level of the schoolchildren, which determine an increase of the general motor skills. A good selection of them and properly directed, they present an important means of psycho-physical development of the individual, the formation of motor and volitional qualities, as well as the strengthening of health.*

**Key words:** *physical activity, movement, speed, motor skills.*

## 1. Introduction

Physical education and sports is the main form of training exercises on the human personality, establishing a balance between physical and mental.

Today's society imposes an education based on the formation of an active, harmonious, healthy personality, where the social role of undertaking sports activities is indisputable.

Physical education, as a component of general education, contributes to: the development and improvement of the child in terms of motor skills; stimulation of intellectual activity and emotional

processes; developing group relationships; dynamization of psychic processes; training skills and qualities in the work process; improving the organs, functions, apparatuses of the body; the improvement of particular notes that appear in the activity of some organs, apparatuses, processes, as an effect of the physical exercise: the sense of the ball, the sense of rhythm, of the slip, peripheral sight, tactical thinking, motor memory, kinaesthetic sensations etc.

In accordance with these provisions, physical education programs reflect the fundamental ideas and organizational measures that underlie the reform of pre-

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university education:

- Decreasing the age of entry of children in the first grade;
- Focusing the teaching process on equipping children with attitudes, knowledge and skills, established by the framework objectives for the entire cycle and by the reference objectives specified for each of its classes;
- Understanding the contents as means that lead to the achievement of precisely structured reference objectives and not as a learning goal;
- Essentializing the contents and reporting their volume to the minimum number of hours provided in the curricula;
- Orientation of the didactic process on learning activities in which the action (practical) component of the students is predominant;
- Adaptability to the diversity of conditions in which the teaching of physical education is carried out, so that the reference objectives are achieved regardless of the conditions of technical-material endowment;
- Providing the possibility for teachers and students to choose to approach alternative content categories, corresponding to individual or group interests in accordance with local traditions.

In this context, the rigors of the scientific design of physical education in the pre-university system find application in the projects of recovery of our field of activity [9].

## **2. Peculiarities of the Physical Education Lesson in the Pre-university System**

### **2.1. Characteristics of the school physical education lesson**

The definition that addresses both sides of the problem is conceived by Cerghit, I. as follows: existing conditions corresponding to the intended purpose.

In the most general way, the content of the lesson (imposed by its typology) consists of all means, methods, methodical procedures and other teaching measures (effort dosing, choice of training, differentiated treatment, assessment methods, etc.), which all converge towards the achievement of the projected themes and objectives [4].

### **2.2. General methodological guidance on basic motor quality education - speed in the lesson**

When selecting the exercises for the development of different forms of speed manifestation, it is necessary to take into account the particularities of speed manifested at different ages, so that the training process is carried out in accordance with the individual possibilities of students. The requirements for developing speed in physical education lessons are as follows:

- speed development exercises will be planned at the beginning of the lessons;
- the duration of the speed exercises must be in the time -interval minimum 5-6 seconds and maximum 40-43 seconds;
- the breaks between repetitions must be long enough to allow the return of vegetative functions, but not the reduction of the optimal state of excitability obtained at the level of the cerebral cortex as a result of performing exercises with maximum speed;
- for the development of the speed the subject must have well mastered the motor structure that make up the exercises;

- the exercises to request the maximum indications of speed manifestation;
- each exercise should last as long as the speed of execution at high parameters can be maintained;
- the effort must be repeated (after an almost complete recovery pause) as long as the speed does not decrease due to fatigue;
- repeating the effort with maximum speed, is the main way to develop speed;
- at each resumption of the effort, the subject must tend to exceed the previous performance;
- during the development of speed, the development of other motor qualities must not be neglected either.

### **2.3. Means for developing speed in the physical education lesson**

Wanting to develop speed in the lesson of education, we can use all the movements that make up the content of the means of physical education, performing them with maximum speed under normal conditions of execution, in light conditions to increase the speed of execution and in conditions of difficulty to increase the effort with maximum speed.

These means of developing speed can be:

- "for the selective influence of the locomotors system, exercises performed in fast tempo, these developing the execution speed, the repetition speed and the sense of rhythm, they being recommended both in classes I-IV and in classes V-VIII;
- front and order exercises, formations, changes of directions, restoration of certain formations in other work areas, changes of formations, orders given by

surprise and reverse commands. All these develop the speed of reaction, the speed of execution and the ability to concentrate attention, being recommended to all classes;

- motion games and application relays that require attention and quick reactions to various pre-set signals, or given by surprise. They develop reaction speed, accuracy, repetition speed; they can be used in all classes;
- exercises and ball games: quick throws and catches, catching the ball thrown or bounced off the wall, catching and passing two or three balls simultaneously or alternately, etc. These exercises will develop all forms of manifestation of speed in complex conditions; they can be applied to all classes;
- starting and stopping from and in different positions (sitting, squatting, lying down, with your back to the direction of travel, etc.), at different signals (audible or visual), movements are performed at maximum speed, developing the reaction speed, that of repetition and execution. These exercises are recommended for all classes;
- by performing various jumps with a beat on one or both legs, the speed of execution and the speed in force regime - relaxation will be developed;
- the running school exercises used mainly for speed running;
- the acceleration runner step, the speed launch step, the bottom start and the start;
- develops the speed of repetition as well as other forms of manifestation of speed;
- technical elements and procedures from sports games performed at high

speeds (fast passes, counterattacks, quick rebounds, driving the ball at speed, etc.); develops the speed of reaction in complex actions, the other forms of manifestation of speed in different conditions of demand as well as the ability to anticipate and decide; it is recommended to be used only after thorough mastery of the basic mechanisms of technical procedures;

- bilateral sports games with simplified rules performed on small fields, in short halves, elimination of some rules and procedures for the dynamisation of the game; It is preferable to use it in teams that have a good command of the technique and tactics of the game "[8].

Depending on the space in which the activity takes place and the specifics of the respective lesson, the concern for the development of speed, must be permanently realized both by specific and non-specific means. Speaking of speed, it should be noted that after obtaining the maximum speed to continue running with the same intensity, depends on the quality of endurance. From this point of view, it is recommended that the programmed accelerations be performed over distances between 15-30m, repeated several times, with complete recovery breaks after each series..

### **3. The Role of Dynamic Games in Speed Education in the Physical Education Lesson**

The game is a complex activity predominantly motor and emotional, carried out spontaneously according to pre-established rules, for recreational, sports and at the same time to adapt to social reality [7].

Movement games are an important means by which an important part of the tasks of physical education is achieved. They develop in students, in addition to the large baggage of basic motor skills, a sense of community, inventiveness and especially knowledge [13].

Ştefan, M. (2006) defines the game of movement as follows: "Playful activity through which the motor qualities of children are enhanced, responding to their need for movement. It is based on physical exercise, in which the child knows and develops his strength and endurance, but also courage and will. I am, the one more often, games with rules, requiring the manifestation of the team spirit, of the fair-play attitude in the competition" [11].

Among its benefits, the game also brings:

- improving the condition of the body;
- removing boredom caused by inaction;
- game - resting element;
- agent of social manifestation;
- way of transmitting ideas, habits from one generation to another.

At school age, the importance of these movement games is materialized by:

- a slow physical development, the child gaining weight faster at the expense of height;
- the ossification process is in continuous development, the muscles and implicitly, the muscular force develops, including the fine muscles of the fingers (necessary for writing) [6];
- skills for more complex activities begin to form;
- mental capacity develops under the influence of school; new motor attitudes and behaviours appear;
- learning becomes a type of fundamental activity especially due to radical changes conditioned by mental

development. Increases the ability to operate mentally with more or less abstract elements, moving from contemplation and intuitive understanding to logical operation with elements that fall under the scope of thinking;

- the child's personality gains a lot, especially in terms of developing interests, attitudes, characteristics. Personality traits begin to stabilize, become more balanced and gradually approach their specific forms, which will accompany the entire attitude and behaviour of the child in all areas of his activity [10].

### 3.1. The formative character and the effectiveness of using the movement games in the lesson

The characteristics of the game are determined by their nature, but also by the age of those who practice them, and the most important characteristics of the game are the following:

- play is a natural activity that springs from the natural needs of movement and manifestation of the qualities of the human being;
- it is a free activity, with voluntary participation, in which the human desire and need to play prevails [14].

It has a spatial limitation, in which its own order reigns; the game creates and imposes order; any deviation from the rules distorts its character and suppresses its value; order and tension lead to its rules which are obligatory and indisputable [1].

In choosing the game must take into account:

- the tasks and lesson objectives chosen and achievable through the game;

- the particularities of age, sex, training and physical and motor development [2].

Speed education motion games:

1. The game "Race on numbers", the class will be divided into equal teams as the number of students. Each team will be counted in depth as each student will have a number (figure 1). When saying the number, the performer leaves the line and runs at full speed, bypasses the landmark and returns to the formation. The game continues in this way, the teacher saying the following numbers one by one.

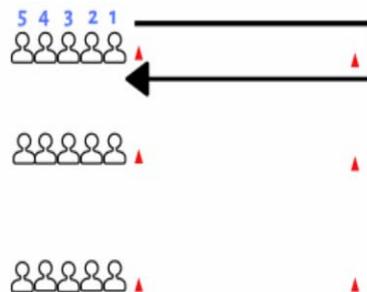


Fig. 1. *The game "Race on numbers"*, [15]

2. The game "Catch the circle", the work teams will be the same as in the previous game. The difference from the work formations from the previous game is that the first student in each team with the number "1" will have a circle in his hand (figure 2).

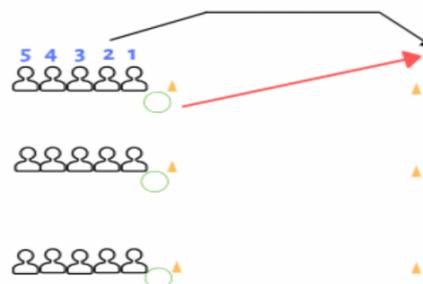


Fig. 2. *The game "Catch the circle"*, [15]

- At the teacher's whistle the first student rolls the circle forward, when the circle

rolls the teacher shouts a number, the number comes out of the running team and catches the circle from his team before it falls. After the student has caught the circle, he returns with the circle to his team and returns it to the first student and he sits down where he started.

3. The game "Square of speed", A square with a side of 4-5 meters will be made. In the middle of the square will be a landmark, and in front of it in the middle at a distance of 6-7 meters will be another landmark.

These landmarks will be numbered exactly as in figure 3. The game will start with a student at landmark no. 0. The teacher will say a number. The student runs, bypasses the marker with number 1, returns to point 0, after which he runs at maximum speed to the marker with number 5.

After a certain number of repetitions the teacher will say two numbers, then three numbers and finally four numbers. When two numbers are said the student has the following route:

- the student runs to the first said number;
- returns to point 0;
- run to the second said number;
- returns to point 0;
- finish running in point 5.

This order is also observed when three or four numbers are said. After each execution, the student walks back to his own team's tail. Several teams and such workshops can be held.

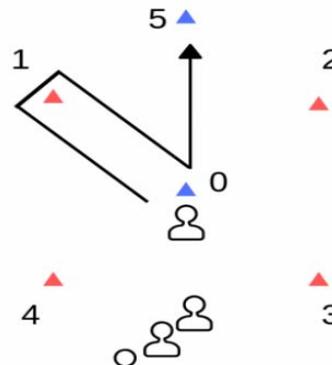


Fig. 3. *The game "Square of speed", [15]*

The staggering of different movement games in the school curriculum contributes to the improvement of the subjects' speed indices. Thus, as specific tests regarding their evaluation we present: the Illinois agility test and the running agility test clockwise.

The Illinois agility test is a test that has a length of 10 meters and a width (distance between points of departure and arrival) of 5 meters. Four milestones are used to mark the start, end and two bypasses. Four other milestones are placed in the center at an equal distance. Each milestone in the center is spaced 3.3 meters apart, figure 4.

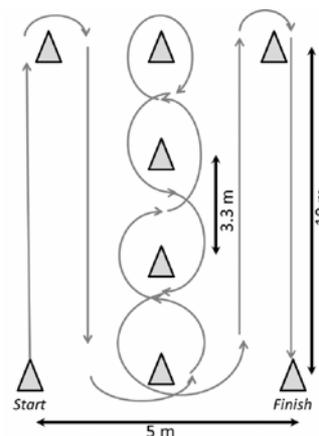


Fig. 4. *Illinois Agility Test, [16].*

Clock running test - the milestones are placed according to the diagram, the four milestones placed in the shape of a diamond and one in the middle, figure 5.

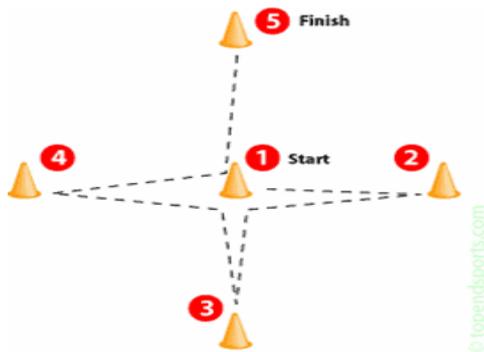


Fig. 5. Clock running test, [4].

The comparative analysis of the values obtained in an experiment at pre-university level can be found in figures 6 and 7.

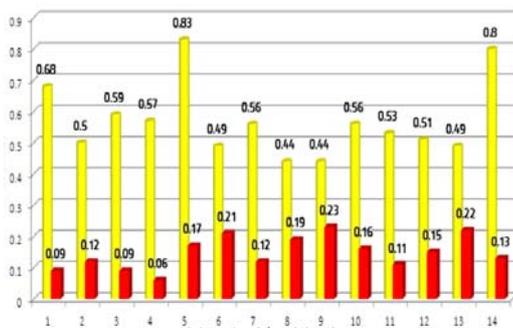


Fig. 6. Illinois Agility Test Values

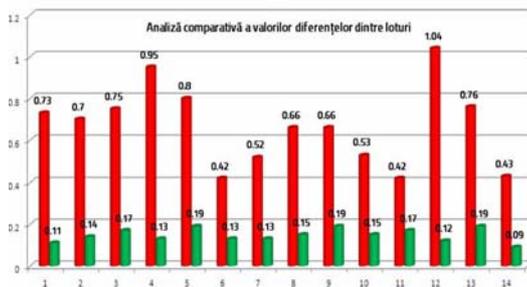


Fig. 7. Clock running test

The values obtained are significant, which indicates the possibility to educate the motor quality, speed, through the introduction in the didactic projects of some dynamic and varied movement games at the level of the schoolchildren, which determine an increase of the general motor skills.

#### 4. Discussions

Movement games have as an essential element the movement subordinated to certain ever-changing rules and conditions. In order for the games to have the desired efficiency, the location, the teaching materials used and the number of subjects involved must be taken into account.

The use of different movement games in physical education lessons leads to the development and improvement of psychomotor skills, along with the improvement of basic motor skills to practice the game independently [3].

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