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Original article

STUDY ON THE CONTRIBUTION OF MOVEMENT GAMES IN THE PHYSICAL EDUCATION LESSON FOR INCLUSIVE CENTER STUDENTS

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Abstract

The interest and involvement of the students in the Physical Education and Sport class is becoming more and more difficult to gain, given that they are tempted by gadgets, which capture their attention and make them forget how important and beneficial it is movement for the body. Play is necessary in education; it satisfies children's need for movement. Students accumulate, playing, useful information, which forms them as adaptable individuals in society.

Education, a word of Latin origin and derived from the noun „education”, means growth, cultivation. This is particularly important for future adults and that is why teachers are obliged to apply all didactic methods, especially the game method, which is the favorite of students. Through this, the message sent by the sender can reach the receiver faster and more pleasantly. In other words, the student plays, has fun and at the same time the goals of the teaching staff are achieved, the student will gain new knowledge, which will later give him the title of educated person in society. According to the authors, Nicola and Fărcaș (1993), "Education is a complex social activity that is carried out through an endless chain of actions exercised in a conscious, systematic and organized manner, at every moment - an individual or collective subject - acting on an object - individual or collective - in order to transform the latter into an active and creative personality, corresponding both to the present and prospective historical-social conditions, as well as to its individual particularities".

Aim. To present the contribution of movement games to the development of students' psychomotricity in the physical education lesson. Given the fact that in most sports we find the motor quality of speed and especially in basketball, the goal will be to develop/improve it through games. The appropriate period in which it is indicated to insist on this motor quality is in the high school cycle. The result will facilitate subsequent contact with motor activities present in team sports such as basketball. This is a dynamic and complex sport for which training can start even from a young age, in a pleasant and attractive way, such as through play. The preparation, done systematically and organized, under the supervision of the physical education teacher, is certainly significant both for the development of motor quality and speed and for the development of the personality of the child, the future adult.

Methods. We assume that the application of a program of games and relays specific to the game of basketball in physical education lessons in the 9th grade will lead to the development of speed, an essential quality in this sports game along with the other basic qualities, skill, endurance, force.

Results. If we apply a games program for a period of 3 months in physical education and sports classes, surely the students will be receptive, they will have fun, and the teaching staff will achieve their goal, the development/improvement of the motor quality we are born with and we cannot intervene on it more than the hereditary factors allow us.

Conclusions. The conclusion is represented by the veracity of the hypothesis that attests to the fact that, by applying a program of games and relays specific to the game of basketball in physical education lessons in the 9th grade, it will make it possible to develop speed. This is an essential quality in this sports game, along with the other basic qualities: skill, endurance, strength.

Keywords: movement games, physical education and sport, students.

Introduction

The interest and involvement of the students in the Physical Education and Sport class is becoming more and more difficult to gain, given that they are tempted by gadgets, which capture their attention and make them forget how important and beneficial it is movement for the body. Solving the problem is play, known as a way to communicate, to express themselves, their most suitable opportunity to capitalize on their authenticity in a constructive way and which is also a good way to learn. Play is necessary in education, it satisfies children's need for movement. Students accumulate, playing, useful information, which forms them as adaptable individuals in society. "Method" comes from the Greek "methodos" (odos=way, road metha=toward) and was associated with the desire to achieve an objective or a way of observation and systematization in the development of strategies for identifying didactic truth. In the education system, the method is represented by educational strategies, as a result of the acquisition of new knowledge and the formation of new skills, through which the teacher wants to reach the absolute potential of the student (Cherghit, Radu, Popescu & Vlăsceanu, 1991). Education, a word of Latin origin and derived from the noun "education", means growth, cultivation. This is

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particularly important for future adults and that is why teachers are obliged to apply all didactic methods, especially the game method, which is the favorite of students. Through this, the message sent by the sender can reach the receiver faster and more pleasantly. In other words, the student plays, has fun and at the same time the goals of the teaching staff are achieved, the student will gain new knowledge, which will later give him the title of educated person in society. According to the authors, Nicola and

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Anatomical, physiological and psychological characteristics specific to students between the ages of 14 and 15

In the practice of sports activity, in general, and the sport game of basketball, in particular, for special results and achieving performance, the physical training of students is done respecting the particularities of age. Biologically, the age of students between 14 and 15 corresponds to puberty and early adolescence. The period corresponds to multiple changes, both on a physical level (explosive increases in both height and weight), as well as on a psychological, cognitive and social level. According to Șchiopu and Verza (1997), puberty in turn corresponds to several stages: the prepubertal stage (10-12 years old), puberty proper (12-14 years old) and the postpubertal moment, considered little distinguishable from preadolescence (from 14-16/18 years).

Morphological (somatic) particularity

At the somatic level, the child between 14 and 15 years old presents the following particularities: due to uneven and rapid growth, the child's appearance becomes unaesthetic, which makes him preoccupied as much as possible with the physical appearance. Growth is signaled especially in the lower limbs, then in the upper ones (the wingspan exceeding the height by 2-4 cm), disharmony sometimes appearing: the trunk is long, the chest is narrow, the abdomen is sucked in, pubertal looks caricature. Since, at this age, the onset of puberty in girls is faster, they have higher values of growth in height and weight.

Psychic particularity

The psychological transformations that the adolescent goes through are the result of the needs and desires that he feels, including both the needs that appear during puberty and the new needs that appear in adolescence. The adolescent faces a series of needs or the needs described in previous periods know a significant pretense: the need to know, to be affectionate, to belong to the group, to independence and the need for models. The need to know is present starting from the early school age, to which the need for creation is added in puberty, which transforms in adolescence into the need for creation with social value. The need for affection turns into a new self-centeredness in adolescence, which gradually evolves into the development of a reciprocal affective relationship as they mature emotionally. The need for belonging changes from a non-selective character to one centered on individual criteria and preferences. The need for independence and self-determination of puberty turns into the desire for perfection, self-improvement and self-education during adolescence. The need to imitate, from early childhood, becomes the need to develop one's own identity during puberty, and in adolescence it turns into the desire to be unique, in the first part of the period, followed by the need to express oneself as a personality. In the context of these needs, adolescents develop a set of necessary psychic tools, including the development and consolidation of logical-formal thinking structures, the capacities of interpretation and evaluation, planning, anticipation and prediction, the critical and self-critical spirit, as well as the systematic nature of thinking.

Functional particularity

At the post pubertal age, the functional and morphological development of the cardiovascular system continues to grow, and even accelerates in certain aspects: blood vessels increase in diameter; the heart increases in volume and weight; the peripheral circulation is still imperfect. The entire system shows low availability and great lability. Fatigue, low resistance to effort, palpitations occur frequently. The respiratory system also develops, experiencing the following changes: the organs in the thoracic cage are little developed, which creates difficulties in adapting to effort; the airways increase in length and diameter, ensuring a relatively high air flow; the lungs increase in weight and volume after 12 years, the most accelerated rate being around the age of 14; between 12-16 years, the pulmonary flow rate increases by 50%, the diameter of the alveoli increases and the elasticity of the pulmonary parenchyma increases; at 12 years the vital capacity (CV) is 2000 cm³, and at 15 years it reaches 3000 cm³; F.R. it decreases to 20 res/min. - at 13 years and at 15 years - to 18 res/min.

The nervous system has the following characteristics:

- The volume of the brain increases slightly, the convolutions deepen, and the association fibers multiply, which increases the connections between different areas of the brain.
- Cortical cells differentiate and refine.
- There is a great plasticity of the central nervous system from a functional point of view.
- Excitation prevails over inhibition and irradiation over concentration.
- Memory specific to puberty is mainly voluntary, logical and, above all, short-term, but long-term memory also works. According to a research carried out by Șchiopu & Verza in 1997, preadolescents especially evoke school events, shrouding in mystery family events, after the age of 14.

The endocrine system shows changes, including:

- The main phenomenon consists in the entry into action of the endocrine glands.



- The differentiation between the sexes takes place, with the emphasis on sexual characteristics.

Motor particularity

This stage is favorable for learning most of the motor skills specific to sports branches and tests, as well as for optimizing motor quality indices. Due to the plasticity of the cerebral cortex and the mobility of higher nervous processes: excitation and inhibition, it is possible to develop/educate some motor skills: speed at 12 years old girls; at 13 years old for boys. There is also the improvement of motor activities and in terms of skill development, resistance to effort also increases and the sense of orientation in space approaches that of an adult. The time of puberty is also the time of differentiation between the sexes in terms of muscle strength. Compared to the muscle strength of the adult, it can be seen that at 14 years old girls have 50% of this strength. By improving the quality of the muscles, it increases the strength in the regime of speed (explosiveness) and the capacity for static effort. Endurance capacity is low and requires measures to improve by training strength endurance and speed endurance. Girls usually prefer expressive exercises.

In terms of motor skills, running is the most used, but its volume decreases with age. Throwing, especially throwing, is more accessible to boys, while girls use pushing more often. The jump has a strong beat, but the distance traveled in flight is reduced. This stage is favorable for learning most of the motor skills specific to sports branches and tests, as well as for optimizing motor quality indices.

Objectives

Given the fact that in most sports we find the motor quality of speed and especially in basketball, the goal will be to develop/improve it through games. The appropriate period in which it is indicated to insist on this motor quality is in the high school cycle. We have taken the initiative to improve reaction speed, execution speed, repetition speed, movement speed through a game program, which will train the idea of emulation in the lessons, which will make the students evolve and not just on the plan sport. The result will facilitate subsequent contact with motor activities present in team sports such as basketball. This is a dynamic and complex sport for which training can start even from a young age, in a pleasant and attractive way, such as through play. The preparation, done systematically and organized, under the supervision of the physical education teacher, is certainly significant both for the development of motor quality and speed and for the development of the personality of the child, the future adult.

Tasks of the work

1. Information from certified sources regarding the subject of the paper
2. Application of some tests for the 4 chosen forms of speed manipulation
3. Selection and experimentation of teaching aids based on dynamic games for the physical education lesson
4. Presentation of games and application in physical education lessons
5. Examining the effectiveness of basketball-specific preparatory games through the latest evaluations and observing visible progress at the individual and collective level

Methods

We assume that the application of a program of games and relays specific to the game of basketball in physical education lessons in the 9th grade will lead to the development of speed, an essential quality in this sports game along with the other basic qualities, skill, endurance, force. If we apply a games program for a period of 3 months in physical education and sports classes, surely the students will be receptive, they will have fun, and the teaching staff will achieve their goal, the development/improvement of the motor quality we are born with and we cannot intervene on it more than the hereditary factors allow us.

The place, duration and conditions of the experiment



Figure 1. ADAMS Test 15 sec.



Figure 2. Game



Figure 3. Game for the development of reaction speed



Figure 4. Basketball

Results

Class XI B, following the application of the proposed program, registered a statistically significant progress, from the initial testing to the final testing, in all 4 tests that check: speed of reaction, execution, repetition and movement. Next, we will appreciate the value of the indicators of the chosen student population. Thus, in a class of students in which the development of speed was desired and a games program was applied during 3 months, the students were tested initially and finally, then the difference between the initial and final averages was statistically calculated. Fisher's table represented the support point with the help of which the obtained value was verified from the point of view of statistical significance.

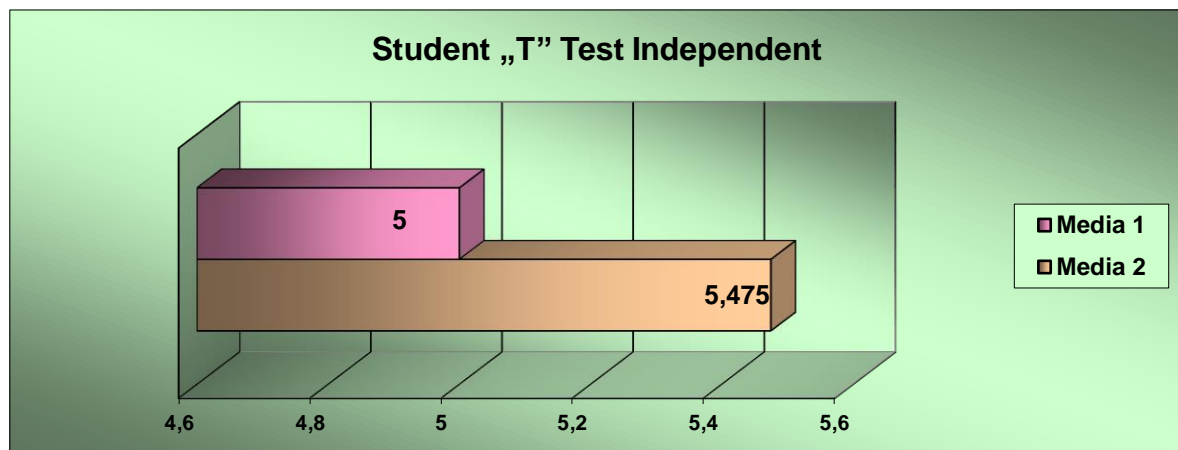
Test „T” INDEPENDENT Student - Shuttle test 5m x 5

In the following table, we noted the results obtained after applying the Student „T” Test:

Table 1. SHUTTLE TEST 5m x 5

Control Group and Experiment Group	SHUTTLE TEST 5 m x 5	
	Experiment group	Control Group
M+DS	5±0,497	5,475±0,542
CV%	9,94%	9,9%
Test „T” INDEPENDENT Student	2,889	
P	p<0.005	

Comparing the values obtained after the application of the „5m x 5 Shuttle” Test, we noticed that there is a difference between the final tests of the students of the 9th grade A (Control Group) and the final tests of the students of the 9th grade B (Experimental Group).



Graph 1. The difference between the averages of the experimental and Control Groups. SHUTTLE TEST 5 m x 5

The obtained graph clearly demonstrates the difference between the two averages, the average of the final tests of the experimental group, the average of the final tests of the Control Group, in the „Shuttle 5 m x 5” TEST.

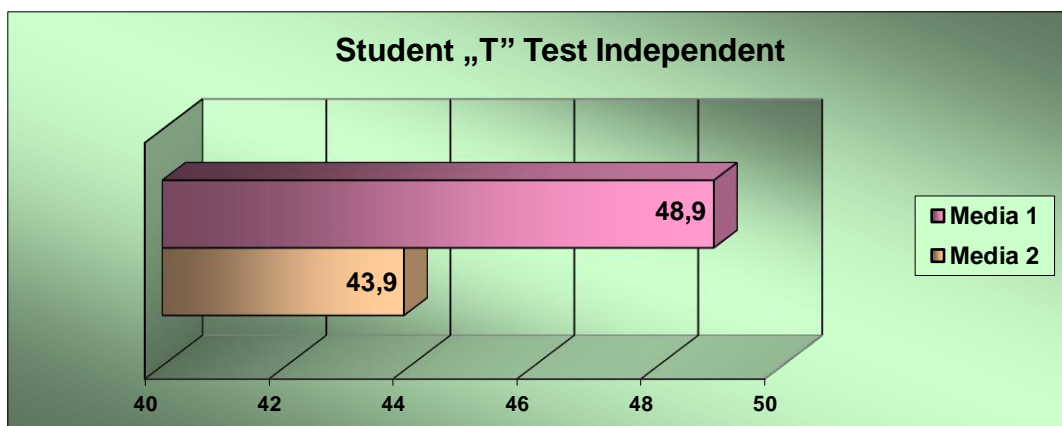
Test „T” INDEPENDENT Student - ADAMS TEST 15 sec.

In the following table I noted the results obtained after applying the Student „T” Test:

Table 2. ADAM TEST 15 sec.

Control Group and Experiment Group	ADAMS TEST 15 sec.	
	Experiment group	Control Group
M+DS	48,9±8,902	43,9±7,232
CV%	18,20%	16,47%
Test "T" INDEPENDENT Student	1,95	
P	p<0.05	

Comparing the values obtained after the application of the „Adams -15 sec.” Test, we noticed that there is a difference between the final tests of the students of the 9th grade A (Control Group) and the final tests of the students of the 9th grade B (Experiment Group).



Graph 2. The difference between the averages of the experimental and control groups. TEST ADAMS -15 sec.

The obtained graph clearly demonstrates the difference between the two averages, the average of the final tests of the experimental group, the average of the final tests of the Control Group, in the „Adams -15 sec.” test.

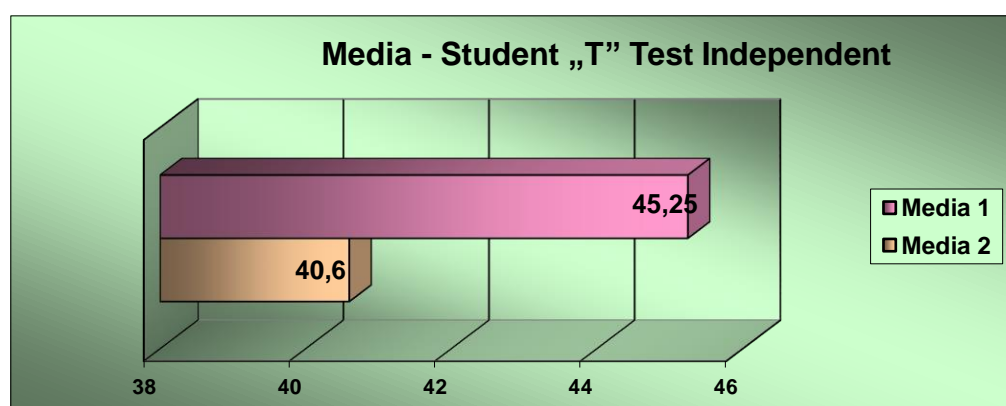
Test „T” Student INDEPENDENT- JUMPING Test 30 sec.

In the following table I noted the results obtained after applying the Student „T” Test:

Table 3. JUMPING TEST 30 sec.

Control Group and Experiment Group	JUMPING TEST 30 sec.	
	Experiment group	Control Group
M+DS	45,25±8,528	40,6±7,323
CV%	18,84%	18,03%
Test „T” INDEPENDENT Student	1,85	
P	p<0.05	

Comparing the values obtained after applying the "Jump 30s" test, we noticed that there is a difference between the final tests of the students in class IX A (Control Group) and the final tests of students in class IX B (Experimental Group).



Graph 3. The difference between the averages of the experimental and control groups. Test „Jump 30 sec.”

The obtained graph clearly demonstrates the difference between the two averages, the average of the final tests of the experimental group and the average of the final tests of the Control Group, in the „Jump 30 sec.” test.

Conclusions

The conclusion is represented by the veracity of the hypothesis that attests to the fact that, by applying a program of games and relays specific to the game of basketball in physical education lessons in the 9th grade, it will make it possible to develop speed. This is an essential quality in this sports game, along with the other basic qualities: skill, endurance, strength. If we apply a games program for a period of 3 months, within the physical education and sports classes, surely



the students will be receptive, they will have fun, and the teacher will achieve his objective, the development/improvement of the motor quality with which we are born and we cannot intervene on it more than the hereditary factors allow us.

After applying both the tests and the games program, it was statistically proven that the program was effective, as the difference is significant $p < 0.0005$. If it will be applied to 10,000 students, for 9,995 the efficiency will be identical, the progress will be visible, but for 5 of them the applied program will not produce the same effect.

Through the presented case study, it is desired to increase the level of interest and involvement of both students and teachers, who can develop motor quality and speed in a fun and attractive way during physical education and sports classes, using many dynamic games. These will stimulate the students' competitive spirit, will train their relational capacities, therefore they will develop them both physically and mentally.

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