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Developing Force by Means of Basketball in the Physical Education Lesson

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Abstract: Basketball, as well as other sports or other activities in general, tends to evolve in line with the conquests of contemporary science and technology.
Each teacher has his / her own ideas on the best way to achieve the area of activity in which students have to excel to win, and the statistical means to help them are very varied.
Because of the complexity of the physiological effort, it is not wrong to think of basketball, the sporting game with the largest and most complex challenge to the body.
In the present paper we wanted to highlight the importance of using the specific means in the basketball game with the aim of developing the driving force of the high school students.
It is known that the majority of lessons of physical education and sports contain some exercise systems that have far too complex tasks to perform, they are sometimes heavy and without stimulating students.
It is desirable that this to be avoided in these lessons with students, for the sole reason that the risk of being removed from this sport (basketball), can increase in a considerable way.
We want to highlight that the vast majority of basketball-specific exercises used to develop all the motoring qualities can be underlined by successful gaming.

Keywords: force, basketball, physical education lesson.

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1 Introduction

Basketball, as well as other sports or other activities in general, tends to evolve in line with the conquests of contemporary science and technology.

More and more in sport activity are discussed the objectification, optimization, standardization, rationalization, modeling and other notions that in the previous period of the basketball game had no significance for the teachers or athletes (Colibaba-Evulet & Bota, 1998).

Each teacher has his / her own ideas on the best way to achieve the area of activity in which students have to excel to win, and the statistical means to help them are very varied. They indicate the characteristics of the subjects studied and the statistical model is useful for the teacher.

At the same time, it can detect the weaknesses or strengths of his own team and opponent and how to use it with other opponents, which can prove to be effective in the games to be prepared in time.

In the basketball game, the sum of the individual models of each player on attack and defense positions and the team's overall game pattern are studied. The suite of these models reflects the quality of the training process. The large amount of permanently processed information can be transformed into methodical indications that return to the source that generated them, that is, the team and the player to improve their training.

In sports, in general, and in basketball, mathematical statistics play an increasingly important role, and teachers require more and more information about their own subjects in order to obtain favorable results.

2. Problem Statement

Basketball is a sporting game based on specific technical tactical skills in which the handling of the ball is predominant, and the ultimate goal is to introduce the object of play into a suspended ring (Moanta, Ghitescu, & Ghitescu, 2008).

The mode of deployment of specific motor skills creates difficulties in learning and practicing the game due to the simultaneous intervention of some external and internal factors that influence positively or negatively the accuracy of the executions.

Among these factors, we mention: the presence of the opponent, the partner's collaboration, the preoccupation for the achievement of points which, depending on the level of training achieved, favors more or less the performance of the individuals in the game (Savu, 2017). The dynamic

nature of the phases, the speed of actions, the universalism, the specialization in the positions, the permanent participation in the attack and the defense of the players, require them a variety of game-making procedures, depending on what happens on the field at a certain moment, raising particular problems with biomechanical, physiological, psychological implications, both tactically and theoretically-methodically (Predescu & Moanta, 2001).

Situated on the 4th place in the complexity of the physiological effort (after rowing, skiing, boxing) and in the first place, from the point of view of the psychological effort, it is not wrong to think basketball, the sportive game with the largest and most complex demand for the body.

On the educational and social level this sports game favors the formation of personality traits, giving them a wide field of manifestation within the team (Dragnea, 2006).

In the present paper I wanted to emphasize the importance of using the specific means in the basketball game with the aim of developing the driving force of the high school students.

It is known that the vast majority of physical education and sports lessons contain certain exercise systems that have far too complex tasks to perform, being cumbersome and without stimulating students.

It is desirable that this is avoided in these lessons with the pupils simply because the risk of being removed from this sport (basketball) can increase considerably. We want to emphasize that the vast majority of basketball-specific exercises used to develop all the motoring qualities can be underlined by successful gaming.

3. Research Questions/Aims of the research

In the elaboration of the paper we proposed, we started from the fact that using the physical education and sports lessons in the high school cycle in a conscious and rational way specific exercises in the basketball game, certain results can be obtained regarding the development of the students' driving capacity, especially of force, perfect quality at this age.

4. Research Methods

Throughout our research we used the following research methods: the observation method, the bibliographic method, the test method (long-distance jump from place, expansion, pushups, lifting of the dorsal trunk, free throws), the statistical-mathematical method, the graphical representation method (Dragnea, 1984).

Our research took place between 15.01.2017 - 15.05.2017 at the "Mircea Voievodul" School Group in Targoviste. Subjects included in the research were girls and boys from the above-mentioned high school led by the specialist teacher. Our research was carried out with the help of a number of 18 pupils in the 12th grade (14 boys and 4 girls) in a single class. I started my research on January 15, 2016 with the initial tests that helped me find out the stage of development of the driving force of the subjects involved in the research. The end of the research took place on May 15, 2017 and contained a final test in which the progress achieved by the subjects over the initial testing was highlighted. During the research, we did not want the results to be compared with the various training methods, but the fact was to emphasize the usefulness of the specific exercises in the basketball game in improving the driving force of the subjects involved in the research.

Throughout the course of the study, well-chosen means of basketball play and basic motor skills were used, which were distributed in lessons along the research according to some methodological requirements: the exercises are measurable, have maximum and minimum efficiency effort to locate on the development of the combined motifs: articular mobility, force-speed, motor-driven motor skills, gradual increase of intensity, accurately setting the number of repetitions, with resting intervals and duration to allow for the proper restoration of the main physiological indicators.

In selecting the exercise structures, the main physical qualities necessary for practicing the basketball were developed: lower limb force, vertical detachment and upper mumps (technical elements such as passage, dribbling, basketball, etc.). The exercises were divided according to the form of manifestation of the motoric qualities in the form of the combination of its main forms (one of them having the largest share in the realization of the action).

5. Findings

After testing the students in the 12th grade, a series of results have been obtained that have been evaluated taking into account certain criteria, assessing to what extent the means used have contributed to the development of the driving force, namely to what level is the students investigated.

After the data obtained from the initial testing and the final testing were analyzed, an improvement of the results of all the applied samples was observed, thus confirming the hypothesis formulated.

5.1. Long-distance jump from place / cm

In this test, the difference between the initial test (211,16 cm) and the final test (215,88 cm) is better with 4,72 cm, which makes us appreciate that the specific means of playing basketball used in the education lesson physical and sports activities had a positive influence.

The graphical representation below shows an evolution of ascending environments from initial testing to final (Figure 1).

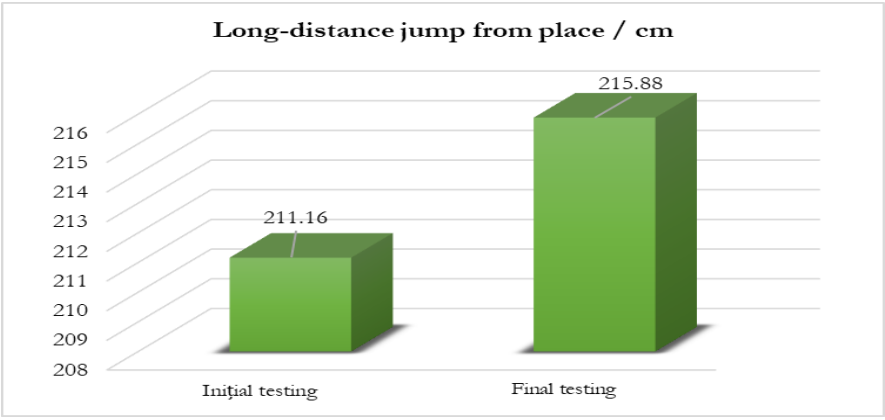


Figure 1. The results to the two tests obtained in the long-distance jump from place

5.2. Vertical jump/cm

This sample measures the force which a subject descends vertically, being of crucial importance in basketball game, indispensable in the technical process of throwing, blocking, etc.

It can be seen that the averages obtained correspond to the level of development of this motor quality at this age. The graph below shows an upward trend in the average between the initial test and the final test.

An average of 56.88 cm was obtained at the initial testing, and the average final test was 60.83 cm, the difference between the two tests being 3.95 cm, this being the specific means of playing basketball used may improve this quality (Figure 2).

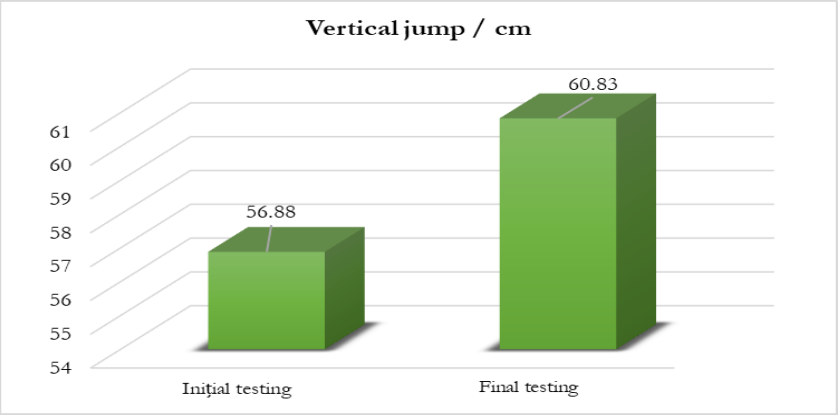


Figure 2. The results to the two tests obtained in the vertical jump

5.3. Pushups / number of execution in 30 sec.

For the "Pushups" test, the average values show an increase from the initial test to the final test.

An average of 23.77 executions was recorded in the final testing, which represents a progress of 2.33 executions, compared to the initial testing average of 21.44 executions (Figure 3).

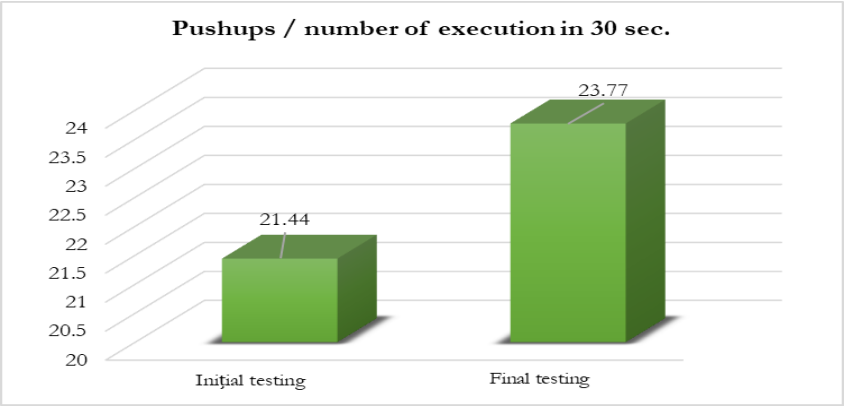


Figure 3. The results to the two tests obtained in the pushups test

We can appreciate that the means used to develop this driving skill during physical education and sports lessons have led to this increase from one test to another.

5.4. Lifting the trunk from the dorsal lunge /number of execution in 30 sec.

At the lifting the trunk from the dorsal lunge sample, the progress between initial testing and final testing by the investigated subjects was 2.67 executions. In the initial testing the average was 30.94 executions, while in the final testing the average obtained by the subjects was 33.61 executions (Figure 4).

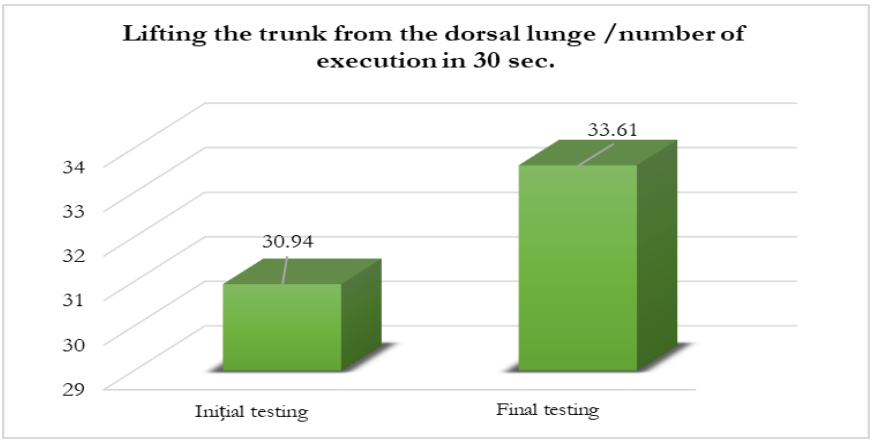


Figure 4. The results to the two tests obtained in the lifting the trunk from the dorsal lunge test

5.5. Free throws / 12 successful throws

With regard to this basketball-specific test, progress has been achieved from initial testing to final testing, which makes us appreciate the positive influence of basketball-specific means used to develop driving force in physical education lessons.

An improvement of 1 success in a total of 12 attempts, from initial testing (8.44 successful) to final testing (9.44), is achieved (Figure 5).

This makes us say that the technical tactical means and structures in the basketball game, which have an increased focus on selection and dosing, can lead to improved technical executions and driving qualities.

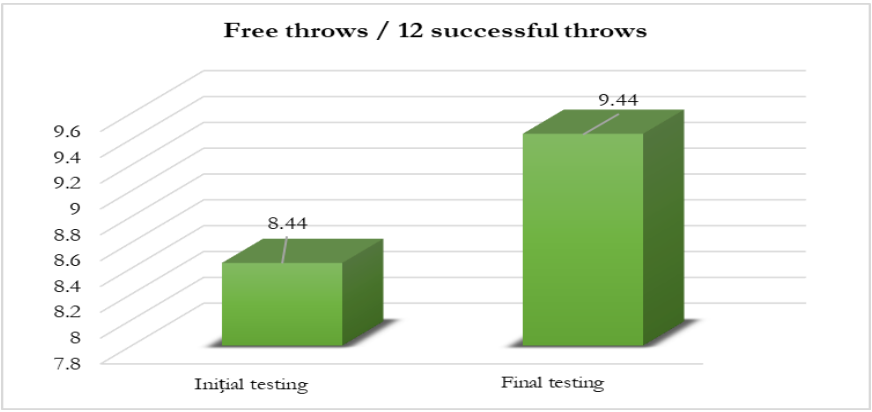


Figure 5. The results to the two tests obtained in the free throws test

6. Discussions

If we are considering increasing the efficiency of basketball in the physical education lesson, we make the following recommendations:

- to be used mainly, from the very beginning of the training, for the overall practice with less emphasis on the correct execution of the movement;
- using as many of the action structures as possible by completing procedures (throws to the basket);
- the use of volley ball, handball, football, etc. in the lessons;
- increasing the number of low-impact games, mixed, uneven on a smaller terrain.

In the physical education and sports lesson, it is preferable to aim to strengthen and improve the passage with two hands from the chest, the dribbling in all its forms, the throws to the basket, etc., the play on low ground with little effect.

Basketball game in Physical Education and Sports lesson can be used in most lessons because it does not require a great amount of practice, the number of materials is reduced, it can also be used starting with the second link of the lesson by using the ball basketball with the elements of the running school.

It can be used in workshops if we divide the class into two: a workshop performing athletics or gymnastics, and the other one.

Basketball structures can be used throughout the physical education and sports lesson, thanks to a non-stop exercise that leads to a high driving density.

If lessons of this kind are concluded with mini basketball competitions, it will increase the active participation of students.

7. Conclusions

In order to be able to contribute as effectively as possible to achieve the objectives at this school age, basketball-specific exercises need to be deployed and organized in various forms. Their use in lessons is useful only in the case where they contain actions that lead us directly to the achievement of certain educational - educational objectives, to the development of the students' driving capacity.

Basketball is a collective sports game, one of the significant branches of sports activity, with a major educational importance. It cumulates from the perspective of physical exercise and sport the positive effects and educational outcomes of the game on the other.

The basketball game develops and at the same time asks for all the motoring qualities and combinations of them, due to the variety of moves it asks for and its rich motoring content.

The development of motricity is closely related to internal factors (recognized as hereditary and activity of the body's great functions), ie external factors (education, the environment, living conditions, the body's demands in its various activities).

If it is intended to achieve certain increased explosive force, it is preferable to strive for appropriate efforts through various, timely means to assimilate the basic elements of basketball game without was primarily aimed at achieving a technical level of performance, but actively participating in a form of sporting activity.

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