

STUDY CONCERNING THE IMPROVEMENT OF SPEED THROUGH BASKETBALL SPECIFIC TRAINING

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Abstract. *Background.* The major importance of physical education lessons in higher education is achieved through their contribution to maintaining health, to compensating for the increased intellectual efforts generated by passing exams. Basketball training helps in the positive development of the general and specific motor capacity required by the subsequent professional activity, as well as to the achievement of the necessary framework for recreation and the practice of the favorite sport. Therefore, at this level, the achievement of the following objectives will be mainly pursued:

- maintaining health and increasing the ability to adapt to changing conditions;
- the development of the general motor capacity necessary to carry out the sports activity;
- improving the somato-functional indices and optimizing the relationship between them.

Physical training is a component of sports training that constitutes the pivot for all other components, constituting the starting point for the entire training process (Ardelean. T, 1996). General physical training has different weightages in training, depending on the experience of the students and for the training of beginner students it is very important that the time allocated is much greater than in the training of students from older years.

Objectives. This study aims to find and offer, through specific basketball exercises, how to improve the quality of speed. Speed should be present in the equipment of the "motoric luggage" of each student, considering the evolution of our modern society, to dynamic games. This speed quality motor offers several advantages to basketball players:

- allows the execution of technical and tactic actions in a sustained rhythm.
- gives the player a high degree of complexity and dynamic adaptation to playing basketball.
- develops the player's thinking, attention, rationality and ability to concentrate.

Methods. For this study we used the following research methods: documentation, observation method, statistical method, graphical representation method and experimental method.

Results. For checking the motility of students enrolled in educational experiment we chose the following control samples: speed running 15m, speed running 20m and dribbling through cones.

Conclusion. The results of this test depend both on the execution speed and the technique in performing the dribbling. We therefore recommend that these results can be improved both by increasing the speed of movement and the execution technique.

Keywords: physical education, basketball, speed.

Introduction. Basketball as a sport, is a natural harmonious movement with simple and affordable motor skills. This game takes place against a background of intense physical demands, with a strong formative character.

Each period of physiological development is determined by the morpho-functional changes from the previous period and conditions the further development of the organism. At the same time, each period of development represents in itself a perfect physiological form that allows an adaptation of man to the environment or of the athlete to effort.



According to studies by Epuran M; Holdevici I. (1980) "Mental training combined with a series of exercises can be particularly effective in performance sports, both in learning and in improving performance, because the execution of action in the imaginative plan fully engages participation the body in terms of physiological indicators".

The demand for energy systems differs in stand by or effort. In stand by, the aerobic system is required, the oxygen consumed being equal to the amount of oxygen required in basal conditions, not being a matter of oxygen duty.

During exercise both aerobic and anaerobic systems, contributing to ATP resynthesis in the effort. Their contribution during exercise depends on the duration and intensity of effort.

In the training process of basketball players, we must also take into account the physiological parameters of the body, because they can tell us if the training is appropriate or not.

Specialists (Olăroiu M., 1998; Bota C., 2002) specify that in order to test the functional capacity of the organism, it is necessary to use exploration techniques that can target several body systems:

- Respiratory system: respiratory rate, vital capacity, Lorentz index;
- Cardiovascular system: heart rate Ruffier test, test Sargent.

Basketball is included in the notion of collective game. Sports game is a complex of exercises played as a game with a few object (ball, ball, puck, etc.), In this direction two teams compete under some rules and aims to achive the tasks of physical education (in this case becomes its means) or making sports performance (in this case it becomes a form of competition and sports show), and as a means of recreation.

Environment: Physical education and sport

Assumptions. By studying the training of a university basketball team, data and observations can be recorded that will allow the interpretation and appreciation of the following parameters:

1. the level of physical training in general
2. the level of development and manifestation of specific motor qualities, respectively speed in our case.

Following the course of the lessons where some exercises corresponding to our study are also included – the improvement and development of speed motor quality – we can highlight certain conclusions about the content but also the way of manifestation of this motor quality.

Research methods For this study we used the following research methods: documentation, observation method, statistical method, graphical representation method and experimental method.

Content. For checking the motility of students enrolled in educational experiment we chose the following control samples:

1. speed running, standing start – 15m. 2X
– best record attempt
2. speed running, standing start – 20m. 2X
– best record attempt
- 3.dribbling through cones, right hand and left hand, 2X
– the best one will be noted.

The results were statistically analyzed and are presented in Table 1, and Fig.1.

Table 1. Results of tested samples

	CP	MA	BI	ZAM	BI	SI	CA	GF	MO	CS	MAM	MI		CA	GS	CC	RD	AVG
Speed 15m	2.8	3.1	2.8	3	2.8	2.8	3.9	3.8	3.8	3.1	3.2	3.8		3.4	2.8	2.7	3.4	3,4
Speed 20m.	3.9	4.2	4.4	4.7	4.5	4.3	5.3	4	4.8	3.9	4	4.8		4.6	4.6	4.5	4.6	4,6
Dribbling through cones	7.1	7	8.5	8.2	7	7.4	7	7.1	8.2	8.4	8.8	8.4		9.2	8.2	8.4	8	8

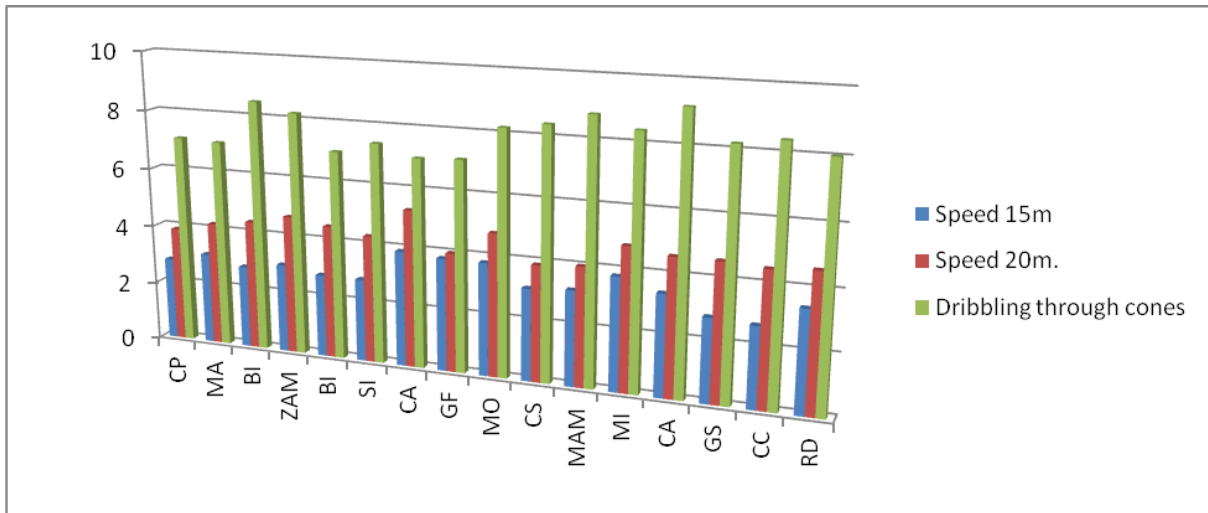


Figure 1. Results of tested samples

In the 15m sprint test - we measured reaction and movement speed – the team's average is 3.2 sec. Because there is no data in the specialized literature to compare this value, we took the best value from the recorded results as the term of comparison. This is 2.7 s recorded for the student Ceaparu Clara. A difference of 0.5 s is observed between the average value of the team and the best value. From the 16 student members of the team, 9 players have a value between 2.7 and 3.2, one player has the average value of the team, 6 players have values higher than the average of the team – up to 3.9.

We appreciate, taking into account that at this age there are no comparative data for female basketball players, the following: because 10 of the students have values between the best value and the average value, the speed is quite homogeneously developed. The other 6 student members of the team have values up to 3.9. Taking into account the particularities of the development of this quality, we consider that in the future, using appropriate means, this motor quality can be further developed.

Table 2. First six values at the test speed running on 15 m

Name	CC	BI	BI	SI	GS	ZAM
Speed test 15m	2.7	2.8	2.8	2.8	2.8	3.01

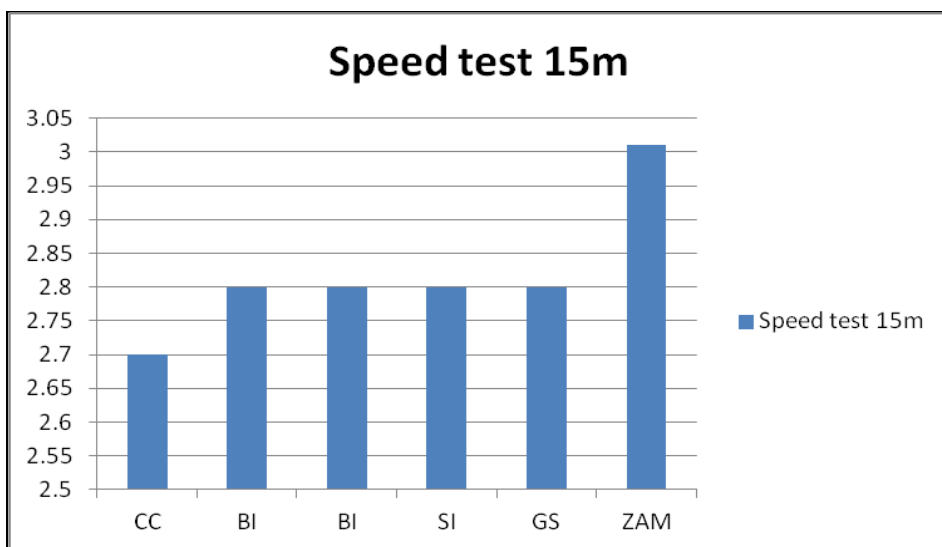


Figure 2. First six values at the test speed running on 15 m

The best value of 2.7s recorded in the 15m speed run test belongs to the CC student and the results of the first six values at the test speed running on 15 m, are shown in the following table and the table no.2 and Fig.2.

In the 20m sprint test – we also tested reaction and movement speed – the team's average is 4.4 sec. For the same reasons – the lack of data – to compare this value we took as the term of comparison the best value from the recorded results. This is 3.9 sec. registered with players C.P. and C.S. A difference of 0.5sec is observed between the average value of the team and the best value. From the 16 players, 6 players have a value between 3.9 and 4.4, one player has the average value of the team, 9 players have values higher than the team average – up to 5.3 sec.

Because 7 of the players have values between the best value and the average value, a change is observed compared to the 15m sprint test, regarding the number of players with the best value and the average value, 10 respectively 7. The other 9 student members of the team have values up to 5.3.

The best value of 3,9s recorded in the 20m speed run test belongs to the C.P. and C.S. students and the results of the first five values at the test speed running on 20m, are shown in the following table and the chart no3:

Table 3. The first five values to test speed running on 20 m

Name	CP	CS	GF	MAM	MA
Speed test 20m	2.7	2.8	2.8	2.8	2.8

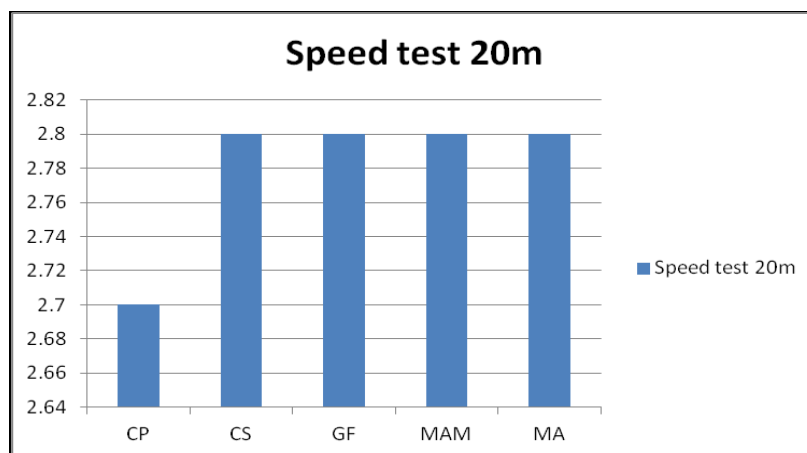


Figure 3. First five values at the test speed running on 20 m

In the test of dribbling between cones, we evaluated the speed of dribbling execution. This parameter is also dependent on the dribbling execution technique. The average value is 8.02 and the best value is 7.02.

A number of 6 students were above the average. The results of this control sample can be improved both by increasing the movement speed and the execution technique. The best value in the dribbling test among the cones belongs to the CA student and the results of the first five values at the dribbling test, are shown in the following table and the chart no4:

Table 4. The first five sample values recorded at dribbling through cones

Name	CA	MA	BI	CP	GF
Dribbling test	7.02	7.03	7.03	7.09	7.09

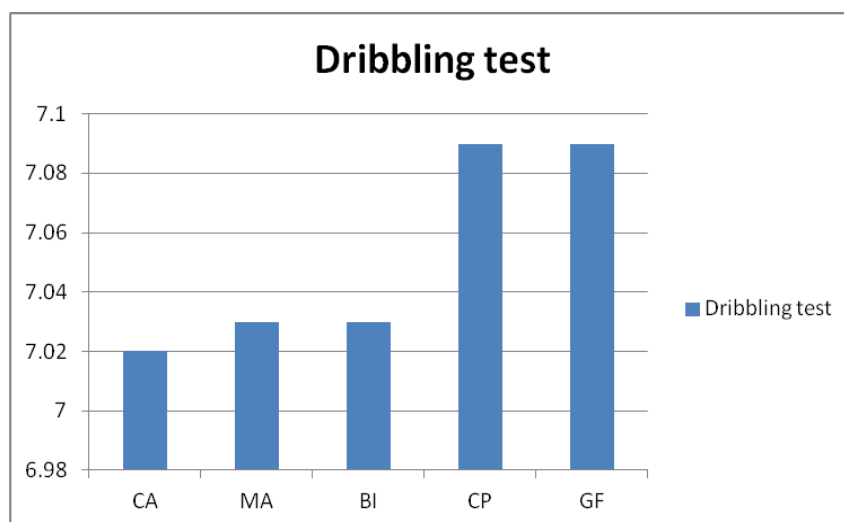


Figure 4. Dribbling test

Conclusions

In the 15 m sprint, the average is 3.2 s and the best value is 2.7 s. There is a difference of 0.5 s between the team average and the best value, and out of a number of 16 female students, 9 students have a value between 2.7 and 3.2, one student has the average value of the team, which allows us to conclude that the speed is quite homogeneously developed, that the means used in the preparation the students were mostly good.

In the 20 m sprint test, the average is 4.4 s, and the best value is 3.9 s. The same difference is observed between the overall average and the best value – 0.5 s – but the number of subjects with values between these averages begins to decrease. For this reason, we propose an increase in the homogeneity of speed at the level of all female students in the team by alternating short-distance training with longer-distance training.

In the test of dribbling between the cones, the average is 8.02 s, and the best value is 7.02 s. The results of this test depend both on the execution speed and the technique in performing the dribbling. We therefore recommend that these results can be improved both by increasing the speed of movement and the execution technique.

Authors' Contributions

All authors have equally contributed to this study.

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