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Assessment of the special physical and the specific technical preparedness of basketball players

Annotation

The purpose of this study is to optimize the training process of the best basketball players (16-years-old) from the national team – cadets of Bulgaria, through analysis and evaluation of their special physical fitness and specific technical-tactical preparedness. Subject of the study is the basketball game in between growing up competitors-boys. Object of the study is the main signs of the special physical fitness and specific technical-tactical preparedness in the basketball in the age of 16. Contingent of the study is 18 basketball players, listed in the composition of the Bulgarian national team for the respective age group under study. For achieving the objective and tasks of the study, data for 14 indicators are registered (for physical preparedness - 9 indicators and for technical-tactical preparedness - 5 indicators).

1 Introduction

As scientific category the control in sport came into being and developing systematically because of the need the information for status of different kind of objects or systems to be generated and the process of management to be optimized. It means that each kind of control secured some information that has to be analyzed and evaluated and after fixing the reasons for the results obtained, the conduct of the process or of the object under management to be correct (Gyosheva, K., Tzarova R., et al., 1986; Brogli, Ya., 2012; Tzarova, R., 2013).

The problem for control and optimization of the sport preparedness is very important, but because of its great complexity, it is still in the balance, both in different countries, and in the different kind of sports (Zhelyazkov, Tz., Brogli, Ya., Nojarov, P., Gyosheva, K., Iliev, I., 1977; Gyosheva, K Tzarov, K., Tzarova, R., 1990; Kontostatis, A., 2001; Zhelyazkov, Tz., Dasheva, D., 2002, 2012).

The training and development of young basketball players is a complex and lengthy process. Successful management of this process requires permanent scientific research in order to establish the status of the main indications of physical development and the specific performance of each of the players (Tzarov, K., Tzarova, R., Kurmulis, A., 2011; Tzarova, R., Tzankova, J., 2013).

The purpose of this study is to optimize the training process of the best basketball players (16-years-old) from the national team – cadets of Bulgaria, through analysis and evaluation of their special physical fitness and specific technical-tactical preparedness.

2 Methods

This study was conducted in the period September 2012 – July 2013.

Subject of the study is the basketball game in between growing up competitors-boys.

Object of the study is the main signs of the special physical fitness and specific technical-tactical preparedness in the basketball in the age of 16.

Contingent of the study is 18 basketball players, listed in the composition of the Bulgarian national team for the respective age group under study. For achieving

Keywords

basketball, growing up players, physical and technical-tactical preparedness, assessment, optimization

the objective and tasks of the study, data for 14 indicators are registered (for physical preparedness - 9 indicators and for technical-tactical preparedness - 5 indicators).

The following methods of research are applied: review study, and sport-pedagogical testing.

The results of the study are processed mathematically and statistically by: variation analysis, index method and sigma deviation method.

3 Results and discussion

The analysis of the results was directed at assessment of the status of monitored indicators for all players under study, with the assistance of norm-table, elaborated on the base of the achievements of the best Bulgarian basketball players of the same age (Tzarova, R., Tzarov, K., 2005).

The analysis of fig. 1 gives a possibility to obtain a notion about overall estimate for all-rounded physical fitness of the team under study.

As it is seen on the figure 1, the basketball players from the team under study have highest level of development of the special speed of moving on the cord without ball and of the dynamic strength of abdomen muscles (indicators 1, 6 and 2). Disturbing however, is the fact, that as regards the level of development of the flexibility (indicator 9), dynamic strength of the upper limbs and humeral girdle (indicator 5) and dynamic strength of lower limbs in the time of complicated coordination movement in the horizontal plate (indicator 4), assessments of the team under study are very low (respectively 13, 83 p., 18,89 p. and 20,00 p.). The applying of the evaluation T, as the first private optimization criterion, gives a reason to consider that the accents in the future training work with this national team have to be directed to developing the indicators with the lowest assessments. The efforts to develop the signs with high assessments will be wasted.

Because of the needs of the study individual overall estimates on physical fitness of the basketball players under study are calculated (fig. 2). The analysis of the figure shows, that the level of the special physical preparedness of the players is rather varied – the assessments are between 14,00 p. and 37,67 p. What is positive here is the fact, that nearly 2/3 from the

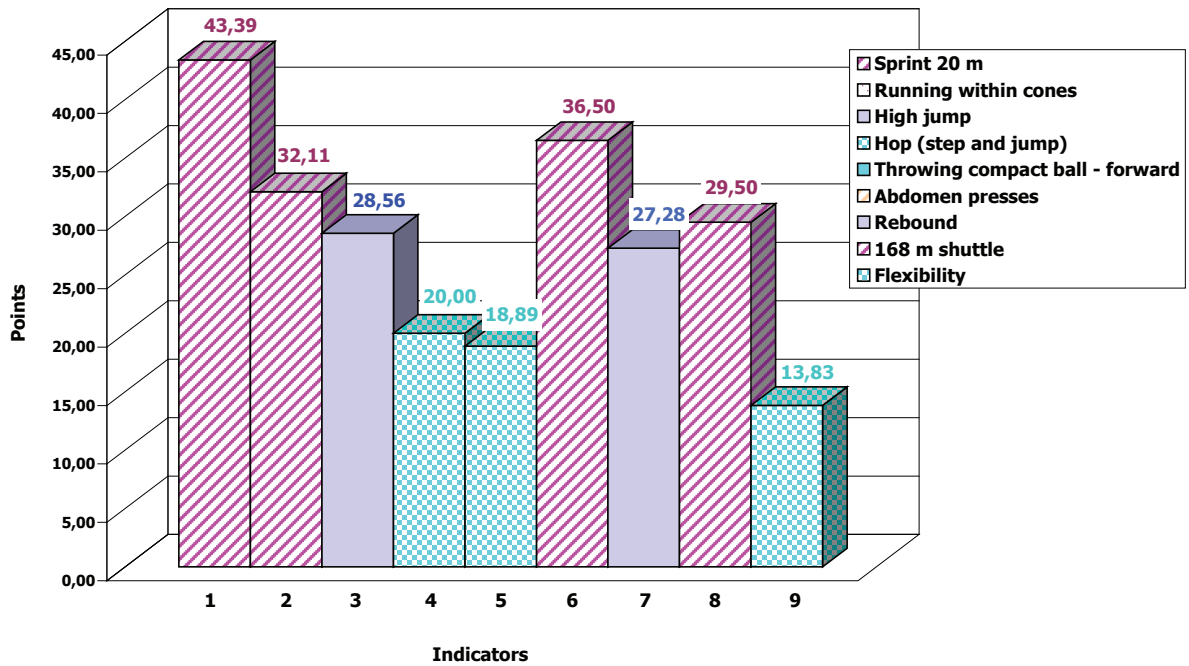


Figure 1 Assessment of the features of physical fitness

assessments of the players is higher than the average level for the combination under study (the best Bulgarian basketball players – cadets). The assessments for the level of the special physical preparedness of Martin ($\Sigma T_{11} = 37,67$ p.) and Georgi ($\Sigma T_{16} = 37,11$ p.) are the highest.

players in the team, who have lower level of special physical preparedness than the average level (25 p.) in Bulgaria. Especially serious is the state of Petar, because his assessment is only 14 p. The assessments for the special physical preparedness of Nicolaj N. ($\Sigma T_{15} = 20,22$ p.) and Dimitar S. ($\Sigma T_5 = 19,89$ p.) are also on a low level. All this raises the question about the place of

As it is seen on the figure 2, however, there are some

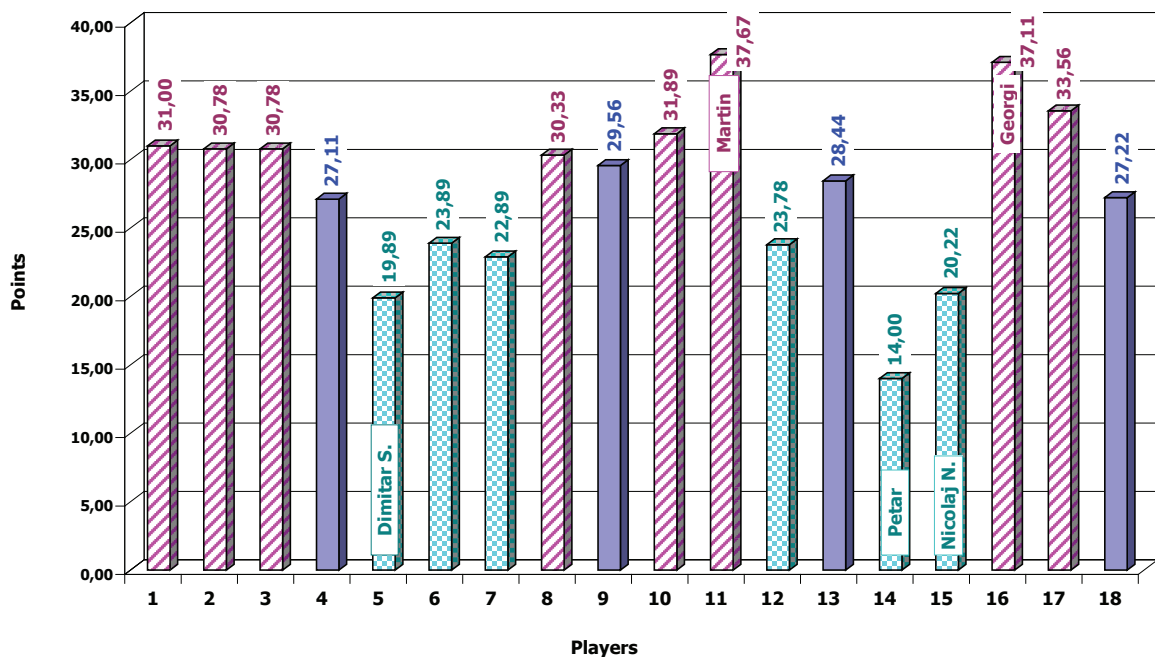


Figure 2 Individual overall estimates on physical fitness

these boys in the national team of Bulgaria.

Because of verifying of this thesis, the individual overall estimates on specific technical and tactical preparedness of the players are calculated (figure 3).

The figure shows that the players indicated above (Petar, Nicolaj N. and Dimitar S.) actually have problems with their preparedness. An evidence for it is not only the low assessments for the special physical preparedness, which were commented above, but also

the assessments for their specific technical and tactical preparedness (figure 3). This is the reason to be considered that the players have to be putting out of the national team of Bulgaria.

For the other players the individual overall estimates on their specific technical and tactical preparedness are higher than 30,40 p. This is a sign for a good work of the coaches and players in this direction. The highest level of technical-tactical mastery has Nicolaj S. – his overall

estimate ($\Sigma T_2 = 48,20$ p.) is too close to the maximum (50 p.). Martin and Georgi (No. 11 and No. 16) are the next who have high level of technical-tactical mastery.

As it is seen above this players have highest level of physical preparedness. All this gives a reason to consider that Martin, Georgi and Nicolaj S. are the most prepared

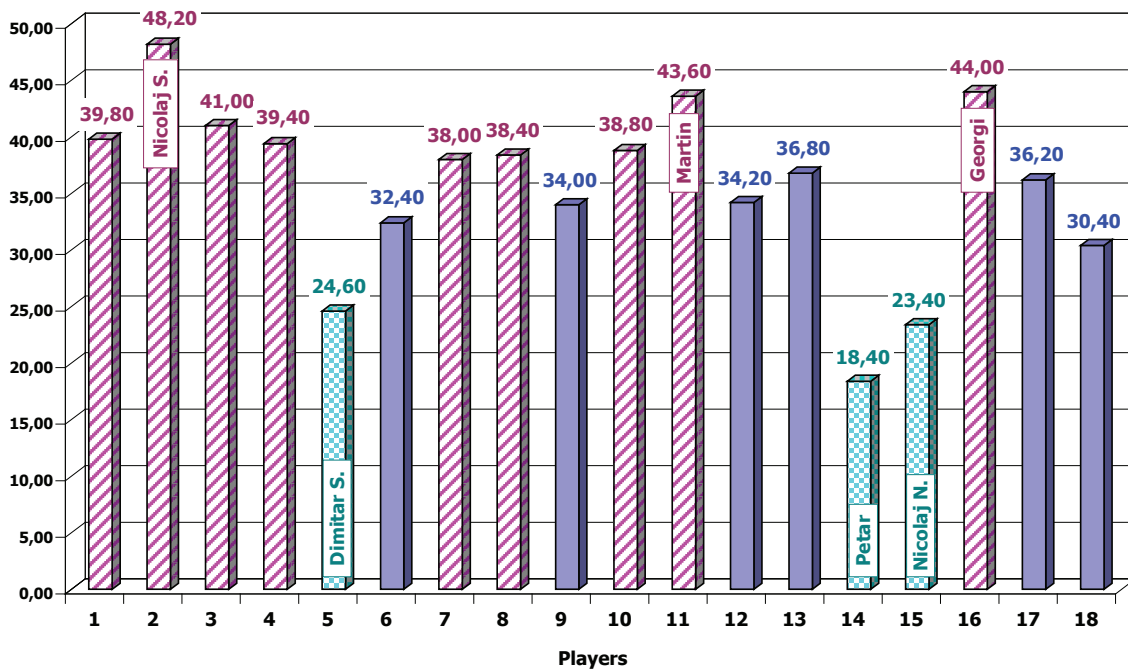


Figure 3 Individual overall estimates on technical-and-tactical preparedness

in the beginning of the European championship.

The analysis of fig. 4 show that the team has serious problems with the ability of its players to dribble in the cord with high speed (indicator 12, $\Sigma T_{12} = 23,00$ p.).

As it was indicate above, the assessment T can be

used like a private criterion for optimization. Therefore, the assessments, which were calculated for each of the indicators of special physical and specific technical-tactical preparedness, give the possibility of the couches to determine the accents in the future work

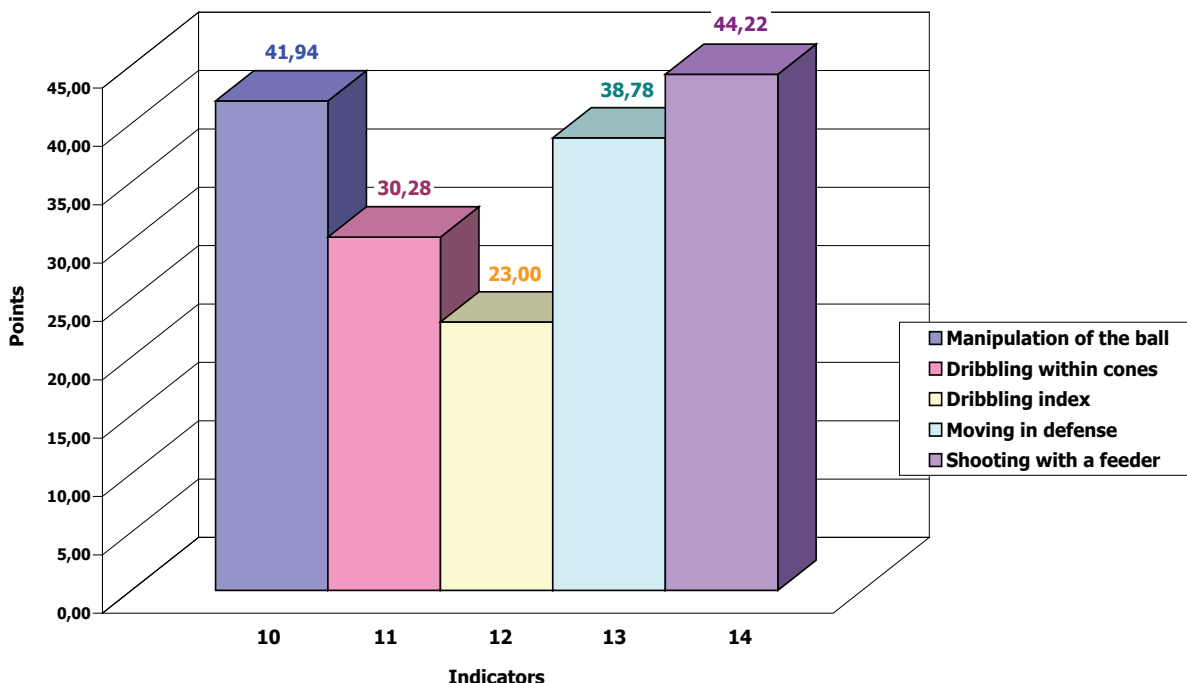


Figure 4 Assessment of the features of technical-and-tactical preparedness

with everyone of the basketball players under study.

For example, on the figures 5 and 6 are presented the individual models for optimization of the special physical and specific technical-tactical preparedness for two of the players (Tzanko and Georgi H.).

The analysis of the model, presented on figure 5 gives a reason to be considered that the biggest effect on the general sports preparedness of Tzanko will have

the work, purposeful priority over development of:

- flexibility;
- explosive muscular strength of lower limbs in the time of complicated coordination movement in the horizontal plate
- explosive muscular strength of the upper limbs and humeral girdle.

Positive effect on the preparedness of this player

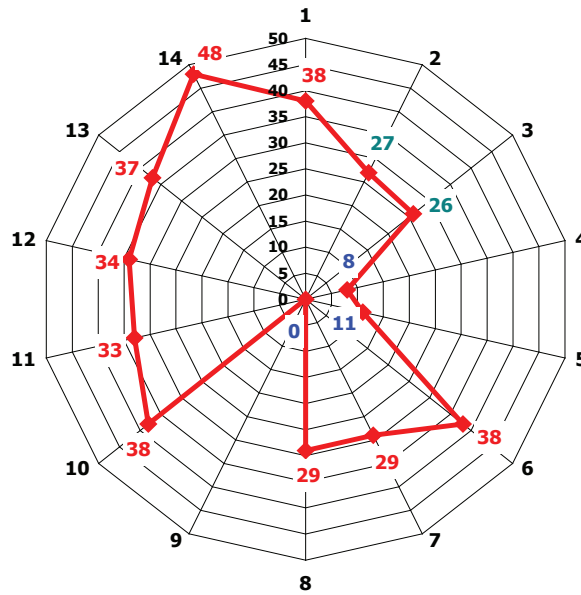


Figure 5 Individual model for optimization of the physical fitness and technical-tactical preparedness - Tzanko

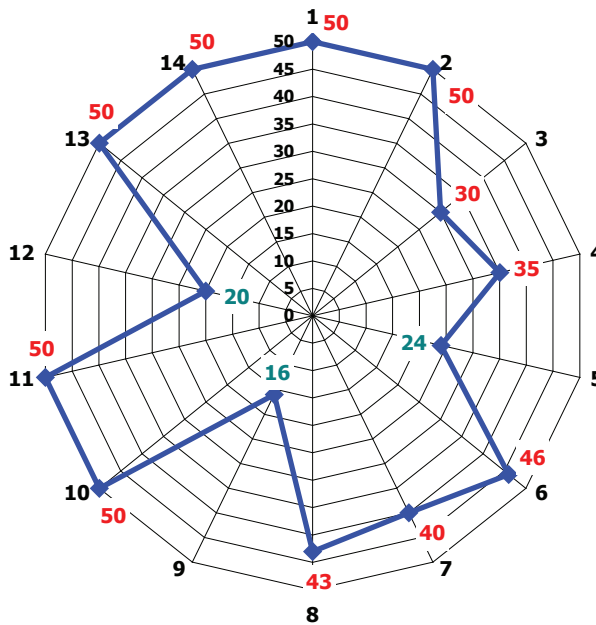


Figure 6 Individual model for optimization of the physical fitness and technical-tactical preparedness - Georgi H.

will have also the work for developing of the explosive muscular strength of the lower limbs in the vertical plate and the special speed of moving on the cord without the ball.

The accents in the work with Georgi H. (figure 6) have to be directed to the developing of:

- flexibility;
- ability for moving with dribbling in high speed
- explosive muscular strength of the upper limbs and humeral girdle.

4 Conclusions

The results from the study and their analysis allow formulating the following conclusions:

- 1) The basketball players from the team under study have highest level of development of the special speed of moving on the cord without ball and of

the dynamic strength of abdomen muscles.

- 2) The applying of the evaluation T, like a first private optimization criterion, gives a reason to consider, that the accents in the future training work with this national team have to be directed to developing the indicators with the lowest assessments.
- 3) Nearly 2/3 from the assessments of the players is higher than the average level for the combination under study (the best Bulgarian basketball players – cadets).
- 4) Some of the players have problems with their preparedness and have to be putting out of the national team of Bulgaria.
- 5) The assessments, which were calculated for each of the indicators of special physical and specific technical-tactical preparedness, give the possibility of the couches to determine the accents in the future work with everyone of the basketball players under study.

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