Original Article

Study on the Individualized Training Programme of the Middle Player Based on the Statistical Results Offered by the "Data Volley" Software

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Abstract

The use of the "Data Volley" software of statistical analysis in professional volleyball can offer many options of assessment and analysis, among which also the individual evaluation of a single player or of a single game position in turn. In the current case, that of the Middle Blocker. This programme of recording, assessment and analysis was designed to offer fast and precise information to coaches of all levels, by which to judge their team or the opposite team. The main objective of this study is to implement a programme of individualized training for the Middle Blocker, using statistical information, but also details obtained from the video evaluation of each technical element, and the capacity of putting into practice the tactical indications coming from the coach, that are specific for the Middle Blocker.

1. Introduction

The "Data Volley" programme is a software programme which is not dedicated only to those in the technical staff or the coaches of a volleyball team, but it can be used by anyone who is interested to make statistics in volleyball.

This programme also includes a system of recording and video evaluation called "Data Video". Lately, this activity has become very popular, regardless of the game level to which the competitions occur.

The assessment of players with the help of the statistical data by means of the "Data Volley 2007" allows you to rapidly transform what you see into a standard code, which is then analysed by the computer.

The advantages of using such a programme are: the abstraction, the reduced cost, the rapidity of the data offered in real time, but also the objectivity of the

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selection of players (Data Project, 2007; FIVB org., 2014).

2. Material and methods

The purpose of this research consists of the drawing up and experimental reasoning of the efficiency of the Data Volley software in the customized training of the players on Middle position.

Taking into account the fact that the current volleyball is played at a very high game level and is continuously progressing, it is absolutely necessary to make more effective the game elements and the players.

Therefore, the objective of this study consists in the optimisation of the game actions of players on the Middle Blocker position and implicitly, the increase of the game efficiency by implementing a customized training programme based on statistical analysis.

The hypothesis of the research. It was presumed that the use of the Data Volley software in the customized training of the Middle Blocker player would contribute to the efficiency of the technical game elements and implicitly to an increase of the overall game.

The used research methods were the following:
   - the Statistical-Mathematical Method of processing and interpreting data;
   - the Method of Graphic Representation;
   - the Method of the Video Analysis;

For an assessment, objective as much as possible, of all the game elements performed by the Centre players, we used the "Data Volley" statistical analysis programme, which besides the mathematical-statistical data offered, it also gives the possibility of a detailed video analysis of the players.

The information provided by this software can be used differently, depending on the coaches' demands, the game strategy and tactics which they want to implement within their own team.

After the selection of players, the data can be used as follows:
- during the games, being of real help in taking decisions, but also for verifying the used game plan;
- before the game, for its preparation (analysing individually and as a team the performance of the players);
- during the practice, as support to improve certain rotations or increasing the efficiency in the game of each and every player (Fig. 1).

In the high-performance sports, there are very small differences between the same-level teams, but we can find differences related to the game positions.

The game place or game position is a consequence of a long process of specialization, which takes place ever since the players are very young, thus becoming specialized on different tactical positions on field, depending on the abilities and physical qualities of each player (FIVB org., 2018; Rocha, & Barbanti, 2006; Bompa, 2001; Cox, 1974; Eom, & Schutz, 1992).

The position or role of the player generally outlines the duties that each player has on field.

Figure 1. *Statistical analysis during an official game with the*
"Data Volley" software

In the volleyball game, there are five game positions, named accordingly: the Setter, the Right-side hitter, the Opposite, the Middle Blocker and the Libero.

In 1998, after some changes in the regulations, the Libero player was introduced as specialized player for takeover and defence, replacing the Middle Blocker in the second line.

Consequently, the duties of the Middle Blocker became limited, this player evolved into a specialized one for blocking, but having as priorities the serving and the attack on such position (FIVB org., 2017; Cojocaru & Ionoță, 2008).

3. Results and Discussions

Because most players on this position get late to blocking, an individual preparation of this tactical element means a better percentage and, at the same time, a much bigger self-confidence.

The Middle Blocker have a very difficult task, being forced to move very quickly from left to right, to get out fast from the net so as to be ready to attack, but also to take quick decisions during the game.

The study was made in the Sports Hall in Galați and the subjects were players of the Arcada Galați Volleyball Team, a team which plays in the First National Division of Senior Male Volleyball.

Making use of the "Data Volley" software, we analysed the performance of our players for the Middle position, in a number of three important games, both

statistically, as well as on video, so as to find out the efficiency of this game position within the team (Table 1).

Table 1. *The efficiency of the Middle Blocker in the game*

Game position	Technical elements	Efficiency	Total	Errors	%	-	%	+	%	Points	%
Middle Blocker	**Service**	48%	92	6	7%	13	45%	25	29%	3	3%
	Attack	43%	48	4	11%	11	22%	6	9%	26	56%
	Blocking	10%	43	19	39%	7	13%	4	12%	13	37%

After we found out the efficiency of the players on this position, we continued by video-analysing each technical element of this game position. In order to do this, we extracted video montages from the "Data Video" programme, for each technical element in turn.

Here, we watched first of all the moving speed in blocking towards the 4th zone and towards the 2nd zone or the 1st zone, the reaction time when the opponent played the first round, but also the arms technique during the execution of this technical element (Fig. 2).

Figure 2. *Images taken from the montage offered by the "Data Video" system*

After analysing the blocking, we watched the attack of the Middle Blockers, their directions of attack, the rotations where they were not efficient, but also the Setter-Middle player relationship (Fig. 3).

The last analysed technical element was the service, where we watched and assessed the Middle Blocker from a technical-tactical point of view.
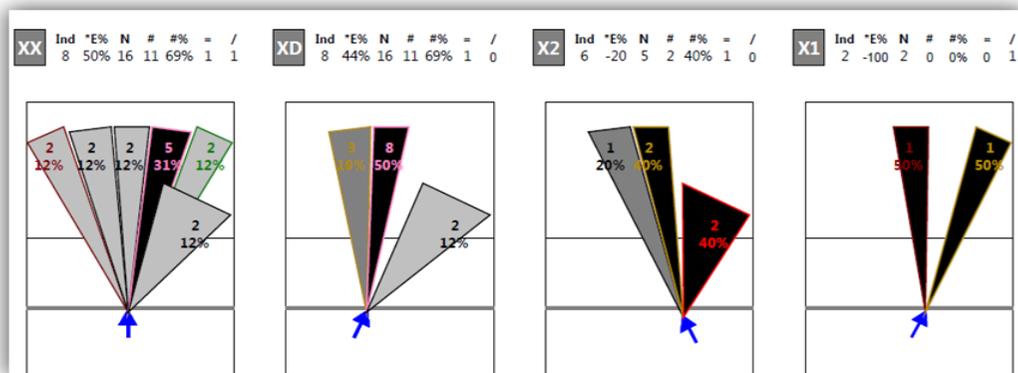
Figure 3. *Directions of attack of the Middle Blockers*

Figure 4. *The distribution of the Setter per each rotation and the efficiency of the Hitters*

The results and conclusions obtained from the statistical assessment are the following:

Table 2. *Conclusions resulted from the analysis of the Middle Blockers*

Analysed elements	Conclusions obtained from the analysis of the Middle Blocker performance
Blocking	poor moving speed on long distances
	delayed reaction time
	delayed action speed of the arms over the net
Attack	increasing the efficiency of the attack in the 1, 2, 3 and 6 rotations
	improving the game relation, in attack, between the Setter and the Middle player
Service	service training from a technical-tactical point of view

Table 3. *The training programme and time reserved for the Middle Blocker during the pre-competitional period*

The Pre-competitional Period (8 weeks)				
Individualized training, specific for the Middle Blocker	Developing the abilities	11 Aug - 6 Oct	No. of practices	No. of practice hours
General physical training		10%	6	12
Specific physical training		25%	14	21
Technical training	- individual and within the team, the technique in blocking	12%	6	6
	- individualized, the Setter-Middle player relationship	12%	6	6
	- individualized, service-reception	6%	4	4
Tactical training		25%	14	14
Mental training		10%	6	6

Table 4. *Results obtained after applying the individualization programme*

Game position	Technical elements	Efficiency	Total	Errors	%	-	%	+	%	Points	%
Middle Blocker	Service	48%	89	2	4%	44	49%	32	35%	6	7%
	Attack	58%	44	2	4%	7	16%	7	16%	30	69%
	Blocking	64%	16	2	11%	1	7%	1	7%	13	75%

Following the application of the programme of individual training, but also within the team, our main goal was the increasing of the efficiency of the Middle Blocker in the game.

As we can see from the previous table, the efficiency in serving remained the same, of 48%, however there was an improvement related to the number of errors which is smaller, and also in points scored directly, where there is a percentage of 7%.

But there is a significant increase of the game efficiency in attacking, of 58%, respectively in blocking, where the percentage remained at 64% - we should also

mention here that this rather large increase of the efficiency can be owed as well to the fact that the opponents were not the strongest ones in the National Championship A1 Division during the first stages of the championship.

4. Conclusions

In conclusion, the results obtained during the first three games in the Male National Championship A1 Division confirm the fact that a thorough individualized training on game positions is characterized by an increase of the game efficiency of the team, and implicitly of achieving the performance objectives.

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