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## Modalities of Using the Information Provided by the Statistical Program Click and Scout for Improving the Outside Hitters' Service Efficiency in Volleyball Game

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### Abstract

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The research aims to create and structure the sports training schedule, depending on the information provided by the program Click & Scout, in order to improve the learning process in volleyball. The research purpose is to use the statistical information from the software Click and Scout during a volleyball game or over a longer period, which may facilitate the provision of technical and tactical information about the outside hitters' service efficiency. The research was conducted over a 4-month period (December 2013 - April 2014), along the second phase of the National Volleyball Championship. The two complexes of exercises were used on all players of the team, but we monitored only the player T.R., and they took place in the two morning workouts designed for service-serve, with a view to improve the statistical parameters of service between the first and the second phase of the championship. Findings and results for service/percentage: -Efficiency: in the first phase, average efficiency was 33%, and in the second phase, 45%; -Errors: in the first phase, the percentage of errors was 3%, and 6% in the second phase; -Positive: the percentage of positive points in the first phase was 26%, and in the second phase, 18%; -Perfect: in the first phase 3%, and 8% in the second phase. In conclusion, the results achieved for efficiency in the first phase (33%) compared to the second phase (45%) confirm our research hypothesis, and the two complexes of exercises bring something new from this point of view.

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**Keywords:** Volleyball; statistic; receive; service.

### 1. Introduction

The development of contemporary society generates unprecedented quantitative and qualitative growth in all areas, including that of sports performance. Direct preparation for competition entails setting performance objectives in training, which leads to maximizing the capacity of mobilization of the biological, psychological and motor potential of the athletes (Teodorescu, 2009a: 7).



Sports performance can be framed into the category of motor performance and defined as a result obtained under competition conditions, leading to the establishment of criteria which distinguish the competitive activity from the non-competitive activity (Teodorescu, 2009b: 15).

The level reached today by the development of sports practice, like any activity with interdisciplinary features, should be subject to permanent dynamic alerts, leaving away some techniques and means which do not correspond any longer to current requirements for high performance (Simion, Mihăilă, & Stănculescu, 2011: 118).

Volleyball has a wide range of game actions, from the simplest to the most complex ones. This requires the players to continue training and persevering, and the coaches to stage the teaching-learning process sequence, which gives this game a touch of increased subtlety.

Volleyball has become one of the most practiced sports in the world. The game of volleyball requires expertise in several physical fitness and performance areas, and often depends on the individual's ability to jump at very high-level parameters.

The nature of volleyball must be understood before beginning to analyse systems, theories, tactics and coaching methods in this sport. Volleyball has many characteristics which are unique unto themselves, and the coach must immerse into the nature of the game so that he/she can better adapt to the particular strategies and tactics for successful play (*FIVB Coaches Manual*, 2011).

The game of volleyball should proceed from simple to complex techniques, tactics and strategies. Diggers must learn the basic dig before working on the diving dig, the sprawling dig and so on. The principle of simple to complex progression definitely applies to teams wishing to employ a fast-tempo offense. Setters and hitters must become adept of running traditional higher plays and must develop excellent ball control skills before trying to improve the skills required to play the fast-tempo offense (USA Volleyball, 2009: 181).

Volleyball is a rebound sport because there is no possession of the ball by the players, with the exception of serving. The coach must constantly be concerned with training players to be in position to return the ball. The coach must be concerned with contact points on the players' bodies and players' positions to most efficiently return the ball. In most other games, athletes possess the ball and run while holding it. They compensate for poor body position by the act of possession. Strength overcomes poor movement skills. In volleyball, we must work very hard to position our bodies correctly before returning the ball (Szabo, 2015: 321).

Most ball contact in volleyball is intermediate because there is no final contact, therefore ball control is essential. Cooperation and teamwork are vital. Once the ball is put into play, only the final attack counts. Because success depends on the interrelationship and cooperation between players, these qualities dominate coaching strategy and tactical theory. And because of the overwhelming number of intermediate contacts, the term "ball control" dominates coaching thought (Szabo, 2015: 321).

This means that volleyball is dominated by the idea that players must be equally adept in all phases of the game. A team with six starting players equal in all respects has been a goal for many years. The exception constitutes the position of LIBERO, who can play only on positions 1, 6, 5 and with no right of service. His basic function is the proper reception of a service as well as organization and enforcement of defence. The coach must use rules effectively to train his players to be familiar with all

areas of the court, to be equally comfortable in the front row as well as the back. In the learning phase, the rotation concept is perhaps the most dominant rule with which young players must become familiar. Another element that rotation dictates to volleyball has to do with coaching adaptations in practice. We believe that since the universal player is ‘the ideal’, we must spend time training players in all volleyball skills. This becomes virtually an impossibility in real-world situations. There simply are not enough hours in the day to train all players equally well in all volleyball skills. The coach’s role, relative to rotation, is to work within the rules to build in specialization and overcome the idea of the universal player. This is consistent with all sports for achieving success. Greater specialization always equals greater success (*FIVB Coaches Manual*, 2011).

### *1.1. The statistical software Click and Scout*

Click and Scout is the new statistical software for Indoor and Beach Volleyball that allows using touch screen devices at their maximum potential; it can also be used on PC and laptop and runs with Windows, Windows Tablet and Mac OS (*Data Project*, 2014).

With Click and Scout you simply need to touch the court on the screen to scout the serve, reception, attack and block from the first to the last point. If you do not have a touchscreen device you can do so by using the mouse. The appealing and user friendly interface is one of the main points of Click and Scout as it was developed to us directly on the bench (*Data Project*, 2014).

At every point, the receiving team will position its players on the screen according to the usual standard schemes in order to immediately reproduce the situation on court. This allows the scout man to scout regardless of the player’s number, because the direction of the serve corresponds to the position of the receiver on court. Needless to say the scouting code can be modified at all times to stay in line with the complete versatile philosophy of the company (*Data Project*, 2014).

The possibility to analyse the match in real time is what we define the finishing touch to Click and Scout! You can call a time-out and replay the serve directions of the other team to your team or you can focus on the attack directions in a specific rotation. Click and Scout is designed to be the most effective statistical tool used in real time for the non-professional users or for a professional coach that simply wants a quick scout. This is the reason why Click and Scout is placed right next to Data Volley. They share philosophy and compatibility, but Click and Scout is not here to take Data Volley’s place (*Data Project*, 2014).

## **2. Materials and methods**

The aim of the research consists in using the statistical information offered by the software Click and Scout during a volleyball game or over a longer period, which may facilitate the provision of technical and tactical information about the outside hitters’ service efficiency.

### *2.1. Participants*

The research was carried out over a period of 4 months (December 2013-April 2014), along the second phase of the National Volleyball Championship. The two complexes of exercises were used on

all players of the team, but we monitored only the player T.R., and they took place in the two morning workouts designed for service-receive, with a view to improve the statistical parameters of service between the first and the second phase of the championship.

## 2.2. Procedure

We used the following drills with all team, in order to improve the efficiency of service for the player T.R. in the second part of the National Volleyball Championship 2013-2014:

### ***Five-players pass, set, hit middle vs. middle***

*Objectives:* To establish good communication between the three passers (left back, right back and middle front) and generate sufficient ball control to successfully pass, set and attack while using the middle front as the only attacker.

*Players required:* 10.

*Procedure:* Position one middle player, left back, right back and setter on each side of the net. Servers on each side alternative will put the ball into play. The server must serve so that the middle player, left back or right back is required to pass. The setter is required to set only the middle front player. The middle front tries to reach 10 points before the opposing middle front player gets 10 points. The middle front who is not hitting is allowed to block and receives one point for each successful termination of the ball with a block. Player T.R. was used only for service.

*Common errors and corrections:* When passers cannot pass well enough to allow the setter to set the middle attacker, have the setter to set either the left or right back out of the back row to assure a pass-set-hit repetition.

### ***Four-player setters attack***

*Objectives:* To pass well enough to enable the front row setter to attack on second contact.

*Players required:* 12.

*Procedure:* Servers alternate serving to four-player U serve-receive pattern. The ball is passed and attacked by the setter if the pass is to target and high enough for the setter to attack. Servers alternate serving for the first three minutes, then change to a single side, continuously serving to give one setter the chance to terminate three balls in a row off the pass. If the setter does not successfully terminate on the second contact, the server on the other side initiates serve. Player T.R. was used only for service.

*Variations:* The setter can also set rather than attack the pass that is to the target and high enough to attack.

*Common errors and corrections:* The setter might attempt to attack the second contact when the pass is not high enough or closer enough to the target to allow success. Work with the setter to know how close the ball needs to be to the target and how high a pass would need to be to warrant attempting attacking the second ball.

## 3. Results

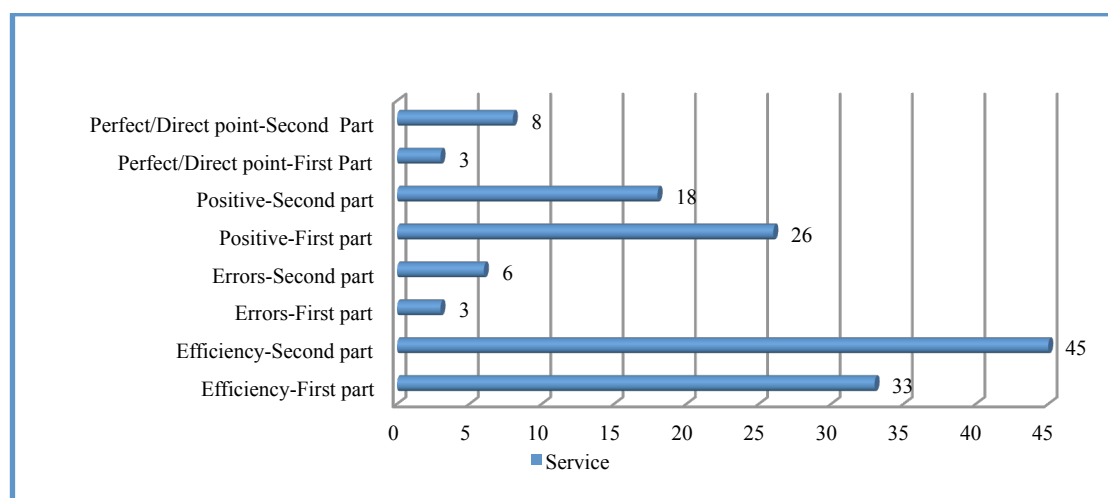
Statistical data are provided by the software Click and Scout.

In the table and the two figures below, we can see the service parameters between the first part and the second part of the championship:

**Table 1.** Service parameters

Ply.	Sk.		E%		T		Er.		Er.%		Bp.		Pos.		Pos.%		P/Dp.		P/Dp.%		Bp.	
	F	S	F	S	F	S	F	S	F	S	F	S	F	S	F	S	F	S	F	S	F	S
<b>TR</b>	S.	33	45	119	154	3	10	3	6	-	-	31	28	26	18	3	12	3	8	-	-	

Legend: E%=Efficiency; T=Total; Er.=Errors; Er.=Errors %; Bp.=Break points; Pos.=Positive; P/Dp.=Perfect/Direct point; F=First part of the championship; S=Second part of the championship; Ply.=Player; Sk.=Skill; S.=Service.



**Fig. 1.** Service percentage

**Service/Percentage:**

- *Efficiency*: in the first phase of the championship, average efficiency was 33%, and in the second phase, 45%;
- *Errors*: in the first phase of the championship, the percentage of errors was 3%, and 6% in the second phase;
- *Positive*: the percentage of positive points in the first phase was 26%, and in the second phase, 18%;
- *Perfect*: in the first phase of the championship, the percentage was 3%, and 8% in the second phase.

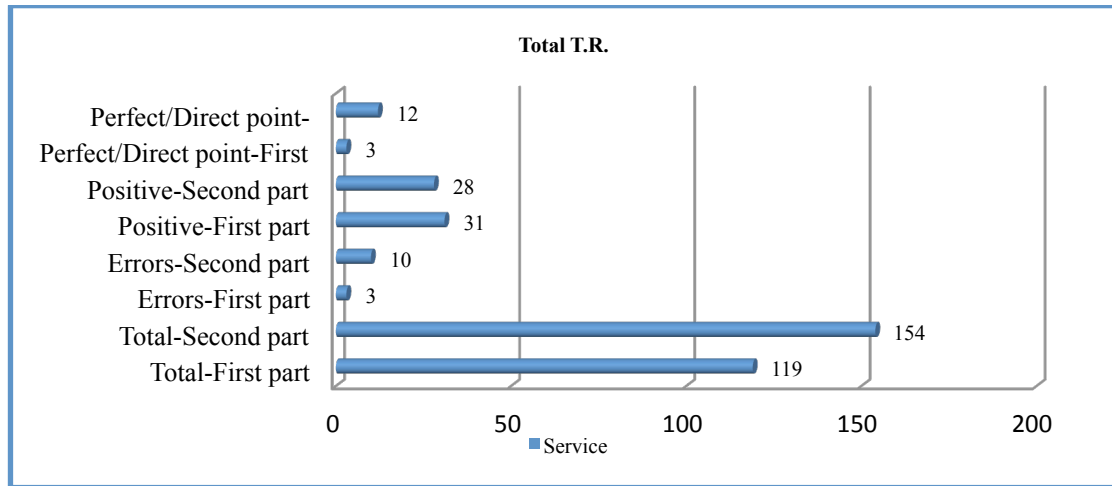


Fig. 2. Total service

#### Service/Total:

- *Total*: in the first phase of the championship, the total was 119, and in the second phase, 154;
- *Errors*: in the first phase of the championship, the errors were 31, and 10 in the second phase;
- *Positive*: the total of positive points in the first phase was 31, and in the second phase, 28;
- *Perfect*: 3 in the first phase of the championship, and 12 in the second phase.

#### 4. Discussions and conclusions

The results achieved for efficiency in the first phase (33%) compared to the second phase (45%) confirm our research hypothesis, and the two complexes of exercises bring something new from this point of view.

The implementation of complex information systems leads to a considerable increase in the possibilities of using information technology in the game of volleyball. But more than that, they create a vast working space for interdisciplinary collaboration between specialists in sports performance and computer professionals.

Development of computer-based models in the game of volleyball and beyond is done by converting the actual behaviour (the game) into a computerized pattern of behaviour consisting of a system of objective data that lend themselves to statistical computation.

Having regard to the objective data provided by the statistical program Click and Scout, the coach takes up the role in decision-making during the preparation and the match, by facilitating analyses and optimal variants of choice in order to achieve victory.

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