

## SERVICE AND ATTACK HIT – BASIC GAME ACTIONS IN OBTAINING A POINT IN THE GAME OF VOLLEYBALL

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### ABSTRACT

*Volleyball is a globally popular team sport characterized by a high speed of play and a rapid alternation between offensive and defensive actions. In this context, the ability to efficiently finalize actions becomes decisive in obtaining points and, implicitly, in winning sets and matches. This paper aims to highlight the role of the service and the attacking hit as fundamental game actions in point acquisition, with particular emphasis on their efficiency as determinants of set outcomes. The study is grounded in a detailed theoretical analysis of the technical and biomechanical characteristics of service and attack procedures, viewed as the primary offensive actions in volleyball. The service is analyzed as the first attacking action, capable of directly generating points, while the attacking hit is approached as the finalization of collective team effort, completing the offensive game phase. The research focuses on the men's U19 volleyball team of CSS Zalău, monitored during official matches of the U19 Final Tournament held in May 2025. By considering the set as the functional unit of the game, the study seeks to verify the extent to which the efficiency of attack actions differs between won and lost sets. The results are expected to contribute to optimizing training methodologies and improving performance through a more effective management of offensive actions in volleyball.*

**KEYWORDS:** *volleyball; service efficiency; attacking hit; offensive actions; set performance; team efficiency*

**J.E.L. Classifications:** Z20, Z29

### 1. INTRODUCTION

The game of volleyball is widely spread worldwide, enjoying great popularity in the most diverse environments regardless of age, sex, material conditions, socio-professional environment. The new provisions of the game regulations, as well as those expected for the near future, are intended to increase the spectacularity of this sports game and the rise of show

volleyball to new levels in the world top of sports, successes confirmed by the media and supported by the increase in the number of spectators, television viewers and passionate supporters. All of this also requires restructuring in the team training methodology, starting with work on children and juniors and ending with great performance. The final paper aims to highlight one of the determining priorities in obtaining the point – the concretization of the effort of the entire team through an efficient completion, without neglecting the importance of the service as the first attack action that can directly bring the point. We intend to verify to what extent the efficiency of the attack actions is decisive in winning the set, considering the set as the functional unit of the volleyball game. We are currently presenting part of the theoretical foundation of the future paper, with the research part to be started this fall. Unlike other team games, even those that have limited the attack time, in volleyball, by limiting the ball to 3(4) hits on a court, the transition from defense to attack and back to defense is done very quickly and very often, a link between the two compartments, being an action specific to the second hit, the lift. To achieve one of the two goals, there are two individual actions, with many execution procedures, the service and the attack hit. During the game, it happens that the attack hit cannot be performed, and the respective team sends the ball to the opponent due to a regulatory obligation. In these cases, passing the ball over the net is an easy pass, through procedures other than those specific to the attack hit or through a hit without a bounce, and achieving the two goals is practically unachievable (especially the first) but we consider that the respective team has made an attack or, more correctly, has missed an attack. This paper represents the theoretical foundation of my bachelor's thesis, namely: **"The efficiency of attack actions in the CSS Zalău-U19 volleyball team".**

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## 2. THEORETICAL FOUNDATION OF THE PAPER

### 1. The service

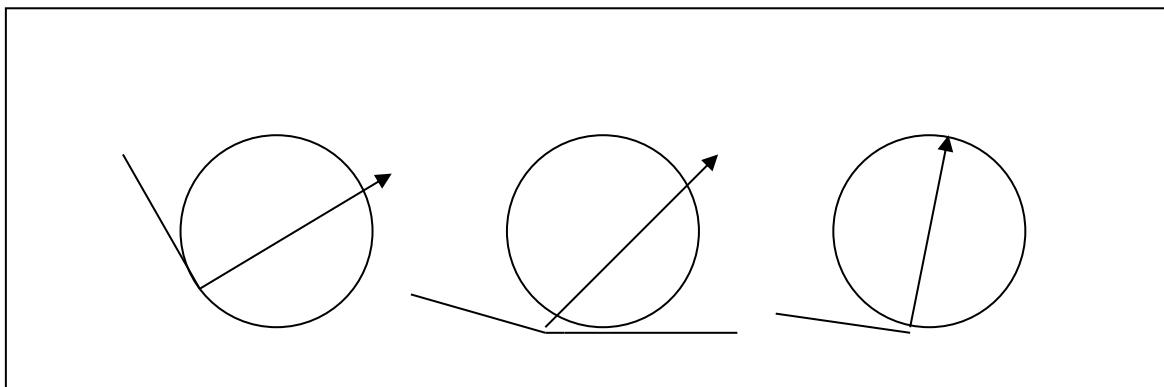
The service is an individual action, the first in a game cycle and it represents putting the ball into play according to the regulations, through specific execution procedures. The service is the only action of hitting the ball that is not influenced by the actions of the opponent or partners, the evolution of the execution procedures being closely related to the improvement of the takeover. The service is one of the actions that remind us that volleyball was also born from tennis. In the beginning, two attempts were used for a service, the first execution aiming at achieving a direct point, and the second, in case the first one was wrong, for passing the ball over the net anyway. In relation to these two attempts, two different execution procedures were used, among those that will be described below, and one of them resembles the tennis serve, this being the front top serve. (Mureşan,2000).

#### 1.1 Front low serve

It is an easy procedure, both in execution and for reception, the execution as such aiming mainly at putting the ball in play and less, or even not at all, at achieving one of the two goals of the attack actions. P.I. – The performer is in the service area, near the end line, with his legs apart and semi-flexed, the leg opposite the hitting arm being further forward, the weight equally distributed on both legs. The torso is slightly bent forward, the shoulder line parallel to the net. The arm that supports the ball is bent at the elbow, the ball being held at the opposite hip, or even lower, and the hitting arm hangs relaxed.

E.P. – The ball is thrown very briefly (10 – 15 cm) upwards, with the kicking arm swinging backwards and the weight shifting to the back leg. While the ball is coming down, the back leg is pushed strongly, with a counterbalance of the kicking arm forward, which will hit the ball with the heel of the hand or with the closed fist, or with the “cuff” area, after which the weight shifts entirely to the front leg, and the player will step forward with the back leg, entering the court. In order to give the ball a correct trajectory, the contact on the ball must occur in its posterior – inferior portion,

the angle between the horizontal and the ball trajectory being around 45 degrees. Due to the lower height of the net, this angle may be smaller for girls.



P.F. – After the execution, the player is in a high position, almost on top and leaning forward, the arm that hit seems to follow the ball on its trajectory.

### **1.2. Side low serve**

A variant of the side low serve is executed from the side, the performer standing with the side opposite the hitting arm towards the net. The swing of the hitting arm is done in front of the performer, with a slight twist of the torso, the shoulder line approaching a parallel to the net. The execution is also from a lateral position to the net, but this time with the side of the hitting arm towards the court, the foot on the same side being further forward. The ball is thrown so that it falls in front of the shoulder of the hitting arm, the hit occurring tangentially to the ball and on its dorsal side, the execution as such also giving the ball a pronounced rotational movement, which also increases the effect. The hit is strong, the ball receiving a very high trajectory.

### **1.3. High front serve in force**

It is a technique that lends itself to all levels of the game, from beginners to high performance and its effectiveness depends on the strength indicators of the performers, but also on their height and wingspan, which are very important in raising the point of impact of the ball and therefore, in shortening the ascending segment of the ball's trajectory.

P.I. – The performer's torso is straight, with the weight equally distributed on both legs, the leg opposite the hitting arm is one foot further forward, the soles parallel, and the line of the shoulders is either parallel to the net or with the shoulder of the hitting arm slightly backward.

The ball is held with the clumsy arm very slightly bent at the elbow, in front of the performer, at chest level, the striking arm either rests on the ball, or is bent at the elbow and thrown to the side, with the palm raised at head level and facing forward.

However, there are also players (especially male or female) who perform a kind of two-step lunge when throwing the ball, in order to impart greater force to the ball, given by the inertia of the body.

E.P. – By a small vertical swing of the arm with the ball, it is thrown upwards (approx. 50 cm) and towards the striking arm (for verification, the ball left in free fall on the ground must fall in front of the back leg). On this throw, an extension of the trunk takes place with a slight backward rotation of the shoulder of the striking arm and the transfer of weight to the back leg. From here, through a strong push from this leg, the impulse is gradually transmitted to the knee and hip joints.

P.F. – Finally the kicking arm descends towards the thigh of the opposite leg, and the back leg steps forward, the player entering the field. The force impressed on the ball will be in accordance with the level of force of the kicking arm and the amplitude of the extension and flexion movements described above.

## 2. ATTACKING HIT

The attacking hit is the most dangerous individual action for the opponent and is represented by the totality of the procedures for sending the ball into the opponent's court by hitting it with a hand above the net level by a player in a jump.

The attacking hit is the specific action through which a game cell is completed, in the 3rd or 4th hit, crowning the efforts of the entire team to build an attack through efficiency. (Mureşan,2005) The complexity of the attacking hit is also given by the 4 phases of its execution, which are: the momentum, the beat, the flight or / and the actual hit and the landing. (Mureşan,2000)

Before moving on to the description of these 4 phases, it is important to remember that there is a waiting position and another starting position, the two, in certain situations, becoming confused.

P.A. – Perhaps, in a way, it is incorrect to call a waiting position what a shooter does before reaching the initial position, because most of the time the respective attacker is in motion, either retreating from the block or after a previous attack rejected by the opposing block, or stepping on

the spot to match his...moment steps. A... static waiting position can possibly appear, only in Structure 1, when an attack is “removed” from the takeover and awaits the result of the actions of the other teammates, so that, then, he can also enter the action.

P.I. – The initial position is the marking of the moment before the moment begins. In this position, the body has a natural verticality and is oriented with the face in the subsequent direction of the moment, the arms hanging loosely by the body, and the gaze being turned towards the ball. What differentiates one initial position from another is the alternative of fixing the more advanced leg (left or right), and this depends on the number of steps of the leap and the arm with which the ball is hit

E.P. – The actual execution begins with the leap and continues with the beat, hitting the ball and landing.

## **2.1. The leap**

The leap is a complex of movements and procedures that help to perform a jump or a throw (preceding them). The definition is also valid in the case of the attack shot, since it is a jump, moreover, the leap is a necessity, if we take into account that a leap jump is much higher than one from the spot.

Regarding the leap as a component of the attack shot, it presents several particularities that create other features of the diversity of this individual attack action. These are: the number of steps, the direction of the leap and its shape.

In volleyball, the leap is generally limited to 1 - 2 steps, rarely 3 and very rarely more, the speed with which the game phases are carried out constituting the main reason for a permanent "time crisis" for the attacker. Regarding the number of steps, we must recognize that in the case of the two-legged jump, at the end of the leap, a half-step is taken with the supporting leg before the last step, which means that the leap is made up of one and a half steps or two and a half steps, etc. Only in the case of the one-legged jump can we speak of a whole number of steps (3).

## 2.2. The jump

The jump or the take-off represents the shooter's last support on the ground before the jump and its role is to transform the speed of horizontal movement into ascent. However, it is clear that this depends very much on the size of the last leap step, which must ensure a backward tilt of the trunk, the vertical of the center of gravity falling behind the support base, when the first contact with the ground in the jump occurs.

We have thus arrived at the two types of kick:

- one-foot kick
- two-foot kick.

### 2.2.1 One-foot kick

One-foot kick was fashionable at the beginning of the use of the attack kick and is today brought back into the limelight with great efficiency, through an adapted procedure, in which the swing is close to the net.

This type of swing is necessary because blocking the body's advance on one foot is more difficult, and the performer has every chance of reaching the net, if the direction of the swing towards the net is maintained.

### 2.2.2 Two-foot kick

The two-foot kick is the most used and the most recommended, managing to fulfill the two tasks that I mentioned as well as possible, but this does not mean that it does not bear a series of comments.

First of all, the double-leg tap can be done in two ways:

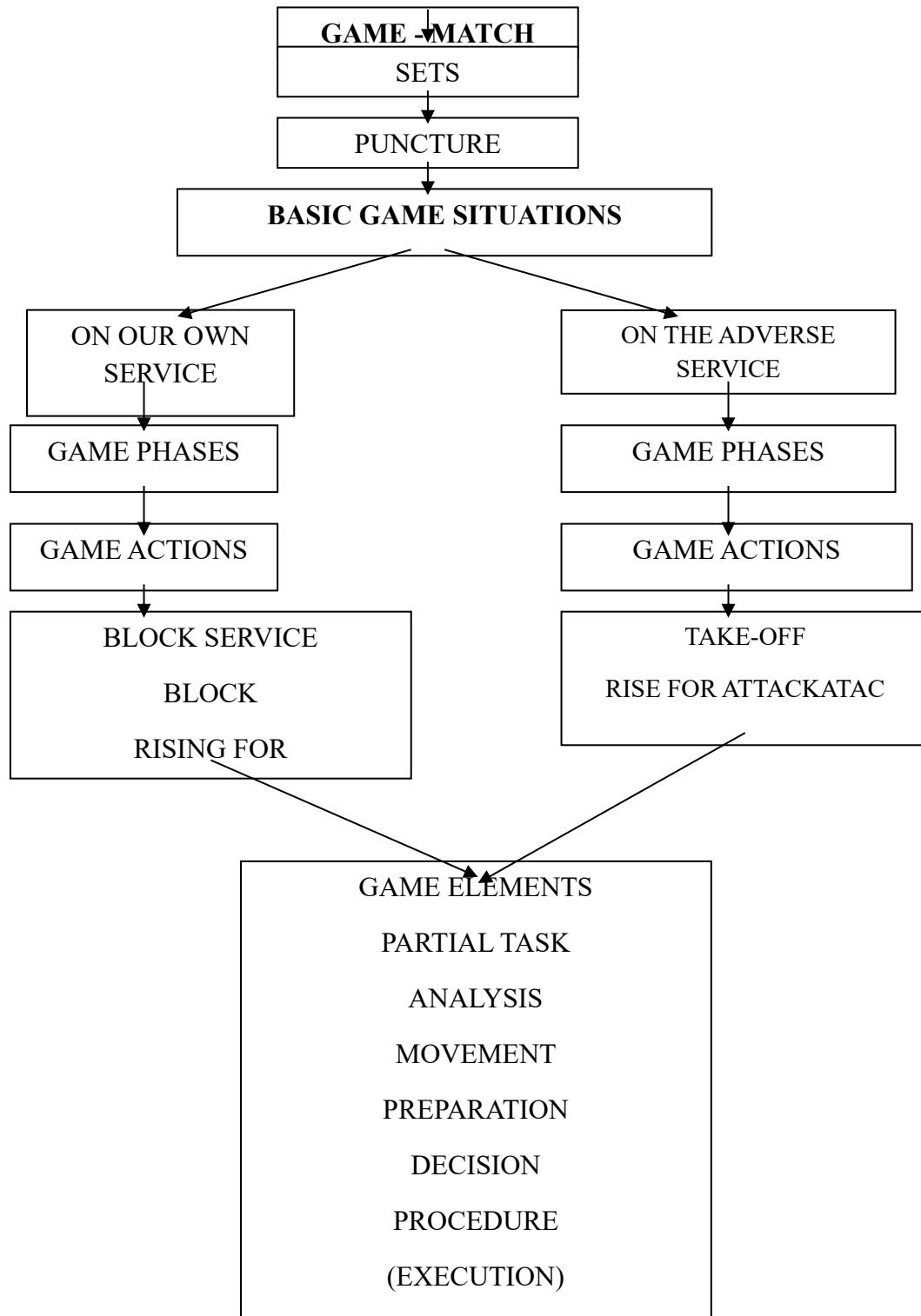
- simultaneously, which means that both feet touch the ground at the same time;
- consecutively, the two feet touch the ground one after the other, at intervals of fractions of a second.

## **2. THE MATCH OR MATCH**

An official volleyball game can be played between two teams of the same sex and the same category, the fight between the two teams ending each time with a winner, this being the “team” that won the first 3 sets. This means that a game is played according to the “best of 5 sets” system, but there are competitions, especially tournaments with a large number of participants or beach volleyball, where the “best of 3 sets” system is also played. These tie-breaking systems for the winner come from tennis, a game with older stages than volleyball.

The notion of match is also represented by the notion of match, although in tennis the match designates a set, but in the “Small Encyclopedic Dictionary” the match designates “the complete development of a sports competition”. (Small Encyclopedic Dictionary, 1999)

#### 4. STRUCTURE OF THE VOLLEYBALL GAME



## 5. RESEARCH SUBJECTS

I will conduct the study on the U19 CSS Zalău men's volleyball team, following the U19 Final Tournament, which took place in Zalău between May 7-11, 2025. I registered this team in the official matches held during this final tournament.

## 6. CONCLUSIONS

Following the study that I will complete, I want to reach conclusions that demonstrate, among other things, that:

- Attack actions (service and attack shot) are more efficient in sets won than in sets lost.
- The efficiency of the service is conditioned by the individual action of each player, while the efficiency of the attack represents a concretization of the effort of the entire team through the game actions preceding the completion.
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