

# TECHNICAL TRAINING – A FUNDAMENTAL COMPONENT OF SPORTS TRAINING IN THE BASKETBALL GAME

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**Abstract:** *The technique of a sports branch includes all the motor actions ideally executed from the point of view of their efficiency. The technique implies the rational and economic execution of a type of movements specific to sport branches. It includes a specialized system of motor structures established according to the regulations of the basketball game in order to obtain the optimum efficiency in competition.*

**Key words:** *technique, technical training, components of the technique, style, technical procedure, technical elements.*

## 1. Introduction

The content of sports training became more and more complex as sport performances evolved and as the work methodology for each sports branch was outlined and established. Due to such progress, it became necessary to systematize the content of sports training according to well-defined rules, among which those related to the purpose or the effects physical exercises have on various elements of the athlete's training. Therefore, physical exercises – differentiated according to their specificity and addressability, applied according to price rules - represent the content elements of sports training.

The fields such exercises address are: the technique, the tactics, the effort capacity, the mental, theoretical, artistic and biological sphere. Nowadays, sports training is based on: technical training,

tactical training, physical training, psychological training, artistic training and biological training for competition.

Technical training is a fundamental component of sports training.

The technique of a sports branch includes all the motor actions ideally executed from the point of view of their efficiency. The technique implies the rational and economic execution of a type of moves specific to sport branches. It includes a specialized system of motor structures established according to the regulations of the basketball game in order to obtain the optimum efficiency in competition [5, p. 234].

The technique of the basketball game represents all the specific moves executed by an athlete while playing the game, according to the rules and duties imposed by his/her team playing in a competition.

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Technique differentiates sports branches from one another: the basketball technique is different from the tennis technique, the ski technique or wrestling technique and so on, each having specific systems of motor structures.

## **2. Technical Training**

The technique is conditioned by the other components of the sports training, especially by the physical training. When training beginners, we must make sure of the physical availabilities that shall represent the fundamentals of their technical training, consisting of various repeats (in order to become skills). The development of the effort capacity at an inappropriate level leads to faulty technique. In sports games, technique influences in a priority manner the solution of complex game situations and conditions and the economy of the movements.

The level of technical training of an athlete greatly depends on his/her initial level and on his/her motor experience, a fact that determines appropriate methodical measures. Thus, for beginners, the training process aims at enlarging the motor basis that shall include means from the running class, jumping class, throwing the ball etc., while for trained athletes the specialization is a strict one. The appropriation of a sum of motor abilities and skills stresses the sensorial system to a larger extent – comparing the internal information with the external information and relating them to the verbal one – thus favoring the appropriation of the move.

## **3. Components of the Technique**

Analyzing the technique and the technical training, the scholars point out the following components:

1. The technical element is a fundamental motor structure substantiating the practice of a sports branch (passing, throwing the ball through the basket). The technical element is an abstract notion, as the passing is executed by certain well-defined motor structures.

2. The technical procedure designates a concrete motor structure or a particular way of executing the technical element. For example, throwing through the basket from the semi distance jump is a concrete technical procedure designed to execute a characteristic action of the basketball game with maximum of efficiency.

The technical procedures in each particular sport exist due to various factors, among which the coach and the athlete creating new models of efficient procedures: the morpho-functional and mental particularities of athletes who leave their mark on the execution of a certain technical procedure, the quality of the sports materials (boards, baskets etc.).

3. The style represents the particular way (the personal mark) of executing a technical procedure. It shows in high class athletes and its result is the efficient execution of a certain procedure. As far as beginners are concerned, the style is out of the question, as it is well known that in various phases of forming motor skills, moves with direction are not always the best.

4. The fundamental mechanism of the technical procedure is made up of a logical series of motor actions, objectively necessary to efficiently execute this procedure. Running, stamping on one foot, detaching, throwing and landing represent the fundamental mechanism of throwing the ball through the basket while moving. To this mechanism we must also associate the spatial-temporal and dynamic features of that particular procedure, namely the position of the body or of its segments

during the execution of the exercise (procedure), the final efforts or the emphasis of different moments of the action execution. Consequently, the fundamental mechanism of a technical procedure needs to be understood as a system of strongly connected (spatial, temporal, dynamic and energetic) factors determining an increase in efficiency.

The fundamental mechanism of the technical procedure is featured by:

- ❖ Spatial – temporal aspects
  - distance
  - amplitude
  - position
  - direction
  - duration
  - rhythm
- ❖ Dynamic – energetic aspects
  - of force
  - of speed
  - of coordination
  - of precision
  - of balance
  - of internal and external force

that result in the efficient performance of the muscles.

### **3. Learning the Technical Procedures**

The laws and the steps of learning the motor acts and actions substantiate learning the technical procedures, with certain specific, differential notes, determined by the particularities of each sport.

“Sports skills” are formed by long-term practice, with and without self-control, and they are influenced by tiredness, by the variety of the performance conditions etc. Thus, it results that the skills are not exclusively motor, they are formed by the participation of the second signaling system, turning into complex abilities.

Learning the moves in sport [3, p. 207] is special because performance is materialized in the quality level of the execution itself. If objects are used (for the sports games), these are intermediate tools to achieve and assess force, speed or resistance features of such moves. In sport we learn how to conduct our own body movements in unusual conditions - jumping, unbalance – coordination that requires a complex system of abilities.

The requirements of the competition regulations related to the display of the motor and effort capacities, also determine the particularities of learning a technique in sport (the duration of the attack in basketball is of 24 sec).

Learning a sport technique consists of three types that determine as many types of technical abilities.

1. The perceptive motor (or sensor-motor) learning resides in changing the conduct depending on the actual conditions emerging during training or competitions. The athlete reacts by a preferred answer that may be perfected from the coordination, precision or finesse point of view (e.g. launching the ball on the counter attack). This type of technical ability is executed by the spatial-temporal organization of the directly perceived “external events”. The perceptive images program and adjust the motor actions, correcting them (when appropriate) by several interventions until obtaining a synchronization between the anticipated image and the efficient action [3, p. 135].

2. The motor learning results in the abilities on the grounds of the sensor, kinesthetic or proprioceptive components, in which the end of a move is the sign for initiating the next move. The abilities attain the final level of the fluency, precision, coordination and tempo by stereotype repeats.

3. The intelligent motor learning is determinant in the training process of the "heuristic" sport branches techniques - like wrestling, box, sports games, fencing – in which the opponent is opposite and inventive, its actions being executed in high uncertainty conditions.

The technical procedures pertaining to the sports branches belonging to this category are also called tactical or "technical – tactical" (underline the content of the learned elements for tactical application purposes).

The steps of technical learning need to be passed through for the technical procedures and they have certain particularities determined by the specific rules of certain sports branches – regulations – and they are set depending on it.

The steps of technical learning are the following:

I. The step of information and of representation formation, is the step in which the athlete creates his/her conception and the fundamentals of the process that is to be learned – on the grounds of explanations and intuitive means. The athletes elaborate a section project (on the grounds of their previous motor experience) depending on the motor qualities, on the effort capacity and on the observation spirit they have.

II. The step of the "raw" or insufficiently differentiated moves is featured by the first practical executions of that particular technical process in which the verbal indications of the coach represent the main information received by the athlete. The phenomena featuring this step are: excessive effort, jerky (improper) rhythm, decreased amplitude, precision and so on. If the motor acts are appropriated with mistakes, such mistakes will be difficult to correct at a future time. For these reasons, particular motor measures (using the

necessary means, executing the procedures with restriction) and methods favoring correct practice are imposed, mainly referring to the components of the fundamental mechanism of the technical procedure.

III. The step of fine coordination and of technical procedure consolidation is essentially featured by the correct execution of the move, generally in varied standard or "stereotype" conditions: the execution with increased speed and force rates and in resistance conditions, fluent execution, with correct rhythm, precision and amplitude. The information is meant to "finish" and improve the execution of the previously learned procedure.

IV. The step of improving and overlearning the technical procedure is featured by its execution in various conditions with superior efficiency rates (coordination, precision, fluency and so on). The athlete is able to anytime adapt the executions to the most varied external conditions created by the opponent, the atmosphere, the field, the public and so on. Overlearning is an effect and a condition determined by the need for an increased number of repeats, and it is determined by each type of sport. In basketball, overlearning has massive intellectual participation as its valorization (throwing the ball through the basket from 3 points) requires a thorough mental analysis of the effective circumstances in which the shoot is executed (opponent, field, viewers).

Learning all the technical procedure is done on the grounds of certain models set by specialists after numerous and comprehensive studies that mainly refer to the fundamental mechanism of the procedure and also of the execution details specific of various styles.

Important competitions provide the best conditions to study the technique at the highest level. Accordingly, the competition organizers or the methodic forums of the international or national bodies organize technical data collection.

The audio-video means are located in various positions to include all the trajectories of the body and of its segments, and are highly important in the technique analysis. Such cameras are installed at least in three points in order to provide the analyst with a multidimensional picture (horizontal, lateral, frontal), and they are equipped with hi-fi chronometers and chronographers which precisely offer the duration of each move sequence.

Studying the technique and elaborating its rules results in the increase of the execution speeds, optimum coordination, mistake correction etc.

Going through the learning steps implies the permanent comparison of the execution to the model, analyzing the positive and negative aspects of the execution and the setting of corrective measures: circuit (feed-back) that may be repeated until the overlearning step.

**Feed-back** has three phases:

a. The premotor phase (corresponds to the first learning step) when the subject acknowledges the objectives of learning, depending on which intention appears, and a project containing the execution desired parameters is set.

b. the motor phase (corresponds to the second step) when the subject passes to the effective execution of the procedure with mistakes that cannot be avoided.

c. The post-motor phase of the execution's appreciation (afferent to steps III and IV), in which the athlete's mental scheme is compared to the model shown by the coach.

#### **4. Methodic Priorities Related to Learning a Sports Technique**

Although the techniques in sport are quite varied, we may emphasize some common traits of their learning organization as follows:

1. Establishing the basis of the technical training (for each training level – beginners, advanced, performance) is equivalent to the action of specifying the main technical procedures that shall represent the objective of those particular athletes' training. The coaches are supposed to establish the technical procedures to be appropriated and improved (during a certain period of time) on the grounds of the requirements of each quality level of the athletes [4, p. 203].

As far as the beginners are concerned, the essential requirement shall be the correct and thorough appropriation of the main technical procedures, acknowledging that they may be efficiently applied in the competition activity. The fundamental condition of appropriating in due time the technical procedures scheduled for certain training periods is to provide an increased volume of work materialized in numerous repeats.

2. Maximal valorization of the athlete's availability to obtain technical virtuosity may be found at all training levels and it is carried out at the same time as the solid appropriation of the scheduled technical procedures. Therefore, the coach must take into account the personal inclinations and options of the subjects related to some technical exercises. Hence, the technique is not a pattern including the non-differentiated training of all athletes, yet it is an instrument for optimizing the activity of each separate athlete.

3. For all training levels, technique appropriation is strongly related to the complex requirements of competitions.

Considering the effective requirements of the contest, technique may be scheduled in adversity conditions depending on the circumstances that may appear during the sports contests, thus specifying a competition technique and not an abstract technique, segregated from the concrete, multiple and permanently changing needs of a competition.

4. The individualization of training is the best method to appropriate and improve technique. As not all athletes have the same qualities, (some of them have better joints mobility, other better speed or better ability etc.) individualizing technique appropriation represents a rule of training.

5. The tendencies towards "technical exaggerations" need to be stopped as such exercises cannot be applied in competitions and they are not efficient. Such attitudes are mostly shown within the beginners groups, as they do not realize the requirements of the true virtuosity of the competition technique, thus being tempted to appeal to meaningless tricks.

6. The action system necessary for each technical procedure is set by the coaches, who specify a set of exercise structures afferent to learning that particular procedure quickly and thoroughly. To attain such objectives, we must also take into account the development of the motor qualities needed to optimize their execution. The algorithm shall be repeated systematically and for a long time, until obtaining the desired outcome of the repetition. Related to learning evolution, coaches may change the exercise structures, replacing them with other, more efficient ones for the new circumstances, even more interesting in order to fight monotony.

7. Independent exercise of the technical procedures or of some of their structures has an important role, yet it must be continuously doubled by repeats made in

circumstances similar to the competition ones, as they are not learned as a purpose itself, but to be easily and efficiently applied in competitions. For the better and more correct appropriation of such procedures, coaches resort to various methods, among which making their execution easier (e.g. throwing the ball through the basket at the sound signal, regardless of the position of the player when the signal is heard).

In the contemporary concept of technical training, practicing in conditions that are analogous or identical to the competition is highly important, being able to validate the effects and efficiency of training [1, p. 187].

8. Periodic evaluation of the technical training by means of control norms and tests.

Specialized teachers establish some exercise structures, depending on the specific nature of each sport, that are highly significant to emphasize the level of the technical training (e.g. executing a certain number of throws through the basket in limited time and with a certain percentage for scoring).

## **5. Causes Leading to the Stagnation of Technical Evolution**

Learning a sports technique, as all processes of motor learning is not a linear, ascending process, but follows the path of a discontinuous curve, featured by ascending parts and by still times.

The main causes determining "still times" in learning are:

1. Too much information provided by the coach – such as explanations and demonstrations – that the athlete cannot assimilate. In the initial phases of motor learning, attention is stressed to a larger extent, leading to accentuated mental tiredness, and due to the large number of

repeats, physical tiredness installs. Too much information, considering the already existing tiredness, causes the normal reaction of the body shown by lack of coordination and precision, faulty fundamental mechanism of the move etc. Reducing the quantity of information and optimum time pauses between repeats may prevent tiredness (both mental and physical). Thus it is important to carefully analyze the indications, specifying only those related to the moments of executing the technical procedure.

2. Accentuated physical tiredness, shown by the decrease of the effort capacities, of the general coordination reduces the control capacity. Therefore, the athlete must be permanently monitored and when tiredness symptoms appear, repeats must be ceased.

3. Incomplete information (verbal and intuitive) that does not create a clear representation of the ability or action to be learned.

4. A subject's lack of motivation consequently entails insufficient attention, low will etc.

5. The incongruity between the aspiration level and the athlete's capacities at a certain time requires the development of the factors conditioning learning and the improvement of the technical abilities (force, speed, resistance indicators etc.).

6. Using inappropriate materials and equipment from the quality point of view, which may determine incorrect learning of the procedures.

## **6. The Evolutional Character of Sports Technique**

The technique of various sports branches overdeveloped in the last 15-20 years due to the following causes:

1. Collaboration between the coach and scholars of other fields (biomechanics, aerodynamics, ballistics, electronics).

2. High technicality rates of the sports materials and equipments. For example, in basketball, the balls, the boards with rings, and last but not least the footwear, play an important part. The materials they are manufactured from overthrow many of the precepts of past technique and help to attain high performance.

3. The innovative search of athletes and coaches is the effect of the existence of more competitions, both internal and international, and aims at finding and promoting novelty to surprise the opponents and to ensure sport success.

Higher technical executions appear in each important competition (European and World championships, Olympic Games) in sports games.

Due to the fact that all that is presently promoted at an international level – as far as techniques are concerned, may be relatively easy to accomplish (assimilate), the scholars in the field are concerned with renewing them. Yet, the future belongs to technicians and athletes able to create new models, superior to the presently known ones. The personal mark of the athlete in executing a technical procedure is highly important in establishing new technical procedures and needs to be maximally valorized as they favor the creation of particularly efficient motor structures to gain success.

There is no doubt that sports techniques are continuously evolving, constantly improving from one step to another, changing in a spectacular manner. Because of this, scholars are permanently concerned with studying all the technique (continuous) improvement possibilities, thus orienting athletes' training both to the inheritance from the past as well as to the perspective of the future requirements of sports development.

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