

## Process of correcting technical errors in athletes in training Proceso de corrección de errores técnicos en atletas en formación

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### ABSTRACT

The main purpose of this article is to analyze the process of correcting technical errors in athletes in training. It is descriptive research, with correlated study, using empirical methods observation and survey. The population investigated corresponds to 109 athletes of the categories (10-11; 12-13 and 14-15 years), of athletics sport who account for 100%. The technical tests were carried out in two moments, 6 months apart; in addition, the statistical method for processing the obtained data, with the SPSS version 23 program, was applied. The parents of families and managers of the Hermosillo Multi-Use Center, Sonora, provided us with their consents to access the research.

**Keywords:** Process of correction; Technical errors; Athletes in training; Athletics

### RESUMEN

El presente artículo tiene como principal propósito analizar el proceso de corrección de errores técnicos en atletas en formación. Es una investigación descriptiva, con estudio correlacional, empleando los métodos empíricos observación y encuesta. La población investigada corresponde a 109 atletas de las categorías (10-11; 12-13 y 14-15 años), del deporte atletismo que representan el 100%. Las pruebas técnicas, se realizaron en dos momentos, durante con un periodo de diferencia de 6 meses; además, se aplicó el método estadístico para procesar los datos obtenidos, con el programa SPSS, versión 23. Los padres de familias y directivos del Centro de Usos Múltiples de Hermosillo, Sonora, facilitaron sus consentimientos para acceder a la investigación.

**Palabras clave:** Proceso de corrección; Errores técnicos; Atletas en formación; Atletismo

## **INTRODUCTION**

The technique is a simultaneous and successive system, directed towards a rational organization of interactions of internal and external movements that influence athletes. From a sports approach, it is understood that the first stage of development in training, in sports initiation. (Pérez, Legón and Aguilar, 2006).

These should be considered as a period of acquisition of skills, socialization, contact and teaching-learning (Giménez and Sáenz-López, 2000), subject to compliance with some social, pedagogical, psychological, biological and motor principles, that guarantee the development of the player (Blázquez, 1995). Many investigations carried out by different authors such as Hernández et al. (2000), Lorenzo (2003), Piñar (2005), Damas and Julián (2002), Ericsson, Krampe & Tesch-Römer, (1993), Pérez, Zagalaz and Romero (2004), make detailed references to the elements that make up the technique. In this task, the precision, understanding and feedback of the message is limited, and affects the adequate execution of the technical element, which reaffirms that the coach, in addition to having solid knowledge about the sport modality and the characteristics of the subjects he teaches, He must develop communication skills that favor an adequate expression and empathic relationship with the practitioners during the correction of technical errors (Sivila, 2005).

This author refers to three stages that are essential in the movements for the process of correcting technical errors in athletes in training, they are:

1. Elementary coordination of movements (Absorption of the basic elements of a movement in its most abrupt form).
2. Smooth coordination of movements (Total assimilation of movements and adaptation to changing conditions).
3. Stabilization of movement.

In our experience, for the process of correcting technical errors in athletes in training, it is due to the consequence of their poor preparation. For this reason, to begin it is necessary to teach an elementary and simplified technique on the part, where the movements are divided into phases; according to the possibilities of the newbies.

This allows a gradual transition to a more sophisticated and complex technique of performing the exercise or movement without excess.

The goal of every coach is to ensure that their athletes achieve optimal performance, in certain situations during training. In this regard, Semjen (1980), when talking about the training of technique by the coach, considers that he should have a detailed knowledge, as broad as possible regarding the special technique, in relation to the intrinsic laws of movement.

In order to define the concept of technique Hernández et al. (2000), in his work *Fundamentos del deporte*, analysis of the structure of the sport game, collects a series of concepts expressed by different authors, which, we consider important, for the correction process of errors in athletes in training. For Weineck (1983), sports technique is understood as the process of development in general through practice, of the most rational and economical training to solve a specific gestural problem.

The technique of a sporting discipline corresponds to a certain ideal motor type that fully preserves its gestural characteristics, perhaps supporting some modifications that correspond to individual qualities.

Lagardera and Lavega (2001), considers that the technique is an indispensable link in the praxis chain, that is, it represents a certain way of carrying out motor action effectively.

Bermejo (2013), the technique is an important component of any physical activity, it is decisive in the development of optimal performance; in addition to offering a high level of control and the possibility of intervention.

Hochmuth (1973), expresses that, for both the coach and the athlete, it is the visible end result of a sport. The characteristics of sports technique must be analyzed as a complex process, where it is necessary to carry out a review of the most important aspects and considerations to take into account.

From our experience, when a coach works with a group of athletes in training, they are in the early stages of technical sports training, they come up against the dilemma of making various errors in the execution of the exercises, gestures or movements they are learning. If the number of errors is multiplied, we would realize the difficult conditions that coaches encounter in order to rectify these errors. It is of great importance for us coaches, to determine the methodological order, to follow to

correct errors and determine which ones must be corrected immediately, and which ones can be left for later. For all the above, we propose to develop a methodology for athletes in training for the process of correcting technical errors.

## **METHODS**

Methodologically, a descriptive research was carried out, through a correlational study, where we used the empirical observation and survey methods. In addition to technical tests, these were carried out in two moments, during a period of 6 months before and after to compare the results during the process of correcting technical errors in athletes in training.

The statistical method used to process the data obtained with the SPSS program, version 23, was used, according to the investigated population of 109 athletes, in the categories (10-11; 12-13 and 14-15 years), respectively in the athletes of the sport athletics representing 100%. The parents of families and directors of the Multiple Use Center (CUM) of Hermosillo, Sonora, gave us their consents to access the research. The observation is to verify, in the training field, how the investigated subjects behaved, during the process of correction of technical errors in the athletes in the formation of motor habits and skills. The observations were made over a period of 6 months, for two hours a day in the training field, in the months of January to June 2019 of the same year. An observation sheet was prepared, structured with the following evaluation indicators such as:

- Explains and demonstrates the technical actions correctly.
- They tell you how to do the movements of the technique.
- They use suitable methods for teaching the technique.
- They always use different procedures and teaching aids.
- Observe the techniques that your classmates perform and evaluate them. A total of 89 observations were made.

The Survey, allowed us to collect the information offered by the 109 athletes, divided into the three categories (10-11 years) with 42 athletes for 37%; (12-13 years), with a total of 37 represented by 33% and, (14-15 years), being represented by a total of 30 athletes with 30%, all are in the training stage in athletics. The survey protocol is made up of 4 items, where the athletes had to mark with an X (X), the answers that

allow them to issue criteria, in particular about the work carried out during the training process, these questions have several options.

The Technical tests were applied to the athletes, to know the state of readiness for the work of correcting technical errors in the athletes in training. An evaluation scale was established to measure the different ordinal variables. This type of scale allowed us to summarize the information with absolute frequencies. The rating scale used is: (1 Poor; 3 Fair; 5 Good). It was carried out in two moments during a period of 6 months to compare the correlation of the results.

The statistical method was used in order to determine the data obtained with the statistical program SPSS, version 23, applying the statistics, mean, median, standard deviation to know the dispersion of the technical tests, which were carried out in a period 6 months apart, with a confidence value of 95%, using a confidence interval of  $p \geq 0.05$ , performed on the 109 athletes investigated to correlate before and after in the training process that represent 100%.

In the research, different materials were used that allowed us to perform well for the applied techniques, such as:

- CASIO brand chronometer, it supported us for tests where the unit of measurement that provides the result is given in minutes, seconds or tenths.
- Lienza was used for tests where the unit of measurement that gives the result is given in meters or centimeters.
- SPSS program, version 23.
- Fox 40 type whistle. Next, the main results and discussion obtained according to the empirical methods used will be put into consideration.

## **RESULTS**

Once the empirical methods were applied, we arrived at the main results, from a total of 89 observations in the training field at the CUM to the different categories of athletes in training, we were able to verify that the process of correcting technical errors, carried out by part of the coaches to the athletes in training of motor habits and skills, does not correspond to the required quality, according to our experience, due to ignorance of the correct effectiveness of the movements executed by the coaches, the impression of ease and, that make up the sport athletics, by the quality

of specialized perceptions, the acquisition of these motor habits. It translates into a low reliability of the motor actions; that is, the ability to effectively perform these actions in the presence of favorable factors such as, for example: excessive excitement, fatigue, change in external conditions. Where the greatest number of errors were made in the categories 10-11 and 12-13 years, respectively, athletes present greater difficulties in the process of their training due to lack of experience and poor coordination, they are fundamental causes that express technical errors in athletes in training and poor physical preparation.

Referring to the importance that a good sporting approach should have for our incipient athletes, where we are going to initiate them in mastering those skills and that, as we mentioned, being the basis and foundation of future sporting practice, jogging is an example, gazelles and races with take-off every three steps, all carried out in 20 meters, difficult to execute if the muscle groups are not sufficiently activated and awake by various actions, they have acquired and adapted to certain functions of the neuromuscular system.

Hubbard and Armstrong (1989) have shown that trained runners use their limbs correctly, have greater balance and lower energy expenditure, unlike those who have clumsy and too oscillating movement of the arms and trunk. Undoubtedly, the way of running of those mature runners cannot be modified with their mechanized gestures and deeply ingrained habits, but what can be done in athletes in training is to prevent future athletes from learning the technique of running in their sport initiation of wrong way. We must worry about teaching them well so that their running is more fluid, more elastic, less contracted and more aesthetic.

We take as a starting point, what is related to the correction of technical errors, due to the importance it is in the work for the training of athletes, we gave ourselves the task of observing the training process, as can be seen in the Table 1.

**Table 1. Result of the observations carried out by category**

| Categories                            | 10-11<br>years | 12-13<br>years | 14-15<br>years | Total observations<br>by category |
|---------------------------------------|----------------|----------------|----------------|-----------------------------------|
| Athlete in formation by<br>category   | 42             | 37             | 30             | 109                               |
| Observations carry out<br>by category | 33             | 33             | 33             | 89                                |

**Source:** Own elaboration

We consider that all coaches should know the importance of the process of correcting technical errors in athletes in training, however, there are aspects related to this process, which have not yet been studied in depth, and are not applied during systematic training, in most cases, it is done incorrectly. We are referring specifically to the types of information that the coach gives the athlete at the time of correction.

The information, feedbacks, feedback or feedback are the indispensable conditions that a good coach must carry out from the didactic point of view, with solid methods and solutions that are easy, but consciously for the training of athletes in training, with the purpose that changes in behavior occur in the short, medium and long term, so that these investigated subjects can assess the effects as well as the success of their results. According to those expressed, we can check the results in table 2.

**Table 2 Results of athletes polled.**

| <b>1</b> | <b>In the correction of technical errors your trainer.</b>                          | <b>Yes</b> | <b>%</b> | <b>No</b> | <b>%</b> |
|----------|-------------------------------------------------------------------------------------|------------|----------|-----------|----------|
| 1.1      | Require you to describe your own movements since the practical point of view.       | 17         | 16%      | 30        | 28%      |
| 1.2      | Require you to explain the write form technique.                                    | 19         | 17%      | 23        | 21%      |
| 1.3      | Require you to demonstrate the technique.                                           | 14         | 13%      | 12        | 11%      |
| 1.4      | Require you to observe the techniques that carry out your partners and evaluate it. | 12         | 11%      | 17        | 16%      |
| 1.5      | Tell you how to be the movement.                                                    | 31         | 44%      | 14        | 13%      |
| 1.6      | Carrect you some errors together.                                                   | 23         | 21%      | 13        | 12%      |
| 2        | When you have a mistake your trainer correct it?                                    | 55         | 50%      | 54        | 50%      |
| 3        | Your trainer teach you the technique's movements.                                   | 60         | 55%      | 49        | 45%      |
| 4        | Your trainer prove correctly the actions of the training.                           | 65         | 60%      | 44        | 40%      |

**Source:** Own elaboration

The mastery of the technique is carried out in the learning process, first, the athletes create motor representations, later, the attempts to perform practically come, and later, through the repetitions of what is studied in sports training, the knowledge that will later become a motor habit.

In the process of correcting technical errors, athletes in training must take care of their motor actions that are manifested during the assimilation of basic techniques. Later, during the integration of these simple exercises in much more complex motor actions.

The technical training process exercises are very varied, where athletes must acquire qualities of perception, analysis and reflection; as well as their ability to combine simple movements with much more complex motor actions to develop habits and move skills to a qualitatively higher stage.

For this reason we think that the methodical and systematic training of the vision of the movement is of great importance. In the bridge of connection with the practical work carried out. To make the foregoing explicit, observe tables 3 and 4, on the correlation of indicators of the technical tests and their correlation.

**Table 3 Results of technical tests applied to athletes in formation before in January 2019.**

| Technical test   | Race with moving low in 20 meters |       |       | Jogging in 20 meters |       |       | Gazelles in 20 meters |       |       | Race with takeoff each three steps in 20 meters |       |       |
|------------------|-----------------------------------|-------|-------|----------------------|-------|-------|-----------------------|-------|-------|-------------------------------------------------|-------|-------|
| □                | 10.33                             | 14.66 | 11.33 | 10                   | 13    | 13.33 | 10.66                 | 14.33 | 11.33 | 8                                               | 13    | 16.33 |
| Me               | 10                                | 16    | 11    | 9                    | 13    | 12    | 11                    | 15    | 10    | 8                                               | 14    | 14    |
| SD               | 1.527                             | 7.788 | 6.027 | 1.732                | 2     | 4.163 | 1.527                 | 1.154 | 4.163 | 1                                               | 3.605 | 3.464 |
| Confidence level | 0.535                             | 2.298 | 2.023 | 0.619                | 0.627 | 1.289 | 0.526                 | 0.343 | 1.398 | 0.400                                           | 1.129 | 0.978 |

**Source:** Own elaboration

**Table 4 Results of the technical test applied to the athletes in formation after in Jun 2019.**

| Technical Test   | Race with moving low in 20 meters |       |       | Jogging in 20 meters |       |       | Gazelles in 20 meters |       |       | Race with takeoff each three steps in 20 meters |       |       |
|------------------|-----------------------------------|-------|-------|----------------------|-------|-------|-----------------------|-------|-------|-------------------------------------------------|-------|-------|
| □                | 13.66                             | 13.33 | 9     | 14.33                | 11    | 11    | 14.33                 | 13    | 9     | 11.33                                           | 12.33 | 12.66 |
| Me               | 14                                | 14    | 9     | 15                   | 11    | 10    | 14                    | 13    | 8     | 13                                              | 12    | 12    |
| SD               | 4.509                             | 0.577 | 2     | 2.081                | 1     | 3.605 | 1.527                 | 2     | 3.605 | 2.886                                           | 1.527 | 2.081 |
| Confidence level | 1.377                             | 0.174 | 0.754 | 0.621                | 0.341 | 1.228 | 0.454                 | 0.627 | 1.357 | 0.968                                           | 0.489 | 0.661 |

**Source:** Own elaboration

## DISCUSSION

With regard to the moment of correction during the execution of the movement, it is proposed that the sooner the athlete receives external information regarding his movement, the clearer the new traces will be in his memory of the athletes to develop with the quality of habits and skills. This means that it would be favorable to provide

the additional information as soon as we have it. This moment is closely related to the ultra-short memory, having the limitation that those traces are quickly erased.

Within the process of correcting technical errors, it has to be taken into account, another decisive factor for the acceleration of the learning process and eradication of faults, is the means that the coach can count on to assist in the stabilization and improvement of habits and skills correct in the execution of sports gestures.

Finally, the main results achieved, allowed us to reach conclusions, according to the information obtained, 58.6% encompasses athletes in training who make technical errors, mainly in technical coordination tests such as: jogging, gazelles and races with takeoff every three steps, all carried out in 20 meters.

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