

Module 1. Critical Thinking and Methodological Context: Why Should We Question the Pre-established?

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Introduction

In the field of sports training, as well as in any other branch of knowledge, more and more resources have been invested in researching how to optimise current teaching methods, with the ultimate aim of evolving and being increasingly prepared when it comes to facing any event that may come our way. In sports, and especially in sports considered collective, these methods refer to game situations, and our improvement is related to how we become increasingly effective and efficient in each of them.

For that reason, the latest tendencies in training in team sports (specifically in the football modality) are aimed at finding that way of reproducing a reality of the game (a concept we will deal with later) that can only take place if we develop increasingly specific methods led by increasingly specialised people. In this sense, from our point of view, this leads to two situations that are closely related and that define the current panorama of training methodologies.

However, before going on to detail these two situations, we have to take stock of the situation and do an exercise of retrospection. Have we been coaches in our sport for more than 10 years? If we look back, would we say that what we used to do is out of fashion, that it is already obsolete? If we saw a colleague doing what we did ten years ago, what opinion would we have in the first instance? It would also be worth asking those who have been coaches for more than 20 or 30 years, how have they experienced each change of trends in training methodologies? What have they learned from the different transitions? Since surely the experience has allowed them to filter information and



prioritise what is relevant of each method, without necessarily choosing which methodology is the most appropriate.

As we said, there are two situations that can give us clues about the importance of training methodologies in today's panorama. These are:

- 1) The hyper specialisation of each discipline has led to ignore basic learning elements, and to give increasingly less importance to learning generic skills that do not happen in contexts identical to those of competition (or so it is believed).
- 2) The superficial and insubstantial use of the concept of methodology, produced to a greater extent by related commercial purposes, places it on many occasions as a label that predefines and audits good *praxis* in training, and gives *practitioners* a focus of attention towards the method in particular that they should use, instead of using this to agglutinate the processes that are derived from training.

In the following sections we will develop some reflections in order to better understand the points mentioned above, which invite us to question what is currently established (until a new way of looking at things bursts in).

Implicit Mental Models and Stereotypes

Before starting, we present you with another reflection exercise through the following riddle:

A father and a son travel by car. They have a serious accident; the father dies, and the son is taken to the hospital because he needs a complex emergency operation. They call a medical eminence, but when they arrive and see the patient they say: "I can't operate on him, he is my son". (Cantó, 2018,
https://verne.elpais.com/verne/2018/03/09/articulo/1520611883_345855.html) <https://www.youtube.com/watch?v=AYRg2DPj-FM>

How is this explained?

Perhaps some have considered that the answer was obvious. Nevertheless, it is common for many people to think of multiple hypotheses without coming up with an answer as simple as: the mother is the medical eminence. This is due to implicit partiality, which is the phenomenon that explains how the unconscious brain automatically makes associations between different concepts, as is the case of the figure of a man and the profession of a doctor.

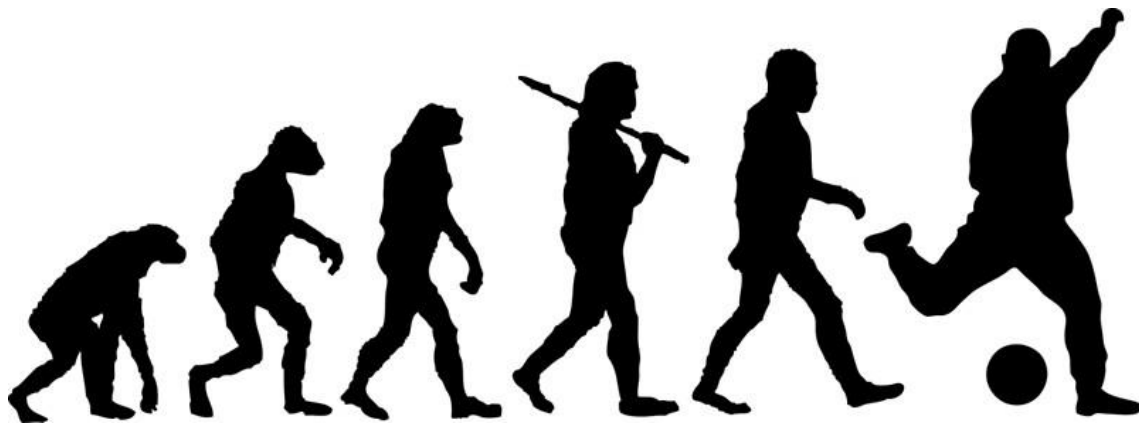
There are other riddles of this type that exemplify how our brain shapes our thinking through the stimuli and information that we receive unconsciously, which is a sign that it is worth asking ourselves why we think what we think or why we believe what we



believe. In this regard, in order to delve into this reading, we must get rid, as far as possible, of our cognitive biases and address the issues presented in an authentic, objective, and philosophical way.

In this sense, what do you think has been the great power of the human being and what has allowed us to evolve in the way we have as a species?

Figure 1: Evolution



Source: adapted from Redbubble (n.d.).

According to Harari (2014), author of the literary success *Sapiens*, language development in *homo sapiens* has allowed what had never been seen: organising hundreds, thousands and even millions of people to think in a certain way. Besides, language made it possible to create imaginary orders that allow us to mobilise, not only small groups of people, but the world population to believe and do certain things.

While the other species organise themselves in small herds based mainly on instinct, the human being has been able to kill and die because of an ideology. These ideologies have been masked in institutions (religion, politics, even sports clubs) that make it easier for the masses to walk in the same direction.

Therefore, it is thus said that he who does not think in the same way or does not follow the same rules is outside the system. The symbols and concepts that are born from language allow us to reduce the global vision that one may have of the world and order us into larger societies.

And what does this have to do with sports methodology? In the same way that the laws of a nation or the decree of Human Rights symbolise the good work of humanity on a larger scale, the method with which sports training is carried out is usually conceived as that normative framework with which we must practice and develop as athletic human beings.

Sport, in this case football, is still a microclimate that represents life itself manifested in certain conditions. Consequently, the fact of creating a reality for ourselves only specialised in sports, in the best of cases, or in a specific discipline, is meaningless.

Going out and exploring what happens in other areas and what phenomena determine human behaviour will allow us to better understand what happens in football. As Rietveld and Kiverstein point out (in Vaughan et al., 2019) “only by acquiring skills that flourish in socio-cultural practices different from one's own (outside of football), one can see new possibilities of action that come from the usual environment (when playing football)” (p. 6).

In this way, importance is given to the understanding of humanity, philosophy, sports practice in other disciplines or even in other areas of performance and human expression, such as art or music.

In an institution like FC Barcelona (*our home*) it is possible to have the highest expression of this general knowledge related to what influences behaviour and human dexterity: Mr. Paco Seirul-lo. When Seirul-lo (n/d) refers to any shaping element of the game and relates it to the learning process of the human athlete, he considers the connection of this being with their environment and what emerges from the interaction of both elements, essential for understanding the events of any activity. In fact, his extensive experience as a coach of athletes of all kinds of sports disciplines is a great argument in favour of his inclusive and transversal knowledge, apart from explaining why his proposal is based on always considering the human athlete as the centre of the training process (Martín, L. 2012, Retrieves from https://elpais.com/deportes/2012/07/30/juegos_olimpicos/1343681554_026722.html).

The **pre-established models** have become one of the references for society to evolve, without realising the counterproductive effect this has. Taleb (2017) in *The Black Swan* says that this phenomenon (that of the black swan) “is an unlikely event with important consequences, and that the explanations that can be offered a posteriori do not consider the random component that has also caused it” (Taleb, 2017, p. 46). We humans have been experts at making these unpredictable events fit a perfect model that relates their cause and effect.

Taleb (in AbeBooks Inc. & AbeBooks Europe, 2020) also notes that.

we humans insist on investigating things we already know, forgetting those we do not know. This prevents us from identifying opportunities and it makes us too vulnerable to the impulse to simplify, narrate and categorise, forgetting to reward those who can imagine the “impossible”.
(<https://www.iberlibro.com/cisne-negro-Taleb-Nassim-Nicholas-Booket/30366580916/bd>)

If we did an analysis of some of the currently fashionable and best-selling books - on football - they all have one thing in common: they explain something based on a fact that has already taken place. That is to say, there are few books on sports matter that encourage more reflection and explanation of general phenomena that can be



subsequently transferred to different areas. However, pre-established models reign, the detailed description of something that has already happened and that we intend to reproduce in a similar way since it represents a contemporary success.

Orth, Kamp, Memmert and Savelsbergh (2017) explain that creative motor actions and movement variability emerge from unique conditions and circumstances that open up a series of possibilities for action. For example, until 1968, in the high jump modality the action had always been performed ventrally. However, at the 2012 Olympic Games, Dick Fosbury (https://www.youtube.com/watch?v=Njd_sG2MP9o) broke the Olympic record with an unorthodox (at the time) and never seen technique (it is currently the main way to beat the bar in the high jump). The article previously presented (Martín, 2012), explains what aspects represented for Fosbury new possibilities of action or *affordances* (the mat, his height, the type of beat) and how those constraints formed a new way of jumping.

Figure 2: Fosbury's Jump



Source: Plaza, J. (2013). Fosbury's Jump Retrieved from <https://actioglobal.com/es/dick-fosbury/>.

Indeed, the emergence of this new high jump technique was originated in a context with far fewer variables than there may be in football, for example. Imagine if every time a football player proves to be one of the best in their category, football schools developed

training models based on replicating those characteristics or, on a larger scale, that the game played by a team that was awarded for its success served as an exact reference of how youth football teams should train and play.

While these management models are totally fair and can be effective, it is worth wondering if as project and human group leaders, we prefer to be like Fosbury, who created a new way of facing a challenge and, therefore, is the creator of the model; or if instead we choose to rely on what others have achieved to try to replicate the result.

Figure 3: The Reality of the Game



Source: own elaboration.

Let us take the Preferential Simulation Situation (PSS) that we see in the image as an example. It is a match on a defined field, with three goals per side, four players per team (including the goalkeeper), and a player who acts as a wild card and plays with those who have the ball.

From among the endless possibilities when it comes to constraining this playing context, let us imagine that the coach has established two very simple rules:

- 1) There is no offside.

- 2) You can score a goal in any goal, but if you manage to do it in the wings they are worth a double point.

In the first instance, these regulations would not allow to reproduce the **real** game context or as we prefer to call it, the competition context, since there is the offside rule in it, and the goal where goals are scored is in the centre. In this regard, in a recent discussion, the debate was opened as to whether this type of training situation promoted a transference to the match or whether, instead, it was prone to what is known as **training errors**. In this way, the argument of those who position themselves in the second case is: "The fact of having to avoid being scored in the side goals or the fact of having players behind our backs without being offside will make the players do things that they should not do in the game".

Nevertheless, it is possible to understand how learning is transferred in different contexts and it allows us to look beyond structural references, such as the offside regulations or the goal. Motor learning is based on the constant search for relevant information from the environment, a fact that allows adjusting and adapting motor action and being efficient in it. Therefore, it is convenient to guide our PSSs so that the information sources are adjusted to the game and not necessarily give relevance to the rigid elements, since the interactions that will emerge will adjust to the possibilities of action that are manifested in the designed environment.

This means, for practical purposes, that placing two goals on the wings or eliminating the offside rule will not necessarily mean that players, in the competition environment, do not adapt to the new circumstances (and take advantage of the *affordances* that this implies) and that, for example, do not prioritise the protection of the centre lane or leave a player behind knowing that they will be offside if they receive. On the contrary, surely the new information on the game (which, as we understand, will not be new, since playing by the official rules is a recurrent fact) will be decisive when observing the collective behaviours that emerge, and will leave behind the possible established behaviours that had taken place in a situation like the one exposed above.

Therefore, why propose situations that differ from what occurs in the competition? How useful is it to vary the stimuli in practice where the information from the environment may not resemble that of the match?

Before a new situation, players organise themselves based on the information available to them, which includes their experience and their previous experiences (for example, 7-year-old players who have never been exposed to offside, may not be sensitive to this information, even though it is part of the regulations). In the design of our training sessions, many game situations can be represented, but these will not necessarily be determined by the structural elements mentioned above, but the variability of stimuli, always in accordance with the relevant information of the game (which will be mentioned



later), will allow constantly exploring new solutions to new problems that arise from game dynamics.

So, what do we consider to be the reality of the game? What makes one practice more **real** than another?

- 1) A full-size pitch?
- 2) The presence of goals?
- 3) A certain number of players?
- 4) A game system?
- 5) Some positions per player?
- 6) The presence of a ball?

Balagué (2019) explains that sports modalities are no more than another dynamic system that evolves and that is constrained, in this case, by regulations. Besides, all of them maintain common principles that are typical of human activity.

If we understand that a sport is defined by the elements that have been listed, we will have a more limited vision of the learning and transference possibilities that happen between different activities and we will reduce the range of exploratory situations the player can experience. In other words, playing situations in which, we represent, for example, a kick-off play with the players located in their **positions** with the objective of reaching a specific area, does not need to have greater transference than a game in which the players move around freely and play to possess the ball. This is explained simply because the emerging behaviour is multifactorial and it is not possible to determine, *a priori*, what information will be relevant for the player or the team.

If we review the reading, we will observe that the concept of real game is questioned and the concept of specificity is omitted, both usually used in terms of training methodology. Instead, the concept of **representativeness** is constantly mentioned. By this we mean that what we propose in training intends to represent what we find in the competitive context.

Leaving aside, for the moment, that we may question whether the training process is about preparing for the competition (instead of considering that these two events are part of the learning *continuum* and that they feed back because they are unique contexts that present different conditions that can also favour the athlete's development), it does bear asking what information the player withholds in one context and in another, and why we insist on doing things similar to the game, but in reality they are not so much.

The relevant information about football, given that we are dealing with a modality where constant uncertainty prevails in areas close to the ball and that interactions emerge from a cycle of sensation and action, and not perception-decision-action (Gurrero and Damunt, 2021, p. 39.), does not have so much to do with what we can visually identify if we look at the game from the point of view of the spectator or the coach: polarisation of the pitch, presence of goals, playing system, initial position of the player, etc., but it will have more



to do with what is presented right in front of the player who plays. The constant changes in the dynamic elements of the game, having the ball as the main reference, as well as the teammates, opponents, and the interactions between them, will be determining in the individual and collective behaviour that we will see emerging in a game sequence.

Consequently, we seek to represent the game in our training practices through the appearance of these dynamic elements, which will entail the consequent self-organisation of the players in accordance with these changes in the environment. The term represent is expressly used, because we can only represent conditions that we understand to exist in the game, without ever being able to reproduce the reality of the game.

It is not possible either to know if we are more or less specific or if we propose more or less real things, since we are talking about unique and unrepeatable moments that only intend to simulate (therefore, Preferential Simulation Situations) those dynamic conditions that happen in the game.

Consequently, the aforementioned dynamic elements of the game become important here: ball, teammates, and opponents, and how their respective locations, distances, and track, entail the essential elements to understand the events of the game. This obviously happens in various circumstances and contexts that we can define through more structural elements, such as the location of the goals, the space references, the playing systems, or the positions; but always in the background and not as an end to it.

To finish this section and clarify the message that these reflections allow to transmit, we find it interesting to provide the definitions of game and sport, since at the origin of these concepts some insights can also be drawn out about the transference in motor learning.

The **game** is a human activity that is performed in order to have fun, entertain oneself, show a skill or compete against another person. So far, we could say that it shares a definition with the term **sport**, although the difference lies in the consistency the regulations have and the level of consensus that exists in relation to them. Sports institutions, federations or sports bodies govern the official and validated regulations for sports practice; therefore, competition takes place in a context in which the rules of the game are pre-established and are known to all. In the game, on the other hand, there may be more flexibility regarding the conception of these rules, and they may be interpreted in different ways depending on the people who play it.

This is nothing more than an argument to understand that what we call football (or baseball, handball, tennis) is **just** a social construction that defines a type of practice that was already played in different circumstances and with different regulations. Those who played something that was not football, but was similar to football, would have learned to play football in an easier way?

Before an obvious answer, one might wonder what then defines football and what criteria should be considered to ensure that typical and representative aspects of football are



practised in a training session. In this sense, not only what is within the theoretical limits that define what football is serves to **improve** football, but also activities that have similar features and that allow a series of motor and cognitive skills to be developed, among others, which surely have an impact on the player.

By this we do not mean that other sports modalities should be trained in the environment of a football team (which could be a positive measure in schools for initiation into football or sports in general), but we must begin to question the hyper specialization to which those who practice this sport are subjected and who, from an increasingly earlier age, are exposed to stimuli that are claimed to be typical of the specificity of football, but which clearly reduce the degrees of freedom for the player to interact with the ball, teammates, opponents, in a playing space and with a goal objective, which is really typical of football. And being also aware that all these elements can be put into practice in multiple ways, some of them nothing like the football we know.

Another clear example to reinforce this idea, in order to have a closer reference. and with which we are more familiar (we could mention that in Australia there is a multidisciplinary practice, from an early age, of very different sports - cricket, rugby, football, netball, Australian football - and that the level of professional athletes is world-class), let us present the case of the role of football7 compared to football11, the emergence of women's football or the almost non-existent relationship between futsal and football when it comes to developing the young player.

Again, the aim is to give room to new points of view and understand from a neutral perspective what opportunities could have been seized if we looked at sports development and motor learning from a global vision little contaminated by the stigmas and labels that prevail in society. In this case, we believe that it is totally obvious that a modality such as football7, which probably presents game dynamics that are very different from football11, provides a learning of skills (we avoid saying learning to play football) that motivate the practice of football11 (for which, obviously, a period of adaptation of the player to the new present constraints will be necessary).

Therefore, in the same way, we can transfer this reflection to the practice of another sports modality like futsal, or even to other games that cannot be called football, but that have a high incidence in the acquisition of skills for the practice of it (rondos, position games, situation games and any other game that is designed in the training environment). Likewise, it seems clear to us that the separation between men's football and women's football only makes sense when defining the gender of the participants, but that the learning processes and the transference between both activities will remain latent, no matter how much, visually, the dynamics may differ.

In short, the reader is invited to minimise the regulatory framework that defines each sports modality and, in this particular case, not to give so much importance to establishing what we consider football and what we do not, in order to prioritise going deeper into what the differential elements that will allow the learner of this or any activity to be



motivated to continue learning are. Or, in conclusion, quoting Davids (2020) “People do not learn to move, but we learn to learn to move”. Therefore, it is convenient to be more multidisciplinary and not so specialist.



References

- AbeBooks Inc. & AbeBooks Europe** (2020). *Reseña sobre El cisne negro*. Retrieved from <https://www.iberlibro.com/cisne-negro-Taleb-Nassim-Nicholas-Booket/30366580916/bd>.
- Balagué, N.** (2019). *Metodología: ¿De dónde venimos y a dónde vamos?* Lecture Barça Coach Development Program.
- Cantó, P.** (2018). *Tu respuesta a este acertijo dice mucho de tus prejuicios*. Retrieved from https://verne.elpais.com/verne/2018/03/09/articulo/1520611883_345855.html.
- Dauids, Keith** (2020) *Athlete Enrichment Training: The balance between specificity and generality of practice*. MSAI Webinar Series.
- Harari, Y.** (2014). *Sapiens. De animales a dioses*. Madrid: Debate.
- Orth, D., Kamp, J., Memmert, D., y Savelsbergh, J. P** (2017). *Creative Motor Actions As Emerging from Movement Variability*. Retrieved from <https://doi.org/10.3389/fpsyg.2017.01903>
- Plaza, J.** (2013). *¿Dick Fosbury?* Retrieved from <https://actioglobal.com/es/dick-fosbury/>.
- Redbubble** (n.d.). *Evolución humana jugando al fútbol*. Retrieved from <https://www.redbubble.com/es/people/mattw887/works/36570218-evoluci-n-humana-jugando-al-f-tbol>.
- Vaughan J, Mallett C. J., Dauids K, Potrac P, López-Felip, A.** (2019). *Developing Creativity to Enhance Human Potential in Sport: A Wicked Transdisciplinary Challenge, Frontiers in Psychology*
- Damunt, X. and Gerrero, I.** (2021). *El entrenamiento sistémico basado en las emociones: propuesta para la optimización del jugador en el fútbol formativo*. Retrieved from <https://futboldelibro.com/>

