

## SYSTEMATIZATION OF HANDBALL TEACHING MODELS IN PLAYER TRAINING

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SISTEMATIZACIÓN DE MODELOS DE ENSEÑANZA DE BALONMANO EM LA FORMACIÓN DE JUGADORES

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### Abstract

Handball is a team sport of invasion, with simultaneous dispute of possession of the ball both to protect your goal and to attack the opponent's goal to score goals without violating specific rules. The teaching-learning-training process for children and young people has been structured by different theoretical proposals in several countries. In this scenario, this literature review sought to describe the different propositions, emphasizing the teaching models adopted for training players. The systematization of the teaching-learning-training process applied to handball is fundamental, as it indicates the pillars that guide the ways of playing the sport: cooperation between team members and opposition to opponents when thinking about learning tasks. In the investigated proposals, the teaching-learning-training process is structured from situational dimensions that take as reference the tactical-technical behavior of the modality, with the use of incidental stimuli that enhance the game capacity and the resolution of problem-situations. The training tasks are based on the basic forms of the game, in which situations are provided for understanding the game based on tactical behavior.

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**Keywords:** Teaching; Sport; Handball.

### Resumen

El balonmano es un deporte de equipo de invasión, con disputa simultánea de posesión del balón tanto para proteger tu portería como para atacar la portería del oponente para marcar goles sin violar reglas específicas. El proceso de enseñanza-aprendizaje-formación para niños y jóvenes se ha estructurado a partir de diferentes propuestas teóricas en varios países. En este escenario, esta revisión de la literatura buscó describir las diferentes propuestas, enfatizando los modelos de enseñanza adoptados para la formación de jugadores. La sistematización del proceso de enseñanza-aprendizaje-entrenamiento aplicado al balonmano es fundamental, ya que señala los pilares que orientan las formas de practicar el deporte: la cooperación entre los miembros del equipo y la oposición a los oponentes a la hora de pensar en las tareas de aprendizaje. En las propuestas investigadas, el proceso de enseñanza-aprendizaje-formación se estructura a partir de dimensiones situacionales que toman como referencia el comportamiento táctico-técnico de la modalidad, con el uso de estímulos incidentales que potencian la capacidad de juego y la resolución de situaciones-problema. Las tareas de entrenamiento se basan en las formas básicas del juego, en las que se proporcionan situaciones para la comprensión del juego basadas en el comportamiento táctico.

**Palabras clave:** Docencia; Deporte; Balonmano.

### Resumo

O handebol é um esporte coletivo de invasão, com disputa simultânea da posse de bola tanto para proteger sua meta quanto para atacar a meta do adversário para marcar gols sem violar regras específicas. O processo de ensino-aprendizagem-treinamento para crianças e jovens tem sido estruturado por distintas propostas teóricas em diversos países. Neste cenário, esta revisão de literatura procurou descrever as distintas proposições, enfatizando sobre modelos de ensino adotados para a formação de jogadores. A sistematização processo de ensino-aprendizagem-treinamento aplicado ao handebol torna-se fundamental, pois indica os pilares que orientam as formas de jogar a modalidade: cooperação entre os membros de sua equipe e oposição aos adversários ao pensar as tarefas de aprendizagem. Nas propostas investigadas, o processo ensino-aprendizagem-treinamento é estruturado a partir de dimensões situacionais que tomam como referência o comportamento tático-técnico da modalidade, com a utilização de estímulos incidentais que potencialize a capacidade de jogo e a resolução de situações-problema. As tarefas de treino ocorrem a partir das formas básicas de jogo, nas quais são oportunizadas situações para a compreensão do jogo a partir das condutas táticas.

**Palavras-chave:** Ensino; Esporte; Handebol.

### Introduction

Handball is a dynamic and straightforward sports activity with usual gestures from everyday life, especially that of children, such as running, jumping, and throwing (SANTOS, 2014). It is a collective sport of the simultaneous occupation of the space by the teams with possible physical contact between opponents (ESTRIGA;

MOREIRA, 2014), characterized by the cooperation among team members and opposition to members of the opposing team (KNIJNIK, 2009).

Handball is a collective invasion sport that demands cooperation among team members and opposition to the opposing team members; there is a dispute of the ball possession, simultaneously protecting one's goal while attacking that of the opponent to score goals without violating specific rules. It is a sport with great perceptive and decisive complexity; it is an interactive sport in which information is continuously issued and interpreted, with very little time to make decisions (GRECO; SILVA; GRECO, 2012).

The functional structure of handball goes through four phases for each team (defense, counter-attack, attack, and return to defense) that are correlated and feed into each other, not necessarily following a linear logic (AMORIM, 2017). Despite being a sequential structure, there are endless unfolding possibilities, even with the limitations imposed by the game rules, such as the playing field, the duration of the match, the handling of the ball, and the conduct towards the opponent, among others.

This structure is manifested in a dynamic and high-complexity environment in which confrontation actions take place due to the ball possession, i.e., the attacking team seeks to gain space and create finishing situations aiming to score the goal, the team without the ball (defense) opposes the offensive actions aiming to recover the ball; regardless of the success (attack or defense), there is a transition phase, i.e., the attacking players perform a defensive return and convert into defenders, while the defending players convert into attackers performing the counter-attack (CORONADO, 2002). However, there is no strict development sequence for this structure because it is conditioned by situations of interactions of opposition/collaboration of players due to fundamental aspects such as the strategies of the teams and the dynamic development of the game itself (GARGANTA, 2000; SILVA, 2008; SOUSA et al., 2015).

The effective action of the players in the described context is directly associated with the stimuli of distinct principles and concepts experienced during the player training process, with an appropriate structuring and hierarchization of goals and contents being required for acquiring the most effective decision-making during the steps of the sports development process. Despite the divergences among authors relative to the age range and content distribution among the handball player training steps, there is consensus that there must be a gradual increase in the complexity of the individual, group, and collective actions over the steps for qualifying the players for the maximum sports performance (ANTÓN, 2000; EHRET et al., 2002).

Moreover, it is observed that, in the field of practical application and the process of teaching concepts, competencies, and skills to play handball, there are distinct models and theoretical propositions formulated for the steps for training and developing the handball player. From the exposed, we structured a literature review (RODRIGUES, 2021) of four proposals for systematizing the teaching models applied to handball, considering the implications proposed by the following works: a handball manual (GRECO; ROMERO, 2012), a grassroots training manual (EHRET et al., 2002), handball teaching guided by the teaching games for understanding model (ESTRIGA; MOREIRA, 2014), and handball teaching guided by the book "Iniciação Esportiva Universal" (GRECO, BENDA, 1998).

### **Handball Manual teaching model**

The proposal for systematizing the Brazilian sports training present in the Handball Manual<sup>5</sup> contributed to the standardization of the terminology on the modality in the country (UEZU, 2014) and proposed the sports development process from three stages (training, transition, decision/readaptation), with peculiar and specific phases to guide the handball learning steps). In the training stage, it proposes to stimulate basic

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<sup>5</sup> A product of the National Meetings of Handball Professors at Higher Education Institutions that gathered texts published by the Royal Spanish Federation present in the works "*Balonmán: manual básico*" and "*Balonmano*".

skills (up to 6 years old), sports skills (6 to 8 years old), and a combination of sports skills (8 to 10 years old).

In this proposal, the phases are constituted over a temporal structuring in which there is an interaction among the activities of the training process, performance requirements, and experience in competitions. During the training stage, there is a suggestion for Mini-handball<sup>6</sup> to be the implemented game form due to the theoretical strategies that indicate the need to "play to learn", i.e., emphasis on the unconscious automatisms through opposition activities (KNIJNIK, 2004).

Moreover, the proposal underscores the need for developing coordination abilities that will serve as a basis for the acquisition of motor skills for practicing the modality, duly structured on activities proposed by the premise of the "Escola da Bola" (KROGER; ROTH, 2002), which emphasizes incidental learning through games with the elements that compose the game.

In the transition stage, the first phase is that of sports universality (10 to 12 years old), orientation (12 to 14 years old), and direction (14 to 16 years old). The universality phase corresponds to the first category of competitive training of Handball (child or under12 category); the use of games is still recommended; from the stimulus to the game references in its phases (defense, counter-attack, attack, and return to defense), the forms of playing in functional structures are gradually introduced, starting from those with lower levels of perceptive and decision-making ability. The proposal suggests a universalization of experiences using the formal structure of the handball game (7 x 7) in which the participants must experience playing in all specific positions, including that of the goalkeeper, without specializing in positions (GRECO; SILVA; GRECO, 2012).

In sequence, still in the transition stage, in the orientation phase, corresponding to the child category (under-14), the formal teaching of handball is proposed, with stimuli for learning the individual tactical-technical elements, group tactical means, and attack and defense systems; however, it is reinforced that training tasks be provided

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<sup>6</sup> It is an initiation activity using an adapted, playful, and global form of the formal game for children aged 5 to 10 years.

from functional structures (1 x 1, 1 x 1 + 1, 2 x 1, etc.), which must take place with the organization of the game by attack and defense zones, especially the stimuli to high defenses, maintaining the highest ratio possible between motor tasks and the group decision-making processes.

In the last phase of the transition stage, corresponding to the cadet category (under-16), a "balance in the incidental-intentional learning processes" (GRECO; SILVA; GRECO, 2012, p. 248) is sought upon potentializing aspects connected to the articulation among the phases of the game (attack/return to defense/defense/counter-attack), diversifying the systems and specialized the practitioners in specific positions.

The third stage, corresponding to that of decision (from 16 years old), is the moment when, from the stimulus of the previous contents, the practitioner may choose among the various forms of appropriation of a sports practice, be it as a way to practice physical activity regularly, as an admirer of the modality, as a recreational practitioner, or readapting and deepening in the forms of playing and training in the juvenile category (under-18) and higher categories aiming at the high-performance level.

### **Grassroots Training Manual**

The proposal inserted into the Grassroots Training Manual was systematized with the seal of the German Handball Confederation (EHRET et al., 2002); the proposal structures the player training and development process into four phases divided from different age ranges, namely: phase 1, up to 12 years old (composed by the mini-handball category, 6 to 10 years old, and the child category, 11/12 years old); phase 2, pupil category (13/14 years old); phase 3, cadet category (15/16 years old); phase 4, junior category (17/18 years old).

The idea proposed by the authors (EHRET et al., 2002) stimulates the training of players able to practice a creative game characterized by an increase in speed, the anticipation of the situation, and a variable and polyvalent positional game (all-rounder). The training proposal is guided so that successive progressions occur regarding the individual training, work in small teams, and team tactic, with the valorization of

technical-tactical elements in detriment of the emphasis on the physical valences for the players to assume a 1 x 1 game proposal guided by speed and strength that may be developed at another time. Relative to the development of the attack, the idea is to provide situations of game sequences with requests for actions in small player groups, while, in the defense, there must exist high flexibility from the individual variations and different forms of defensive playing. All phases of this model suggest learning the motor schemes without opposition or with passive opposition to insert later active opposition actions, alternating tasks with support and numerical superiority and/or inferiority.

In the first phase (up to 12 years old), the most important is to motivate the practitioner to practice handball, emphasizing multiple and varied motor training, having as a premise the 4+1 form of playing freely with stimulus to individual defense (EHRET et al., 2002). Phase 2 (up to 14 years old) aims at the creative development of the playing ability, using activities in different functional structures to stimulate the technical-tactical relations, where playing is more important than exercising, with the early placement of players in specific positions being prohibited (EHRET et al., 2002).

In this scenario, the playing ability must be understood as a process of solving individual problem situations common to the game environment, manifested in response to the "unbalanced caused in the cooperation and opposition [...]"; besides, it is related to the outside influences and the motivators experienced in the game environment" (REVERDITO; SCAGLIA, 2009, p. 175). In other words, the greater the diversification of the experiences, the more considerable the stimulus to the playing abilities of the practitioners will be.

Relative to the development of the defensive aspects, the proposal recommends for phase 2 the use of zonal marking systems as a predominance of more open systems, such as the 1:5 system, characterized by one (01) player occupying the first defense line and the others (5) occupying the second defense line, for example. Moreover, game situations must be maintained with the permanence of individual marking, providing training tasks in simplified game situations (1 x 1, 2 x 1, ...) in which the tactical offense and defense group means may be introduced (permutations, crosses, marking exchanges, among others) (EHRET et al., 2002).

On the other hand, in phase 3, the authors suggested a gradual transition from formative training tasks to training tasks with higher levels of performance specific to the modality. In such tasks, the playing ability is still the primary goal; however, situations with defensive variations in more closed zonal systems (3:2:1, 3:3, and 4:2) must be provided, in which the offensive game must also occur in the form of a system, with initial 3:3 positioning with requests for various transformations into the 2:4 system. Nevertheless, the central idea of the proposal must not be forgotten, i.e., the training and development of all-round players, stimulating all to act in different positions, even if specialization in specific positions occurs in this phase. Lastly, in phase 4 (up to 18 years old), the central idea is the materialization of the player training process, and they must be able to play in different attack forms before varied forms of the defense systems (6:0, 5:1, 4:2, 3:2:1, 3:3), strengthening the relationships of continuity and structuring among the game phases (attack, defense, counter-attack, return to defense).

In short, all phases of this proposed model start from learning motor schemes without opposition or with passive opposition. It seeks the gradual reduction in the tasks, the reduction of the practitioner performing the supporting function, i.e., in 2+1 actions.

### **Proposal of teaching for the understanding of the handball elements**

Estriga and Moreira (2013; 2014) signaled the reflections for teaching the forms of playing handball, taking as a reference the Teaching Games for Understanding (TGFU) model, considering "the valorization of the cognitive and tactical component in the learning of the game" (ESTRIGA; MOREIRA, 2013, p. 124). The central idea of the proposal emphasizes the need for a teaching-learning-training process in which the technical skills emerge due to their relevance for resolving the game problems implicit in the training tasks, i.e., the learning of the technical skills is conditioned to each tactical context inherent in the distinct situations imposed during the game.

The player training and development process is also structured into four steps, with learning centralized on the logic of the game, with the progressive appropriation of the understanding and abilities inherent to the game. The authors stressed the need to implement training tasks that provide three types of distinct activities, namely "basic forms of playing", "partial forms of playing", and "tasks based on the game" (ESTRIGA; MOREIRA, 2013, p. 125). Moreover, it is observed that the authors' suggestion concerns the teaching-learning-training process through guided discovery, the experience of the game situation, exploration and attempts to solve the problems due to the presented tasks, stimulating the ability to understand and act in the game, respecting the ability of the practitioners.

In the proposal, there is no systematization in age ranges but learning steps to be planned according to the experience time of the practitioners in the face of the resolution and appropriation of the aspects inherent to the game and the act of playing. However, the authors propose that some principles to guide the structuring of the activities be considered: partial forms of playing and tasks based on the game; respect for the functional structures of the game; coherent advances relative to the game levels and the learning steps; the gradual increase of the perceptive and decision-making requirement level (ESTRIGA; MOREIRA, 2013; 2014).

Garganta (1998) presented some principles that classified the game level practiced (Box 1), listing some observable aspects relative to the communication in the actions, spatial structuring, and the relationship with the ball during the game.

**Box 01** - Principles to guide the structuring of the tasks.

| Phases  | Communication in the Action                             | Structuring of the Space                               | Relationship with the ball              |
|---|---|--|---|
| <b>Anarchic Game</b> - centered on the ball, subfunctions, problems understanding the game. | Excessive verbalization, especially to ask for the ball | Agglutination around the ball and subfunctions         | High use of the central view            |
| <b>Decentration</b> - the function does not depend only on the ball position                | Prevalence of verbalization                             | Occupation of the space depending on the game elements | From the central to the peripheral view |

|   |  |   |  |
|---|--|---|--|
| <b>Structuring</b> - Awareness of the coordination of the functions | Verbalization and gestural communication | Rational occupation of the space (individual and group tactic)            | From visual to proprioceptive control        |
| <b>Elaboration</b> - actions inserted in the team strategy          | Prevalence of motor communication        | Functional polyvalence<br>Coordination of the actions (collective tactic) | Optimization of the proprioceptive abilities |

Source: Garganta, 1998.

Scaglia et al. (2013) proposed an understanding of this structure, taking as a basis the concept of competence for enabling an understanding that advances from limited biases to the forms of presenting the terms. Hence, to the authors, the "relationship with the ball" is something that transcends the motor and technical learning and inserts itself in the learning of the tactical actions from open means so that unpredictability is always present in the development of this relationship in the game context.

The structuring relationship of the space is anchored on the perspective of reading the game spaces guided on the forms of gaining advantages on the situation, be it in proximal or distant dimensions, in a reduced or formal area of the modality in question. The communication in the game does not reside in conversations but in a body communication developed as one learns the language of the game, characterized by the need for understanding the logic of the game (rules, gestural means, and individual, group, and collective conducts), being interpreted in the light of the circumstances (SCAGLIA et al., 2013).

Estriga and Moreira (2013; 2014) presented a direct relationship between the game organization phases and the process of selecting contents and methods to be explored in the development of the handball practice. The teaching model presented by the authors understands that the formal game has significant organizational requirements and excessive possibilities of action and interrelation among players. Hence, through the guided discovery stemming from problem situations, they propose learning situations focused on "developing the ability to make choices quickly and intelligently" (ESTRIGA; MOREIRA, 2014, p. 58).

The learning situations are the basic forms of playing, partial forms of playing, and tasks based on the game. The basic forms of playing "represent a substantial reduction of the amount of information, stimuli, and playing options, allowing an increase in the time to decide" (ESTRIGA; MOREIRA, 2014, p. 59).

The partial forms of playing "are situations created with restrictions in space and number and function of players aiming to delimit a tactical problem" (ESTRIGA; MOREIRA, 2014, p. 60). There is focus on given problem situations, with a lower complexity of the basic form of playing, maintaining the relationships of cooperation/opposition present in the actions of attacking and defending in the game.

The tasks based on the game are aspects that have an emphasis on improving the technical mastery, "maintaining as best as possible its structure of use in a given game context" (ESTRIGA; MOREIRA, 2014, p. 60).

**1st level of playing:** from playing without a system to a rudimentary organization: Follows the particularities of the anarchic game, in which the offensive cooperation appears incipient with many pass errors and decision-making difficulties with rudimentary mastery of the technical knowledge of the game. The ball centers the attention of all players (ESTRIGA; MOREIRA, 2013).

**2nd level of playing:** from the rudimentary organization to the differentiation of the space: There is already a relationship of space occupation in width and depth. It is sought to give continuity and maturing to the basic tactical conducts, deepening the gestural notions from the previous step. The need for improving the cooperation among attacking players and introducing the concept of offensive numerical superiority emerges. From the defensive viewpoint, introduction of the basic notions of defense per zone and defensive cooperation.

**3rd level of playing:** transition into the formal ground and introduction of the 6th player (the pivot or central forward): At this level, the use of the formal field is proposed for developing the activities, increasing the requirements and possibilities of the cooperation/opposition relationship. The practitioners are expected to understand the phases of the game (defense, transition, attack, and return to defense), attacking in a positional manner in the different action zones and

defending from the structuring of the defensive systems, giving continuity to the aspects presented before, with the presence of the pivot.

**4th level of playing - the formal game:** In this step, the formal game is proposed, with the interpretation and understanding of all specific positions and functions both in attack and defense, altering the possibilities of embarrassments with the introduction of the central by potentializing the space-time, communicational, and organizational relationships through the introduction of the two-line forms of defense and the transformation process from the 3:3 attack to the 2:4.

In short, it is a teaching proposal that takes as a reference the learning of tactical conditioners from training structures that respect the means of acquisition by the process of experiencing handball conditioners..

### **Functional structures and handball teaching**

In volume 2 of the book entitled "Iniciação Esportiva Universal", Greco and Benda (1998) presented a systematization for teaching the tactical and technical means of handball from the functional structures of the game, taking as a means of handball from the functional structures of the game, taking as a reference two methodological principles: prioritizing the game and safeguarding the objective of the modality in question, in this case, handball: scoring the goal.

Complex situations that are not very clear are better learned through incidental processes. In this sense, incidental learning is proposed as a process in which the practitioner learns an objectified sport without knowing they are learning, given that the forms of playing consider street games and adaptations of game situations, stimulating technical and tactical competencies for acquiring the playing ability through functional structures (GRECO; BENDA, 1998).

To the authors, a Functional Structure is a game situation that develops functions of attackers (with/without the ball) or defenders (marking the player with/without the ball) according to the number of players, enabling the development of tactic behaviors (of attack and defense) that lead to making decisions considering the socioenvironmental context of the specific game situation.

In sequence, Greco and Benda (1998) present the functional structures according to the situations that make evident aspects directed toward the initial, positional, and situational phase, creating a progression scale within the structure itself, described below.

**1 x 0 Structure:** describes activities of an attacker without a defense, with emphasis on learning the individual techniques, evincing the abilities of perception and anticipation of gestures inherent to the use of progressions (cycle of passes, dribbles, or double cycle of passes) or shoots. From the tactical viewpoint, shooting at different angles with or without a goalkeeper and shooting from the different positions of the court. **1 + 1 x 0 Structure:** describes activities also directed towards the gestural means, involving a teammate, connected to passing and receiving from the technical viewpoint and to running lines from the tactical viewpoint.

**1 x 1 Structure:** directed towards the feint in the attack and the basic defensive position for combat, stimulating changes in direction and turns according to the perception of the defender. **1 + 1 x 1 Structure:** directed towards decision-making through procedures of using the wildcard player (represented by the symbology "+ 1" and who may be fixed or mobile) for developing individual technical and tactical abilities such as passing and escaping the marking, stimulating the actions of escaping the marking and using feints with and without the ball. Defensively, the interception, anticipation, and deterrence. From the viewpoint of group tactical actions, one-twos and defensive exchanges.

**2 x 1 Structure:** introduction of the group attack actions in offensive numerical superiority for the performance of crosses, passes, cortinas, even and odd fixation, and, defensively, interception, anticipation, and deterrence. From the individual viewpoint, it begins the understanding of the concepts of width and depth, besides the assistance actions.

**2 x 2 Structure:** maintains the previous principles but, from the tactical viewpoint, seeks numerical superiority, either attacking an empty space or feinting. **2 + 1 x 2 Structure:** a game with numerical equality but with the option of the wildcard player to support the offensive actions in the sense of the continuity of the action, emphasizing actions in width and depth.

**3 x 2 Structure:** the elements of assistance in the concepts of width and depth are emphasized. The unfolding work begins in the same direction and the opposite direction of the ball. From the viewpoint of individual tactical actions, the escaping the marking, cortinas on the player with and without the ball, prioritizing the actions of the player who is without the ball, assistance. Group tactics in width: cortinas, crosses, and unfolding. Tactics in depth: blocking the player with the ball and assistance to the player who unfolds.

**3 + 1 x 3 Structure:** emphasize unfolding activities starting from width and depth situations seeking the application of the concepts of numerical superiority in the different positions, stimulating attack actions after unfoldings. **3 x 3 Structure** and sequences until the formal 6 x 6 game: to enhance the works of small societies, i.e., sectors of the court and interactions among players of the two offensive lines.

In short, it is a handball teaching proposal focused on experiencing situations to guide the decisions based on the signs through the perception of similar situations already experienced in the structures that compose the game through the stimulation of the coordinative abilities, motor skills, and decision-making.

It is possible to identify that there are many similarities among the conceptions of what must be learned in the pupil, cadet, and junior categories. All proposals aim at the training of the intelligent player. However, it is possible to identify two paths: one that stimulates the coordination and the skills to guide the tactical behavior and the other that stimulates the perception of the context and, as the situations require, address the motor relationships to help the solution and adjustment process.

The functional structures compose the bases for all propositions, stemming from a premise of stimulating aspects that compose the game, to be advanced by expanding the understanding of the possibilities of interaction with the closest players to the most distant players.

## From the models to the planning and structuring of training sessions

The sports coach is concerned with the construction of a practice environment with positive values (COTÉ et al., 2017) and the application of the concepts and strategies appropriate to invasion sports (ESTRIGA; MOREIRA, 2014; KNIJNIK, 2009; REVERDITO; SCAGLIA, 2007), being aware of the personal competencies that guide the values and means of proposing the development of the tactical-technical contents of the games (BETTEGA et al., 2017) in an environment that allows the genders equal conditions of the offer and opportunity of sports experiences (ANDERETE SCHWEL, 2021).

The training sessions must be organized so to cover the identification data within the periodization, training phase, and training sequence developed (IBAÑEZ et al., 2010). The pedagogical variables offer information on the characteristics of the task, the content one wishes to work, the type of activity, the relationship among the participants, and the explanation of how they will be organized. The organization must cover the description of the task, the graphical representation, and the objectives for the attack phase and the defense phase in each activity carried out (IBAÑEZ, 2008).

The means are the activities carried out to reach a given end and are previously defined depending on the objectives present in the teaching-learning-training process. The material resources are the elements that will help the functioning of the proposed activities. The organizational variables are dedicated to the number of players present in the session, the spatial structure used, the temporal distribution of the task, and the organization of the material resources necessary for the training session (ALARCÓN; CÁRDENAS; UREÑA, 2008).

Coque (2008; 2009) proposed that the external load variables allow the sports coach a quantification of the training load present in the tasks and, consequently, a training session without the use of complex materials. To the author, the internal load variables are related to the monitoring through a frequency meter to control the intensity zones, complemented by the kinematic variables articulated with the technological resources of localization and global positioning.

Based on these indicators to guide and control the training sessions, the author believes that sports coaches have quality in their interventions. Analyzing these conditioners described by Ibáñez (2009) allowed getting to know the work performed, adjusting the criteria aiming at quality, culminating in what the author called the Continuous Cycle of the Quality System, composed of five phases that will guide the conducts of the sports coach: say what we do; know what we say; record what we do; assess what we do; act on the differences.

The definition of the objectives guides the sports coach to the choice of the relationships that will be established during the structuring of the training session. From the pedagogical viewpoint, what are the phases adopted (warm-up activities, physical preparation, recovery, conversation/assessment, goalkeeper routine, attack, defense, mixed, or transition); for each activity, a progression is sought that considers the situations that will be used (numerical equality, superiority, help), the types of playing positions involved, and whether or not there will be shooting to the goal; what handball content is being stimulated among the various existing methodological options and how the opposition will behave in the face of the offensive and/or defensive actions (DALLEGRAVE; MENDES; NASCIMENTO, 2016).

Another competence inherent to the sports coach is the perception and management of the usable time of the tasks, being clear in their explanation, potentializing the motor experiences, and seeking to correct and guide at appropriate times. With the dynamic of the game actions, it becomes interesting to create activities with successive experiences in the face of situations with a relationship between the volume and intensity similar to those faced in the game.

The proposal by Ehret et al. (2002) for training sessions in training categories considers four steps: warm-up, basic exercises, basic games, and specific games directed at the game objectives. From the temporal structuring viewpoint, three parts are proposed: approximately one-third dedicated to warm-up, one-third to basic exercises, and one-third to basic and specific games.

The activities proposed for the warm-up are the forms of playing, directed to the objectives of the day through small games. "In the grassroots training, the coordinative exercises have a guaranteed place in the entire warm-up program" (EHRET et al., 2002, p. 222). Activities for general strengthening of the body through overall stabilization and strength exercises; and technical training with balls through specific handball actions, including goalkeeper warm-up and shoots from specific positions.

The activities proposed for the basic exercises are the basic games with a dynamic close to the game, stimulating individual tactical behavior. The activities for basic group exercises would be blocking, crossing, and engaging (in pairs). The counter-attack and goalkeeper training activities are also considered.

The third step of the training session is constituted by the basic games, taking as a reference the session objectives within the functional structures already mentioned (game in numerical superiority or equality 2 x 1, 2 x 2, 3 x 2, etc.). The fourth step, constituted by the specific games, involves playing the formal game, concerned with making evident the contents present in the training session. "The handball action is always a tactical action; therefore, this ability takes on a relevant role in the teaching-learning process" (GRECO; SILVA; GRECO, 2012, p. 237).

There is a recommendation to structure the training sessions guiding the attack, focusing the collective objectives to remedy the problem situations, to then make the defensive behavior evident. Another pertinent aspect mentioned is the organizational guidance of the tasks, the spaces where they will take place, how the rotations will be conducted, and other pertinent aspects (ESTRIGA; MOREIRA, 2014). Once the task is started, do not interrupt it for organizational guidance, centering the attention on the feedback that must be provided clearly and objectively, directed at each subject/situation, avoiding stopping the activity for corrections, leaving an appropriate time for this to occur.

The proposal by Greco and Benda (1998) presents the contents to be worked from the functional structures without delimiting a target age range for each experience. The box below presents a summary of the contents considering the pupil (13 and 14 years old), cadet (15 and 16 years old), and junior (17 and 18 years old)

categories from a systematization of the propositions made by Greco and Romero (2012), Ehret *et al.* (2002), and Estriga and Moreira (2004).

| PUPIL CATEGORY (13 AND 14 YEARS OLD)   |   |   |
|--|---|---|
| Manual de Handebol (GRECO; ROMERO, 2012)   | Treinamento de Base (EHRET et al., 2002)  | Ensino do Handebol (ESTRIGA; MOREIRA, 2014)   |
| <b>In general lines</b>  | <b>In general lines</b>   | <b>In general lines</b>   |
| <ul style="list-style-type: none"> <li>- Develop cognitive abilities (perception, anticipation, decision-making)</li> <li>- Develop individual and group tactical abilities</li> <li>- Initiation in the positional game</li> <li>- Amplify the exercises of attention and dissociation of muscle segments (organizational pressure)</li> </ul>  | <ul style="list-style-type: none"> <li>- Overall and varied motor training</li> <li>- Individual tactic regardless of the systematic development level and playing ability</li> </ul>   | <ul style="list-style-type: none"> <li>- Consolidate the basic tactical notions and develop the fundamental technical resources introduced in the step preceding this age range.</li> </ul>   |
| <b>Defense</b>   | <b>Defense</b>  | <b>Defense</b>  |
| <ul style="list-style-type: none"> <li>- Marking with offensive zonal systems: 1:5; 3:3; 3:2:1</li> <li>- Develop individual defensive tactical ability: take the marking; body and arm position; take the ball from the opponent</li> <li>- Initiation in group zonal marking: marking exchange; following and sliding</li> </ul>               | <ul style="list-style-type: none"> <li>- Individual tactic</li> <li>- Offensive defense (opponent-oriented)</li> <li>- 1:5 Mixed zone</li> <li>- Recommendation to play 5 min per training session in individual marking</li> </ul> | <ul style="list-style-type: none"> <li>- Introduction of the defense to the aligned zone</li> <li>- Consolidate the principles of defense in proximity with the opponent</li> <li>- Introduce basic notions of defense of the zone and defensive cooperation</li> <li>- Distance and interception marking</li> <li>- Help (covering and dobra)</li> </ul>                 |
| <b>Attack</b>  | <b>Attack</b>   | <b>Attack</b>   |
| <ul style="list-style-type: none"> <li>- Initiation of the positional game in the formation of the 3:3 attack</li> <li>- Develop a sense of the changes in position in width and depth of the court</li> <li>- Group tactic: one-twos, crosses, permutations, and cortinas</li> <li>- Tactical behavior in 1 x 1 and 2 x 1 situations</li> </ul> | <ul style="list-style-type: none"> <li>- Fast switch of defense and attack and positions in width and depth</li> <li>- Individual tactic and technique (1:1 and 2:1 game)</li> <li>- 3:3 Positional game</li> </ul>                 | <ul style="list-style-type: none"> <li>- Ensure/develop the rational occupation of the space in width</li> <li>- Fast transition from defense to attack</li> <li>- Creation of numerical superiority</li> <li>- Attack zones</li> <li>- Creation of pass lines</li> <li>- Successive penetrations</li> <li>- Offensive repositioning movement without the ball</li> </ul> |

| CADET CATEGORY (15 AND 16 YEARS OLD)  |  |   |
|---|--|---|
| CBHb Handball Manual  | German Federation Handball Manual  | Handball teaching from the Teaching Games for Understanding (TGFU) model  |
| <b>In general lines</b>   | <b>In general lines</b>  | <b>In general lines</b>   |
| <ul style="list-style-type: none"> <li>- Develop tactical techniques necessary for the requirements of the different positions and functions of the team</li> <li>- Continue to develop the cognitive capacities and use the change in speed in the action of escaping the marking</li> </ul> | <ul style="list-style-type: none"> <li>- Beginning of the specialization in the positions</li> <li>- Individual tactic within the aspect of the universality of positions</li> <li>- Development of the playing ability</li> </ul>                                   | <ul style="list-style-type: none"> <li>- Consolidation of the feints in the tactical vocabular</li> <li>- Notion of blocking</li> <li>- Escaping the marking for support (creation of pass lines) and rupture (assistance or finalization)</li> <li>- Perfecting of the shots with the adequation to the game functions at the wings and center of the defense</li> <li>- Dribbling in progression</li> </ul> |
| <b>Defense</b>  | <b>Defense</b>   | <b>Defense</b>  |
| <ul style="list-style-type: none"> <li>- 3:2:1 Offensive system</li> <li>- Unfoldings and switching attack formations (functional structures 3 x 3 or 4 x 4)</li> <li>- Defensive group tactic: basculação, space covering, switching the marking, sliding, shoot blockings</li> </ul>        | <ul style="list-style-type: none"> <li>- Ball-oriented 3:2:1 offensive defense</li> <li>- In the transformations of the attack into 2:4 - 4:2, or offensive 3:2:1</li> <li>- Group tactic: security, coverage, and blocking.</li> </ul>                              | <ul style="list-style-type: none"> <li>- Recovery and identification of the intervention space in the transition to the defense</li> <li>- Development of the concepts of help, cutting pass lines for the inner game, defense of the goal depending on the line of the ball and the pass lines</li> <li>- Defensive pressure oriented depending on the center of play</li> </ul>                             |
| <b>Attack</b>   | <b>Attack</b>  | <b>Attack</b>   |
| <ul style="list-style-type: none"> <li>- Integrate the individual tactic to the group tactic</li> <li>- 3 x 3 game with and without wildcard players and 4 x 4 with unfoldings</li> <li>- Fix the attention of your direct defenders performing actions without the ball.</li> </ul>          | <ul style="list-style-type: none"> <li>- Positional game and exchange of positions in a varied manner (3:3-2:4 attack)</li> <li>- Individual tactic in specific positioning</li> <li>- Positional group tactic for counter-attacks: simple and supporting</li> </ul> | <ul style="list-style-type: none"> <li>- Continued 3:2 attack with transformations into 2:3 for introducing the pivot concept</li> <li>- Game development in phases and continued attack with the pivot (2:3 attack)</li> </ul>   |
| JUNIOR CATEGORY (17 AND 18 YEARS OLD)   |  |   |
| CBHb Handball Manual  | German Federation Handball Manual  | Handball teaching from the Teaching Games for Understanding (TGFU) model  |
| <b>In general lines</b>   | <b>In general lines</b>  | <b>In general lines</b>   |
| <ul style="list-style-type: none"> <li>- Amplify the concept of players who play in several positions, especially in the attack and defense</li> <li>- Develop the individual and group playing ability against diferente defensive systems</li> <li>- Mastery of feints</li> </ul>           | <ul style="list-style-type: none"> <li>- Positional training, but in several positions (allrounder)</li> <li>- Develop the playing capacity in diferente defensive and offensive formations</li> </ul>   | <ul style="list-style-type: none"> <li>- Introduce the central player as na organizer</li> <li>- Consolidate pace changes in the exploration of the phases</li> <li>- Resources to the tactical group means for the creation of situations of numerical superiority: crosses, specific position changes, blocking, and posts</li> </ul>   |

| Defense  | Defense   | Defense   |
|--|---|---|
| <ul style="list-style-type: none"> <li>- 3:2:1 Defensive system more frequently, and functioning of this system in the face of changes in the attack formation</li> <li>- 5:1 defensive system in the different application forms: defensive-offensive-anticipative</li> <li>- Change in defensive formation and individual marking rehearsals combined with offensive defenses</li> </ul> | <ul style="list-style-type: none"> <li>- 3:2:1 Defensive system/6:0 defense</li> <li>- Variable individual tactics oriented by the situation (defensive, offensive, anticipative)</li> <li>- Application of different defensive formations in the game</li> </ul> | <ul style="list-style-type: none"> <li>- Zonal defense in lines (5:1 and 3:3)</li> <li>- Resources appropriate for the defensive phases</li> <li>- Opposition by priorities without rupturing the defensive organization</li> </ul> |
| Attack   | Attack  | Attack  |
| <ul style="list-style-type: none"> <li>- Principle of the continuity of the game, particularly after unfolding (3:3 to 2:4)</li> <li>- Shorten the duration of the attack in the positional game. Vary the type of attack combinations</li> <li>- Quality of the variation in the type of passes and shoots</li> </ul>   | <ul style="list-style-type: none"> <li>- Give continuity to the offensive game after the initial action</li> <li>- Shorten the game arming phases</li> <li>- Give sequence after the counter-attack</li> </ul>  | <ul style="list-style-type: none"> <li>- 3:3 and 2:4 Attack</li> <li>- Mastery of various conducts in the attack phases</li> <li>- Mastery of the game pace in the transitions</li> </ul>   |

Source: Amorim (2017)

## Final Considerations

In the systematization of the teaching-learning-training process applied to handball, it becomes necessary to take as a reference the pillars that guide the forms of playing the modality: cooperation among the team members and the opposition to the opponents upon contemplating the learning tasks.

The proposal for the Brazilian sports training system present in the Handball Manual takes as a premise the stages of training, transition, decision, and readaptation, each with peculiar and specific phases to guide the handball learning steps. These steps are constituted over a temporal structuring through interaction among the training activities, performance requirements, and experience in competitions.

The proposal inserted in the Grassroots Training Manual proposes four training phases, taking as a reference the age ranges that guide the organization of the grassroots categories in handball. The entire training proposal is oriented considering the successive progressions regarding the individual training, work in small groups, and team tactics. It proposes the valorization of technical-tactical elements to the detriment of the emphasis on physical valences. The attack with a proposal of situations of game sequences in the perspective of actions in small societies and the defense with high flexibility from the individual variations and different forms of defensive playing.

The teaching of the forms of playing handball taking the Teaching Games for Understanding model as a reference potentializes the cognitive and tactical dimension in learning the game. The technical skills emerge as they become relevant for the resolution of the game problems and the process of understanding their application in each tactical context inherent to each game situation. From the internal logic, the learning steps seek the progressive appropriation of the understanding and the competencies inherent to the game that stem from the basic forms of playing through increments and controls of situations that manipulate the degree of complexity.

The proposal of the book entitled "Iniciação Esportiva Universal" presented a systematization for teaching the tactical and technical means of handball from the functional structures of the game, taking as a reference two methodological principles: prioritizing the game and safeguarding the objective of the modality in question, in this case, handball: scoring the goal. It proposes incidental learning as a process in which the practitioner learns an objectified sport without knowing they are learning, given that the forms of playing consider street games and adaptations of game situations, stimulating technical and tactical competencies for acquiring the playing ability through functional structures.

Lastly, we suggest considering the situational dimensions that take as a reference the tactical-technical behavior from the functional structures, using incidental stimuli to potentialize the playing ability and the resolution of problem situations, and using tasks from the basic forms of playing in which the understanding of the game is stimulated from tactical conducts.

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