Module 3. Speed Training in Indoor Team Sports. Implementation in the Structured Microcycle

BARÇA INNOVATION HUB
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3.1 Introduction

Speed training is crucial in indoor sports, enabling athletes to perform sport-specific movements more effectively and efficiently, improve reaction times, and enhance mobility on the field. This module will cover the core principles of speed training for indoor team sports and how it fits into a structured training microcycle.

As outlined in the first module, speed originates from strength. When strength actions are performed over short or very short periods, they are generally referred to as speed. This ability is closely tied to the capacity to generate power, as illustrated in the following diagram.

Figure 1: Strength as the core physical ability from which speed stems.

Source: Original work adapted from Tous, 2017

To explain and better understand speed training within structured training, we will present specific tasks and discuss programming strategies for its implementation in a training plan. Throughout this module, we will also examine scientific evidence related to speed in indoor sports, aiming to better understand its role in athletic performance.

Ultimately, this reading will present a speed training approach based on complexity, providing physical trainers and coaches with effective tools to design and program tasks focused on speed that can be tailored to the specific demands of each indoor sport discipline.

3.1.1 Speed as a conditional ability in indoor sports

Speed is a vital conditional ability in team indoor sports, often making the difference between a successful or unsuccessful coordinated action or decision-making process. In fast-paced sports like basketball, futsal, handball, roller hockey, and volleyball, where space is limited, speed becomes a critical factor in outmaneuvering opponents and creating opportunities for success (Reilly et al., 2000). Speed is a physical ability related to strength, defined as the ability to perform motor actions in the shortest possible time. In team sports, unlike individual sports, athletes must repeatedly apply optimal levels of strength in short or very short timeframes during competition, often unpredictably (Illa et al., 2020). Therefore, the stochastic, non-linear, and complex nature of these indoor sports makes it impossible to predict with certainty when or how these actions will occur. Table 1 illustrates the key differences between individual and team sports regarding characteristics, elements, and factors that influence speed.

Table 1: Differences between individual and team sports in terms of speed

Individual sports	Team sports	
Cyclic, repetitive movements with minimal technical variability.	Significant technical variability, requiring athletes to adapt to each situation.	

Stable environment with few changing conditions.	Unstable environment with constantly changing contextual conditions.
Tied to the classical training paradigm.	Closely linked to the new training paradigm.

Source: Original work

Alongside the concept of speed, it's important to understand related terms, which include other factors crucial in indoor sports. For instance, agility and directional changes are closely linked to speed. Agility can be defined as the ability to change direction and speed of the whole body in response to a stimulus (Sheppard and Young, 2006). Other authors define agility with a focus solely on physical demands, generally describing it as a change of direction involving the entire body and quick movements (Tsitskaris et al., 2003). The key distinction in Sheppard and Young's (2006) definition compared to earlier definitions is the inclusion of response to a stimulus, rather than just directional changes. Therefore, agility can be described as an open skill influenced by the environment and its ever-changing

conditions, strongly tied to actions in team sports, whereas directional changes are a closed skill more reliant on conditional factors (Cardinale et al., 2011).

Additionally, as noted in previous definitions, speed in team sports is expressed multidirectionally. Consequently, terms like speed endurance (which shows the interaction between speed and resistance) or maximum speed (a concept different from outdoor sports like football due to spatial limitations) should be understood differently from the traditional approach. This is partly because these terms are related to actions that require more space than is available in indoor sports; and also because they often underestimate direction changes or agility, which occur frequently in indoor team sports. The following are concepts related to multidirectionality: acceleration and change of direction speed.

- **Acceleration.** Acceleration is considered a fundamental component of speed. Since most efforts in team sports occur within 20 meters (Di Blasio et al., 2012; Gabbett et al., 2012), acceleration should be a key focus in speed training. Achieving high rates of acceleration requires the application of fast, effective, high horizontal propulsive forces, with the torso leaning forward (Figure 2) and the shin angled similarly (Bezodis et al., 2018). Unlike top speed

phases, where the torso remains more vertical, acceleration has a much more horizontal component.

- The **change of direction** can be broken down into four key phases: acceleration, preliminary deceleration, foot placement during the change, and re-acceleration -which depends on the sport's scenario- entry speed, intended exit angle, the player's physical ability, and neurocognitive qualities. For instance, different change of direction techniques (such as lateral cuts, cross cuts, or V-cuts) have unique biomechanical profiles and can be considered optimal depending on the desired movement outcome (Dos'Santos et al., 2019). Each type of change of direction has different demands; for example, a 45-degree change involves less deceleration and re-acceleration than a 90-degree change, where deceleration becomes much more significant.

  Regarding changes of direction, we must also consider agility. Agility includes perceptual-cognitive elements, involving decision-making in the game context.

Which of the following options apply to speed in team sports:

- [ ] Significant technical variability, requiring athletes to adapt to each situation.
- [ ] Unstable environment, with constantly changing contextual conditions.
- [ ] Cyclic, repetitive movements with minimal technical variability.
- [ ] Stable environment with few changing conditions.

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Figure 2: Acceleration phase of a futsal player with ball control.

Source: FCB, 2023, https://goo.su/uTNp3

As shown, the goal of foot placement is to generate a significant horizontal force vector.

In general, the literature tells us that in basketball, during a game, there are around 1000 distinct movements occurring every 2-5 seconds (Abdelkrim et al., 2010). Obviously, each sport has its particularities, and differences in movement demands likely stem from the playing area size and the number of players on the teams. For example, a larger court with fewer players (such as futsal) increases the duration and frequency of actions, while a smaller court with more players (basketball) shortens the action duration and probably lowers the frequency, as they are distributed among more participants.

Actions such as kicks, shots, throws, receptions, jumps, and movements in all directions (accelerations, decelerations, sprints, changes of direction) are common in team sports and must be performed optimally and intensively multiple times in every game. Since all these actions occur within a complex framework, they are influenced by other events on the same level as these actions (e.g., often before a player executes an action, they will have completed a previous physical, perceptual, or cognitive action), by teammates and opponents' actions, and by higher-level structures, like coach instructions or even contextual factors such as the score or game moment, among other variables.

Despite the continuous nature of indoor team sports, they can be structured into phases of play to facilitate communication during training: possession, recovery, or transitions (both offensive and defensive). Generally, we can associate acceleration with transition phases and changes of direction and agility with possession or recovery phases.

In this sense, we avoid defining classic manifestations of speed, such as reaction speed, movement speed, cyclical movement speed, or acyclical movement speed, and instead aim to encompass speed and high-intensity actions within structured training, considering their fundamental pillars.

3.1.2 Speed in Structured Training

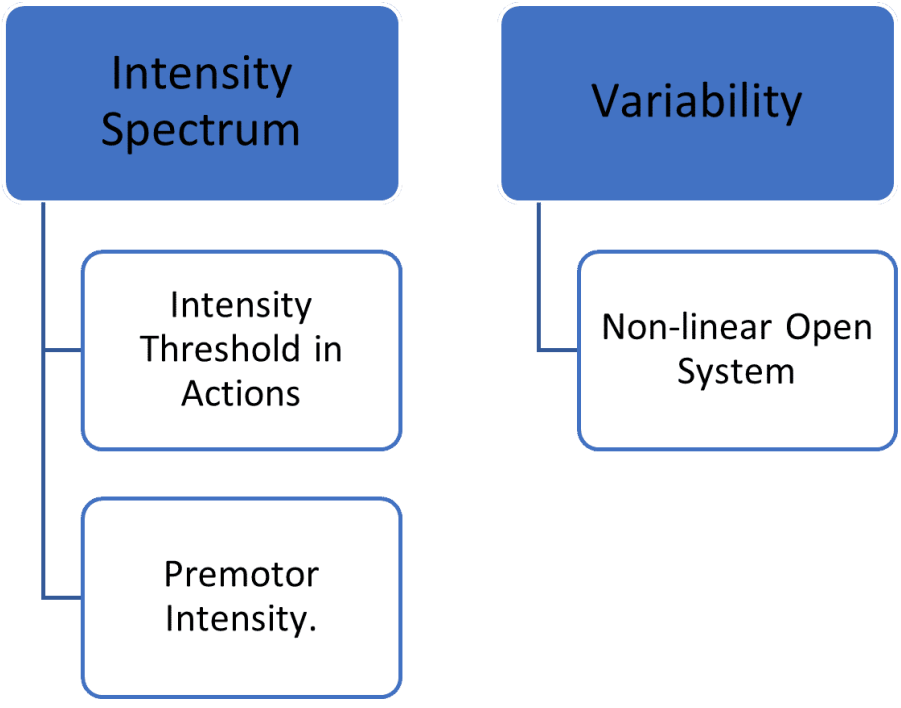
As we delve deeper into this reading, we understand that high-intensity, short or very short actions play a crucial role in indoor sports. It is important to highlight that in team sports, these actions don't happen in isolation but rather as part of a continuous sequence of movements within the game. For example, in handball, a player may receive the ball while running, dribble, change direction, jump, and then decide whether or not to shoot at goal. All these actions occur within the perception-action coupling cycle. This sequencing of actions is essential for players and must be considered when designing speed training programs for team sports.

In this regard, two key principles (Figure 2) guide the training of high-intensity actions in a structured approach: the intensity spectrum and variability (Seirul·lo Vargas, 2017). Let’s take a closer look at these principles in the following lines.

First, it is crucial to understand **the principle of the intensity spectrum**. This principle refers to the level of activation required before carrying out any action. It is recognized that in speed actions (force expression over a short period), higher intensity leads to greater speed while maintaining the same external resistance. Although high-intensity actions are vital for success in sports, they are only truly useful when effective during the game. Therefore, it is not

always appropriate to execute technical or physical actions at the maximum possible intensity during gameplay. Instead, it's necessary to maintain a variable and adequate (or optimal) intensity threshold for each game situation. It's essential to note that this does not mean the threshold should be moderate or low intensity, nor does it mean that actions shouldn't be energetic throughout much of the game. On the contrary, actions should usually be intense, though not necessarily at their maximum, but close to it, adjusting to each game context.

Figure 3: Diagram of the basic principles of speed training in structured training.



Source: Original work

Moreover, it is not only essential that actions have an intensity threshold suited to the game context, but also the speed and intensity with which an athlete processes perceptual and cognitive stages play a decisive role in performance. Some authors describe the speed at which this preparatory phase occurs as "premotor intensity," which often happens dynamically during the game. The information-gathering phase (perception) and decision-making preceding motor actions are as important as the motor action itself and can distinguish players of different levels. Thus, it would be a mistake to believe that in team sports, only mechanical and physical factors are important for executing high-intensity actions quickly and effectively. Clearly, perceptual and cognitive aspects (decision-making) are equally crucial.

As trainers, our goal is to provide players and teams with specific situations that optimize and fine-tune this intensity threshold for each game scenario. It is impossible to predefine a suitable intensity threshold for the perceptual process and action execution for every athlete. The key lies in continuous, personalized optimization (self-organization) through experience and adaptation in specific game situations. These situations will be embedded primarily in structured training methodology.

Secondly, apart from the intensity threshold, it is equally important to consider **the principle of variability** in high-intensity actions in team

sports. Variability is an inherent characteristic of these sports and one of their fundamental pillars, as they take place in complex and unpredictable environments, where players interact non-linearly and openly with teammates and opponents. Variability becomes a core principle allowing us to manage tasks and situations we set for the team, adjusting variability according to the team's and players' specific needs at any given time. We recognize that gameplay situations are dynamic and constantly changing, which means players must adapt to various scenarios and make quick, appropriate decisions in response to other players' actions (teammates and rivals) and game conditions.

By incorporating variability into training, we provide players with opportunities to face a wide range of situations and challenges. This not only optimizes their ability to perceive, adjust, and make effective real-time decisions but also promotes creativity, adaptability, and problem-solving within the team game. As trainers, it is crucial to design tasks and activities that present controlled variability, offering different game scenarios and specific challenges that promote the development of perceptual and cognitive (tactical) skills. By doing so, we prepare players for real competition situations, where variability and uncertainty are constants, and the ability to adapt becomes a key factor in team success.

In summary, variability is an essential principle in team sports, reflecting the complex nature of interactions between players and the

game environment. By properly considering and managing variability in training and gameplay, we provide players with the tools they need to tackle diverse challenges, develop perceptual-cognitive skills, and adapt effectively to the game's ever-changing dynamics and uncertainties.

Which of the following options apply to the PRINCIPLE OF INTENSITY SPECTRUM:

- [ ] Linear adjustments.
- [ ] Premotor Intensity.
- [ ] Metabolic component.
- [ ] Intensity threshold in action.

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3.1.4 Acceleration and Change of Direction Training

To be more specific, integrating speed training into structured workouts is crucial, but it is also beneficial to understand which conditioning methods are most effective for optimizing acceleration and change of direction.

Currently, specific training methods have been identified as particularly effective for improving both acceleration and change of direction (Forster et al., 2022). These are the most important methods for this.

- **Sprint Training** Sprint training, especially when performed on an incline or with added resistance, has been shown to be highly effective (Cahill et al., 2019; Okudaira et al., 2021). It enhances acceleration capability, which is essential for executing quick and explosive changes of direction.

- **Plyometric Training** Plyometric training, which focuses on leg power and the ability to store and release elastic energy, is beneficial for improving agility and change of direction. It is recommended to include plyometric exercises that involve movements in various planes, such as horizontal, lateral, and vertical jumps.

- **Strength Training** Strength training with resistance, especially when using unilateral exercises, can positively impact agility and change of direction. This type of training helps develop the necessary strength in the muscles involved in these specific movements.

- **Combination of Training Methodologies** Combining strength, plyometric, and sprint training can lead to beneficial neuromuscular adaptations that enhance agility and change of direction performance. It is important to plan the training to focus on developing one specific neuromuscular quality more prominently than others.

These training methods provide a strong foundation for designing effective programs to improve acceleration and change of direction in players. Adding perceptual and cognitive elements to these methods will help prioritize agility development, which is another key conditional ability to train in indoor team sports.

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3.2 Specificity of Indoor Sports and High-Intensity Actions

Indoor team sports have unique characteristics compared to outdoor team sports, and these differences can affect high-intensity actions (Figure 2). Below are some of these characteristics and their impact on such actions.

1. **Reduced Space.** Indoor sports are played in smaller areas compared to outdoor sports such as football, rugby, or field hockey. This means players have less space to move and perform high-intensity actions. The smaller playing area can affect the expression of maximum running speed in athletes. Additionally, the higher density of players on the court also influences the occurrence of these actions.

2. **Increased Physical Contact.** Indoor sports often involve more physical contact between players due to the proximity and density of the playing area. This increased contact can affect high-intensity actions,

as players need to overcome physical challenges and optimize actions in contact situations.

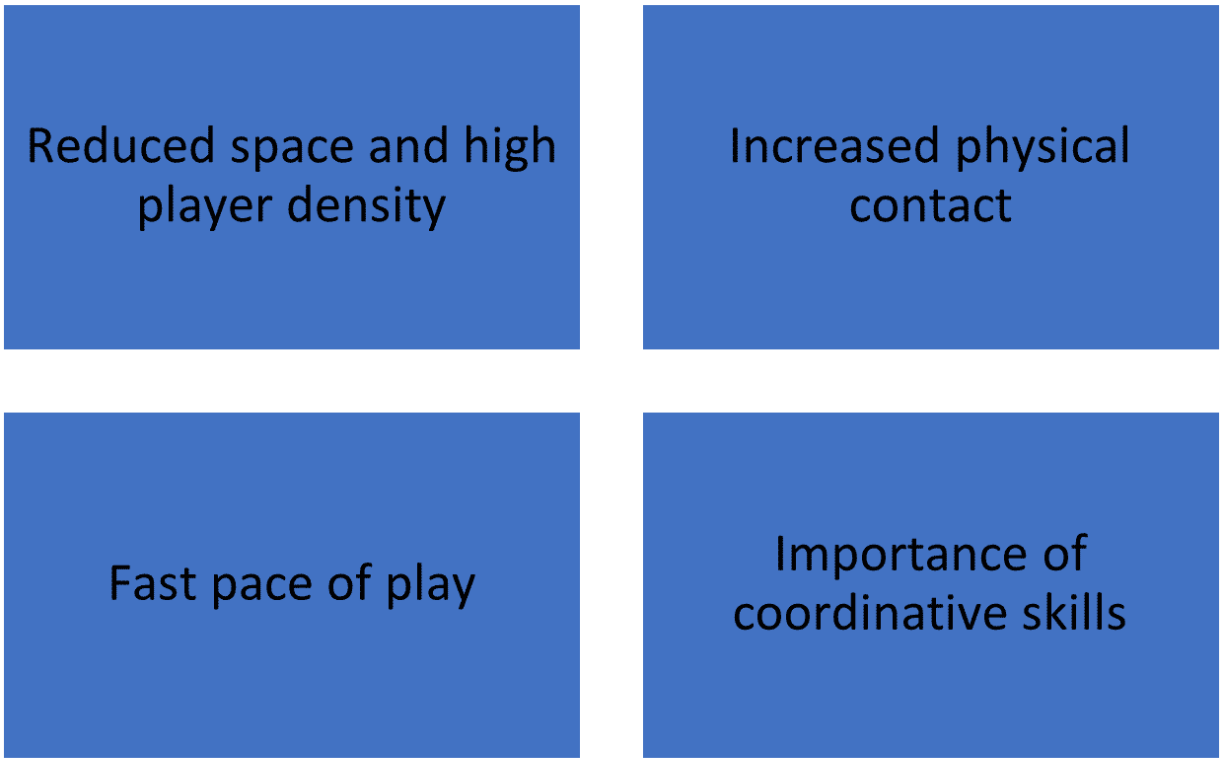
3 **Faster Pace of Play.** Indoor sports are typically characterized by a faster and more dynamic pace of play (technical-tactical actions, which will be discussed further in the next module) compared to outdoor sports. The reduced space and increased physical contact contribute to a quicker game, resulting in more frequent high-intensity actions in shorter periods. Players must react quickly, make decisions, and execute actions in a fast-paced environment.

4 **Greater Emphasis on Coordinative Structure** Due to the reduced space and greater pressure for ball recovery, indoor sports require a stronger focus on coordinative skills and precision in high-intensity actions. Players need to master skills like passing, dribbling, and shooting to execute effective high-intensity actions in various game situations.

Additionally, the specific characteristics of each sport, such as whether hands or feet are used to interact with the ball, also contribute to these differences.

In summary, indoor team sports have unique aspects such as reduced space, increased physical contact, faster pace, and an emphasis on coordination and precision. These aspects should be considered when designing practice environments. Therefore, trainers should ensure these fundamental points are addressed in their training proposals and adapt the rules of proposed situations to align with the logic experienced during matches.

Figure 4: Diagram of the main characteristics of speed training in indoor sports



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Effective methods to improve agility and change of direction:

- [ ] Sprint training
- [ ] Plyometrics
- [ ] Strength training
- [ ] Flexibility

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3.3 Design of Preferential Simulation Situations and High-Intensity Actions

In training for speed actions and situations in indoor team sports, preferential simulation situations (tasks) are strategically designed to enhance basic motor skills such as striking, throwing, receiving, jumping, or multidirectional movements, as well as the specific skills (content) of each sport.

What are preferential simulation situations? Preferential simulation situations (PSS) are events designed within structured training to replicate game-like scenarios. These situations aim to optimize and promote the development of various aspects of the human-sport system. PSS are created from analyzing and interpreting real game situations between the trainer and player. When a player recognizes a PSS, it gains meaning during training execution. Each PSS engages different systems or structures of the player, identified by the coach. Each player activates the systems that best respond to the created situation, based on their individual self-organization throughout their sports career and current context. Consequently, each player approaches the PSS in a unique manner.

PSS are designed to closely mimic the reality of the game and its internal logic. Players are encouraged to continuously solve various situations, generating voluntary and involuntary responses facilitated by extensive practice. Emphasis is placed on variability and specificity of stimuli to induce changes and adaptations in the systems involved. In short, PSS are designed to optimize player development and performance in the game. It is important to adjust PSS according to their level of specificity, ranging from very unspecific and distant from the real game to very similar. In all cases, they are PSS; they simply stimulate different systems depending on their specificity.

Basic motor skills involved in indoor sports, such as striking, throwing, receiving, jumping, or multidirectional displacement, are included in tasks with different orientations and levels of approximation based on their specificity. Thus, two realms of structured training are distinguished: coadjuvant training and the optimizing training. Besides considering actions and scenarios, and their relationship with task orientations and levels of approximation, it is crucial to apply the principles and methods of training available to enhance high-intensity actions.

Therefore, similar to the strength training model based on complexity and the pillars of structured training — categorized by task orientation and level of approximation — we will explore how to develop preferential simulation situations focused on speed

development. Additionally, practical examples applicable to various team sports will be provided to illustrate their real-world application.

3.3.1 Generic/General Orientation, Levels 0 and 1

Tasks that are less specific to competition include basic elements that help optimize the previously mentioned actions. Levels 0 and 1 in this proposal are primarily related to conditional (coadjuvant) strength training. This training can be performed using body weight or external loads, including reactive actions with eccentric overloads and different force vectors (primarily horizontal). These levels are also closely related to strength configurating elements and exercise families presented earlier (Seirul·lo Vargas, 2017). An appropriate combination of these strategies will help optimize high-intensity actions required in team sports.

For example, plyometric training can be used to optimize the stretch-shortening cycle of muscles involved in various sports movements. Complex training involves combining strength exercises with moderate or heavy loads, with low-load exercises and explosive or plyometric actions.

Besides strength training methods for preparing muscle groups related to specific sports movements, the generic orientation also aims

to protect athletes through proper muscle activation, reducing the risk of joint or muscle injuries associated with high-intensity actions.

Specifically, level 0 refers to tasks that develop muscle strength of the main groups involved in the specific action, without dynamic correspondence to the game. Level 1 is also related to muscle strength but uses lighter loads and maintains a technical correspondence with the sports movement, though removed from the real game context.

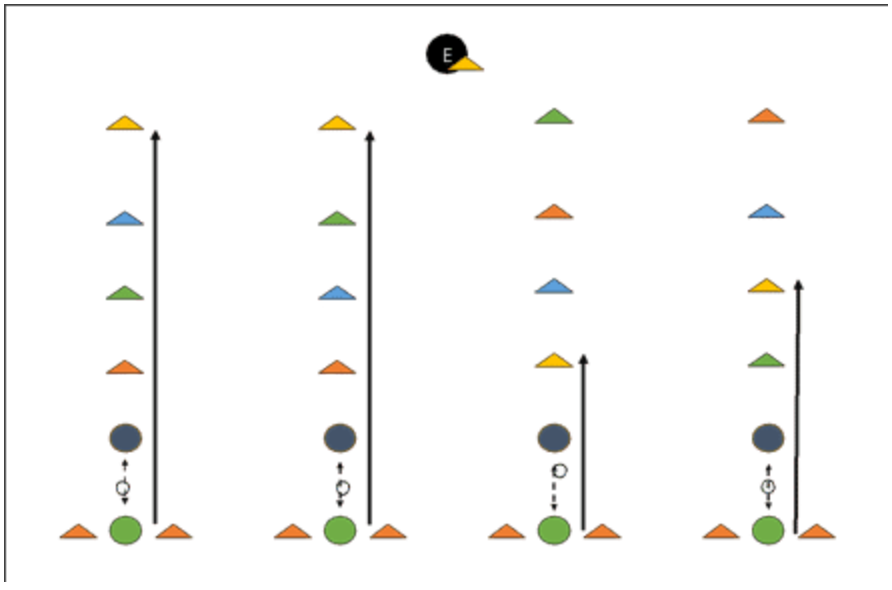
For example, in basketball jumping and landing, level 0 would include exercises like squats or leg presses, while level I would focus on plyometrics, squats with conical pulleys (emphasizing the eccentric and concentric phase change), or landing in unstable environments. The goals include reducing injury risk by increasing muscle cocontraction levels, shortening contact time during the jump, or decreasing knee valgus on landing.

No further task examples for this orientation will be provided, as they are closely related to some of the coadjuvant training levels included in the previous module focused on strength training. It is important to understand that all actions stem from strength, so as we move away from the specific sports gesture, speed training remains closely related to strength training. Finally, using speed-based strength training is particularly useful when the goal is to optimize high-intensity actions.

3.3.2 Directed Orientation, Level 2

This orientation, situated between coadjuvant and optimizing training, focuses on designing scenarios that target specific actions with maximum dynamic correspondence, but are detached from the actual sport and game context. Considering this specificity relative to the game, other high-intensity principles should be considered when designing scenarios for this orientation. Below are some examples.

Figure 5: Schematic representation of a directed orientation task aimed at optimizing acceleration in futsal players



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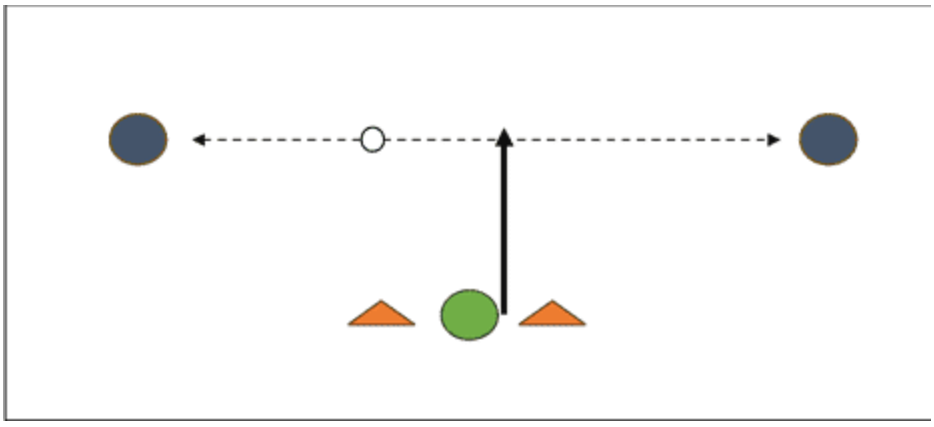
We will begin with a task designed to train acceleration in futsal (see Figure 5). An area on the court will be marked with a line of cones to signal the start for four players. In front of each player, cones of various colors and distances will be randomly placed. Additionally, a teammate with a ball will be positioned in front of each player. Once the area is set up, the players will pass the ball to their teammates while waiting for the trainer, located at the end of the exercise zone, to lift a cone of a specific color. This way, the players will not remain static during the pre-acceleration perception phase but will instead perform a relatively simple coordinative task. This coordinative task can be adjusted to increase its difficulty, and consequently, the pre-motor intensity threshold. When the coach raises a colored cone, the players passing the ball must identify it, abandon the coordinative task, and accelerate toward the cone of the same color at maximum speed.

This task has various variations that allow us to adjust pre-motor and motor intensity according to our criteria. For instance, the pre-acceleration coordinative task can be modified to increase or decrease perceptual difficulty. Additionally, the length of the run can be adjusted to modify the conditional intensity of the task. The initial stimulus can also be varied, using signals other than visual ones, such as auditory signals, and making it more or less specific. For example, instead of a colored cone, a goal kick or a technical gesture by a player can be used.

Secondly, we present an example of a preferential simulation situation focusing on optimizing acceleration in the context of basketball. In this scenario, players are grouped into threes, with two players providing stimuli for the third. The two players will be separated by a few meters (the more meters, the easier the task) and will pass the ball between them, while the third player will be positioned between them, also separated by a few meters (the greater the separation from the passing line, the harder the task). The goal is to accelerate at the right moment to intercept the pass through the stimulus of the pass. If the interception is successful, roles are changed.

Figure 6: Schematic representation of a directed orientation task aimed at optimizing acceleration in basketball players



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In this situation, variations play a crucial role as they can increase or decrease the difficulty and success of the task. For example, fakes can be prohibited to facilitate interception, and if it is still difficult, passers can be asked to follow a specific passing rhythm that allows easier anticipation by the intercepting player. Distances, types of passes, types of balls, and even the number of players involved in the activity can also be varied.

After presenting these two specific acceleration tasks, it is important to consider applying some of the principles and pillars of structured training mentioned earlier.

In the first task, variability is evident from the use of cones of different colors and distances, which create different stimuli. Additionally, the coach randomly decides how far players should run, and the action before acceleration comes from a series of passes, meaning players might need to accelerate right after making a pass or just before receiving it. Therefore, their activation and preparation for acceleration will differ each time.

In the second task, the principle of intensity spectrum is present. In this case, the player intercepting the pass does not always need maximum acceleration but must find the optimal intensity combined with their perceptual and anticipatory abilities to resolve the situation successfully.

Considering these two principles during task programming and creation enriches and complicates situations, even if they have low specificity. Additionally, to complete this proposal, different constraints can be included following Newell's model, either conditioning the player, the environment, or the task.

3.3.3 Special Orientation, Levels 3 and 4

Special orientation in optimizing training has high specificity, with gestures and game context very similar to those players will encounter during real games, introducing a series of rules or conditioning factors according to Newell's model that allow modulation of certain behaviors or actions that coaches want to emphasize to achieve specific goals according to their own game model.

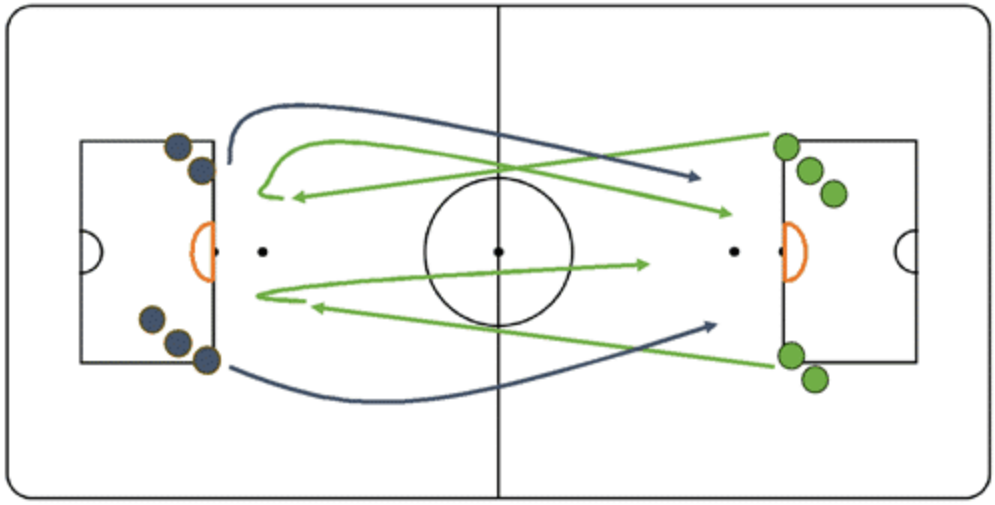
At these levels of approach, the presented situations are closely related to collective play and, therefore, to the presence of other player structures, such as coordinative, cognitive, and emotional-volitional structures, among others. Therefore, each proposed situation will stimulate more than one structure, making these structures more relevant. At certain times of the season, it is beneficial for the stimulus of the conditional structure to come from high

specificity levels, as there may not be time to do it differently, or because it is desirable from a planning perspective.

An example of a special orientation task in rink hockey, aimed at stimulating the speed of movement actions, is as follows: two teams of 4 or 5 players face each other in a playing area reduced to a depth of 20 meters and a width of 20 meters. The task begins with a 2 vs. goalkeeper situation, and then, during a set time, a sequence of 2 vs. 2 transitions starts. When the ball from these two players touches the goal, the goalkeeper, or crosses the goal line projection, it signals for two players from the opposing team to enter the field, and the attacking players switch to defending. This continues indefinitely, with pairs transitioning between attack and defense consecutively.

The presented simulation situation requires a high number of high-intensity actions that significantly overstimulate the reality of a game, increasing the attention players must pay to the intensity threshold of actions. The intensity required at each moment will vary depending on the result, opponents, or teammate positioning. Changing the playing space, the number of players, or the duration are conditioning factors that will affect the objectives sought by coaches or physical trainers in this task.

Figure 7: Schematic representation of a special orientation task aimed at optimizing transition displacements in rink hockey players



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3.3.4 Competitive Orientation, Level 5

Finally, in this orientation of optimizing training, specificity is at its maximum. The proposed tasks are direct simulations of matches with the same rules or minor conditioning factors, but with the aim of replicating and involving the demands and structures present during real games. Although challenging, it is possible to focus on the established objectives in simulation situations, prioritizing conditional structure through high-intensity actions. As explained earlier, at certain points in the season (towards the end, before important competitions, or during periods of high game density), it is beneficial for conditional content to be presented within high specificity levels.

For example, in a 5 vs. 5 basketball game played on a full court with official match rules, teams can be asked to rotate more quickly with bench players to stay at the high end of the optimal intensity threshold, both individually and collectively. It is clear that the objective of short rotations and why this task is performed should be explained, but once clarified, players will execute the situation as requested, achieving the desired objective.

Just as constraints can be applied to tasks to highlight certain behaviors, other conditioning factors can be used to seek different behaviors. Understanding interactions, coordinations, and dependencies between system elements and each subsystem, as well as the ability to adapt to constantly changing situations and uncertainty, are fundamental aspects of complexity sciences that best help to understand and interpret what happens in team sports. Exploring different game configurations and structures presents opportunities to discover new patterns, strategies, and creative solutions during competition.

However, it is important to consider that modifying aspects that are currently working well, according to the coach and their staff, such as the game model, rotations, or certain game rules, could lead to unexpected changes in behaviors. This is due to the non-linear, hierarchical, and circular causality nature of complex systems, and thus, of indoor team sports. Constant analysis and observation by coaches are essential to understand how these modifications impact

each player (differentiated self-organization) and, of course, the team dynamics, and to evaluate if the desired objectives are being achieved.

Therefore, while making changes to stimulate different structures and apply complexity science principles is important, it is also crucial to observe what is happening and be flexible if these changes divert from the internal logic of the game and, thus, from specificity, which should be the focus in this orientation, and the objectives set for each situation.

Combining game specificity with complexity-based approaches can provide a solid foundation for developing effective and adaptive training strategies that promote collective team performance optimization.

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3.4 Programming Speed Training in Structured Training

We will now explore how to effectively schedule speed training, focusing on the structured microcycle as a functional unit, its timing within the microcycle (especially in relation to any upcoming matches), and the progression throughout the season.

3.4.1 Speed in the Structured Microcycle

The structured microcycle is the basic unit of temporal organization in collective sports training and is crucial for effectively managing and distributing training loads. For speed training, it is advisable to allocate a specific time within the microcycle for its development. Bompa and Haff (2009) recommend scheduling speed training sessions once or twice a week for indoor team sports.

It is important to identify a strategic moment within the microcycle for speed training. One effective option is to schedule a speed-focused

session on day -2 to the match. This allows for adequate recovery time before the match and uses the momentum from high-intensity stimuli to enhance game performance. During this session, which should focus on high-intensity actions, a variety of situations can be included to address different structures and actions. Designing sport-specific situations that mimic game demands is essential (Sheppard and Young, 2006).

Regarding dosage, microtechnology and optical systems in electronic performance tracking devices (EPTS) can provide valuable information for determining the optimal training dose for speed actions. This approach allows task design to be adjusted according to the sport's physical demands, such as the number of high-intensity accelerations and decelerations, changes in direction, and distances.

Speed-related content can be scheduled on other days of the microcycle, but our approach is to focus on one type of conditional capacity each training day, if the schedule allows. This approach aligns with the proposal by Buchheit et al. (2021), where 100 physical trainers responded to questionnaires about scheduling content during the weekly microcycle in football.

Generally, speed-related content (accelerations, distance covered at high speed, or reaction speed) should be emphasized in the middle or end of the week, between 3 and 2 days before the match. It is also possible to include certain speed stimuli on the day before the match,

as long as they allow for necessary recovery, both metabolically and mechanically. According to Buchheit et al. (2021), these pre-match stimuli should involve short efforts and agility.

3.4.2 Speed During the Season

As the season progresses, it is important to follow a progression in speed training to optimize results. This progression involves moving from less specific tasks to more specific ones related to the game. In the early season stages, exercises focusing on general speed development can be included, using less specific orientations such as directed tasks or lower levels of special orientation.

As players adapt and improve, more specific tasks that closely resemble sport demands should be introduced, incorporating increased complexity and conditions. Gabbett (2016) highlights the importance of considering the sport's complexity and specificity when designing speed training progression. It is recommended to gradually increase the load and intensity as players improve their speed, incorporating exercises that simulate specific game actions such as changes in direction, starts from different positions, or reduced game scenarios.

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