



Theoretical and Practical Exercises for Tactical Thinking Improvements in Junior Volleyball Setters

[Ejercicios teóricos y prácticos para contribuir al mejoramiento del pensamiento táctico de los pasadores escolares]

[Exercícios teóricos e práticos para contribuir para a melhoria do pensamento tático dos transeuntes escolares]

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ABSTRACT

Tactical thinking is a critical factor in the outcome of a volleyball game, so it must be trained and implemented in every match, as training sessions, friendly matches, or competition. The coach must know the main tactical flaws of the team to be able to address these problems. Accordingly, this paper aimed to developing a set of theoretical and practical exercises to improve the tactical thinking of 13-15-year-old junior volleyball setters, at the Cerro Pelado Starter Sports School in Camaguey (EIDE). Several methods and techniques were used in this research, namely theoretical, empirical, and statistical. The diagnostic permitted checking the development of tactical thinking. The main issue was associated with the technical-tactical work of setters, evidencing little effectiveness in their performance, as well as targeting tactical situations and problems along the training sessions and in competition. The exercise system included individual and group actions by the setters.

Keywords: Thinking, tactic, setters, volleyball.



RESUMEN

El pensamiento táctico es un factor determinante en el resultado del juego, por lo que se hace cada vez más necesario su puesta en práctica en cada uno de los choques que se realicen, ya sean de entrenamiento, topes o competencias, el entrenador debe conocer donde radican las principales deficiencias tácticas del equipo con vista a dirigir su trabajo para solucionar estos problemas. La investigación tuvo como objetivo un sistema de ejercicios teóricos y prácticos para el desarrollo del pensamiento táctico de pasadores escolares de la categoría 13-15 años masculinos de la Eide "Cerro Pelado" de Camagüey. Se utilizaron varios métodos y técnicas de investigación: teóricos, empíricos y estadísticos. El diagnóstico permitió verificar el proceso del desarrollo del pensamiento táctico donde se devela como principal insuficiencia, dificultad en la ejecución de los pasadores en lo técnico-táctico evidenciando poca efectividad de ejecución, solución de situaciones y problemas táctico durante el entrenamiento y competencia. El sistema de ejercicios incluye acciones individual y grupal en pasadores.

Palabras clave: Pensamiento; táctico; pasadores; voleibol.

SÍNTESE

O pensamento tático é um fator determinante no resultado do jogo, por isso é cada vez mais necessário colocá-lo em prática em cada um dos confrontos que se realizam, seja em treinamentos, competições ou competições, o treinador deve saber onde se encontram as principais deficiências táticas da equipe a fim de direcionar seu trabalho para resolver estes problemas. O objetivo da pesquisa foi um sistema de exercícios teóricos e práticos para o desenvolvimento do pensamento tático dos jogadores escolares da categoria masculina de 13-15 anos de idade do Eide "Cerro Pelado" de Camagüey. Foram utilizados vários métodos e técnicas de pesquisa: teórica, empírica e estatística. O diagnóstico nos permitiu verificar o processo de desenvolvimento do pensamento tático, onde a principal insuficiência foi revelada como dificuldade na execução dos passantes nos aspectos técnico-táticos, mostrando pouca eficácia na execução, solução de situações e problemas táticos durante o treinamento e competição. O sistema de exercícios inclui ações individuais e grupais em transeuntes.

Palavras-chave: Pensamento; tática; transeuntes; voleibol.

INTRODUCTION

Tactical thinking is a critical factor in the outcome of a volleyball game, so it must be trained and implemented in every match, in training sessions, friendly matches, or competition. The coach must know the main tactical flaws of the team to address these problems. Each player's capacity and mental skills must be used to put into practice the most suitable tactic in face of any game situation or circumstance. Several authors have referred to this issue. Soler, S.F. (2016), Vuorinen, (2018), Black, (2017), Pelawaththa, Herrera, Nápoles, (2017), Navelo, Santana *et al.* (2017), Contreras (2014), Navelo, *et al.* (2017).



The tactical thinking of volleyball athletes has been studied by different specialists, stressing the contribution made by Quesada (2020, pp. 37-52), in his master's dissertation, where he suggested psychological intervention actions to develop tactical thinking, thus improving the quality of the process. In that sense, a review of the Comprehensive Program for Athlete Training in Volleyball (2017-2020), particularly the 13-15-year-old, was conducted, emphasizing some specific matters, pointed out by Soler, Y. and Suárez, M. (2015), such as motivation for sports practice, the conditions of participants, joy and pleasure experienced during the activity, the pressure for high sports performance, and the relevance of parental and coach advisory. This program refers to the teaching and optimization of a particular technical foundation, and it entails the conception of technical work associated with the tactical side, especially the operative thinking that helps complete actions, and provide a proper motor response based on the use of flexible thinking ruled by the technical variants earned through training, as well as the solution of theoretical and practical exercises to address this issue in variable conditions. It depends on the team's characteristics and the individual possibilities.

The Comprehensive Program for Athlete Training in Volleyball is integrative; one of its items specifies the methodological guidelines of psychological actions, which are the base of tactical and productive thinking development. Training is conceived through a system of theoretical and practical exercises using a combination of standard and variable modelling. The program suggests a few specific theoretical and practical exercises for psychological preparedness, conducted by the coach, such as those targeting cognition, to enhance the setter's capacity to detect relevant information from the scenario, and be capable of reacting efficiently.

Research done by Ortega (2009, pp.18-20) and Quesada (2020 pp.37-52) include the design of an instrument to assess tactical thinking through the analysis of movements, game actions, and the quick response time.

Moreover, Quesada (2020 pp. 56-58) recommended a set of actions to improve tactical thinking when addressing game issues, which will help assess player effectiveness.

Although there have been studies aiming to enable ways of assessing tactical thinking, there is no evidence of relevant results that permit enhance the setter's tactical thinking. Hence, it is important to include the scientific method to improve the quality and efficacy of the process.

- Slow movements when choosing an alternative, and the implementation of proper tactics learned in the training sessions, along with problem solving in variable conditions.
- Setter confusion and disorientation caused by excessive mental tension that hinders possible identification of suitable variants during the game.
- Inappropriate solutions while facing a planned or unplanned tactical situation. Anticipation to the opponent's actions, and adequate cooperation with the rest of the team.
- Flaws of tactical thinking during the game, evidenced by the poor effectiveness of game actions.



Accordingly, the purpose of this paper is to design a system of theoretical and practical exercises to help develop tactical thinking in 13-15-year-old junior volleyball setters.

MATERIALS AND METHODS

Population and methods used in the research

The characterization tackled the issue with setters in the 13-15-year-old category at the Cerro Pelado Starter Sports School (EIDE), in Camaguey, Cuba, using research methods and techniques, such as documentary analysis, observation, and semi-structured interview of coaches, sport psychologists, and executives. The author's experience of years of professional practice, as a sports coach of volleyball, was included as well.

RESULTS AND DISCUSSION

The diagnostic comprised an interview of coaches and athletes to know about the significance of setter's tactical thinking to them, the preference level in terms of techniques to use in the training sessions and competition to achieve success, and satisfactory results for the team. The interview of coaches showed the existence of shortcomings as to the mastery of exercises to enhance the setters' tactical thinking. Five training sessions of the team were observed, from which the head coach and the author of this paper agreed to provide a score. The observations were conducted during the first week of assessment, coinciding with the third and fourth days with preparatory competitions. The athletes' performance was observed both in the competition and the training sessions. Moreover, in the games, the technical performance was considered deficient in most cases, hindering proper pass execution.

The previous had been reported by several authors, like Soler, S.F. (2016), Vuorinen, (2018), Black, (2017), Pelawaththa, Herrera, Nápoles, (2017), Navelo, Santana *et al.* (2017), Navelo, *et al.* (2017). And it permits gathering various criteria to conclude that during the game, each player must implement their skills and mental agility to cope with the different situations of the game.

According to the *Athlete's preparedness program* (2017-2020), and given the psychological characteristics of this age group, the players must like the sport and feel motivated when playing it. Besides, systematic practice develops skills, habits, and dexterities that allow players to acquire knowledge during training.

This paper relies on the instrument suggested for tactical thinking (Ortega, 2009) and (Quesada, 2020), Pensado (2014). It permits an assessment of tactical thinking by analyzing movements, game actions, and the time of quick response, in addition to recommending actions for tactical thinking when assuming the tasks of the game (Quesada 2020 pp. 37-52).



The author of this paper coincides with the particular characteristics and specificities of the sport in this group age described by Soler, Y., and Suárez, M. (2015).

A test to determine thinking consecutiveness, flexibility, and quickness in assuming tasks

First task

The subjects are shown several images of different exercises so that they can determine the missing figure by establishing certain regularities.

Then they read the instruction: "Choose the necessary image from the numbered figures in the lower part of the page."

The images may be created by the researcher, depending on the subject's age. Below is an example that can be used as reference.

Instruction: "Choose the necessary image from the numbered figures in the lower part of the page." And so, it will be done with the three images corresponding to such task.

Objective: to find information about the elements indicating tactical thinking development within the set of theoretical and practical exercises for setters, based on their criteria.

Tactical thinking, theoretical-practical exercise thinking

1. What elements does the setter think are important to identify or recognize when to make a proper pass execution? (Following a logical order).
2. When is the pass effective?
3. What elements can be considered for passing against blocks?
4. When is the one-hand pass effective?
5. What elements can be considered for using both hands to pass the ball?
6. When is the pass effective without block?
7. What elements can be considered for passing the ball right?

The semi-structured observation of athletes and coach followed the agreed guideline.

Time used for task solving, execution quality, already-corrected error repetition.

Orientation and location on the court for the pass, anticipation of the opponent's actions.

A methodology to learn the individual particularities of thinking in problematic volleyball situations (13-15-year-olds).

If the reception of the opponent team does not make it to the 32 zone and stays behind the 3-meter line. What are the zones that you would prioritize to block? (The setter is in the back position. Check with a (X))

1. Zone 4.
2. Zone 2.



3. Zone 1.
4. Zone 5.

If the pass comes from zone 3, and the attacker is in zone 4, and the block forms correctly, where will I move? Check with a (X)

1. Behind the attack. Why?
2. Outside the umbrella. Why?
3. Behind the block. Why?

A test to determine thinking consecutiveness, flexibility, and quickness in assuming tasks

Second task

The subjects are shown several images of different exercises so that they can determine the missing figure by finding certain regularities.

Then they read the instruction: "Choose the necessary image from the numbered figures in the lower part of the page."

The images may be created by the researcher, depending on the subject's age. Below is an example that can be used as reference.

Instruction: "Choose the necessary image from the numbered figures in the lower part of the page." And so, it will be done with the three images corresponding to such task (Table 1).

Table 1. - The rows should be completed as follows

Rows	Figure	Regularity
1 st .	30	A total of 4 is added to each figure successively.
2 nd .	13	The addition consists of 2, while 1 is subtracted successively.
3 rd .	12	Numbers 3, 2, and 1 are subtracted.
4 th .	38	It is multiplied by 2, and 2 is added successively.

In each task, the researchers, after the instructions, must control the time lapsed to find the solution. It permits finding the thinking speed.

After each task is fulfilled, the subjects will be asked the following:

- What was the regularity that allowed you to find this solution?
- Did you keep or change the solution choice?

The answers will provide information as to the consecutiveness and flexibility of thinking.



The exercises required for setter mastery are below:

A set of exercises to assess the situation and decision-making

Exercise No. 1 A verbal or written description of their models, about the different pass plays in their mind: the volleyball player is asked to describe the general idea of the tactical action, reception, pass, and block in their minds, before the practice. The idea is to check if the setter has understood the general action program, both intentionality, as the most suitable time of execution (tactical), and the way it is efficiently executed (technical), according to Sainz de la Torre, (2010).

These descriptions create more awareness in the subjects of the details of every tactical action, and broaden their clarity, offering an opportunity of assessing development. This technique was applied once a day, once a week (educational phase, third and fourth weeks; in weeks five and six).

Exercise No. 2 Gradual education of the mental solution: the work requires an overhead projector or video camera. A particular situation is displayed, either in video or on cards describing the situations. The athlete is given 15 seconds to find the most suitable solution, insisting on the necessity of not verbalizing the analysis, but to describe the images that provide the best solution (educational phase).

Further in the study (third and fourth weeks), the same task was repeated, but reducing the response time to 10 seconds, and so successively (five seconds in weeks five and six), until it can be done in 1.5 seconds (weeks seven and eight); that is immediately, based on their previously designed conceptual models. This technique was applied once a day, twice a week.

Exercise No. 3 Recalling or reviving the executions in previous games, where there was a service/pass/attack/block: the work requires a voice recorder or cell phone to collect the verbal information gathered in the interviews (stimulated remembrance). This technique was applied once a day, once a week, before the cups (two) that took place in November-February, and the qualifying games (two) in April-June (2018). In the cup (one) and qualifying games (one) that took place in February-June, 2019.). The interview corresponds to the purpose of this research, and includes five questions. Below is the semi-structured interview suggested: (...) don't forget in the last training game, match or preparing competition you performed a reception/service/pass/ (...).

1. What did you focus on when passing/attacking/blocking?
2. Is there any concrete aspect you would like to refer to?
3. What action choices did you analyze?
4. What is the main reason for your pass?
5. Were there changes between your decision and execution?
6. Finally, think about the tactical efficacy of your action. What would you change?



CONCLUSIONS

The theoretical analysis about this topic revealed flaws and shortcomings related to the materialization that supports the methodological ordering with a systemic and integrated character of the process, having the same approach used in this study.

The diagnostic revealed shortcomings in tactical thinking by the junior setters, knowing the aspects related to the technical execution.

The consultation of specialists, helped learn the assessing results of the theoretical and practical exercises for setter preparedness, which was regarded as very adequate, according to the previously set objectives.

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Conflict of interest statement

The authors declare no conflicts of interests.

Author contribution statement

The authors have taken part in the redaction of the manuscript and analysis of the documents.



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