

Specificity principle applied in the volleyball

Abstract

Specificity principle the trainer needs to prepare the session the most similar to the competition and the physical training with the strength and the resistance required during the sports practice. How the coach can use the specificity principle in the volleyball training? Volleyball books do not have this information. Then, the objective of the mini-review was to explaining the use of the specificity principle in the volleyball training. Traditional periodization of Matveev determined that aerobic training is the most important session for the athlete because this training for the athlete practices higher loads in the other training phase. This type of training is not specific for the volleyball because the rally is alactic and the match improves the aerobic conditioning, in the volleyball the physical training more important for the volleyball player is the strength training. The volleyball players deserve to practice the special strength training and reactive strength training because these strength trainings is in accordance with the specificity principle. The years 80 was the Cooper era because the volleyball players practiced long-running of 5 kilometers or more. The long-running is not specific for the volleyball player because this match is intermittent. Then, the type of training with an intermittent action is the fartlek and the interval training. Therefore, knowing the content of the specificity principle is important for the physical trainer to elaborate the training. The volleyball coach needs to know the specificity principle for elaborate with more quality the session and the periodization for the volleyball players. In conclusion, the specificity principle is useful to guide the training.

Keywords: volleyball, periodization, training, sports, performance.

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Introduction

Sports training literature informed that exist several scientific principles.¹⁻³ The scientific principles are a content important for the trainer structure the training because he has content that organizes the session and the periodization.⁴ But the specificity principle the trainer needs to prepare the session the most similar to the competition and the physical training with the strength and the resistance required during the sports practice.^{5,6} Then, the specificity principle is very important for the volleyball training.

The volleyball is an intermittent sport with effort and rest.⁷ The actions during the match are of short duration (rally of 1 to 10 seconds) and with longer rest duration (11 to 30 seconds).^{8,9} The explosive resistance strength and the reactive strength are the strength most used during a volleyball match.^{10,11} Therefore, this content the specificity principle is important to organizing the session.

How the coach can use the specificity principle in the volleyball training?

Volleyball books do not have this information.¹²⁻¹⁴ Then, the objective of the mini-review was to explaining the use of the specificity principle in the volleyball training.

Specificity principle in the volleyball

Traditional periodization of Matveev determined that aerobic training is the most important session for the athlete because this training for the athlete practices higher loads in the other training phase.¹⁵ This type of training is not specific for the volleyball because the rally is alactic and the match improves the aerobic conditioning, in the volleyball the physical training more important for the volleyball player is the strength training.¹⁶

The strength training has several types of training^{17,18} but the type of training indicated for the volleyball player it was elaborated by Verkoshanski.¹⁹ The volleyball players deserves to practice the special strength training and the reactive strength training because these strength trainings are in accordance with the specificity principle.²⁰⁻²² Special strength training the athlete deserves to practice the session with the sporting action of the modality.²³ The reactive strength training the player practices several jumps over of the box or in the box.²⁴ Figure 1 illustrates this physical training.

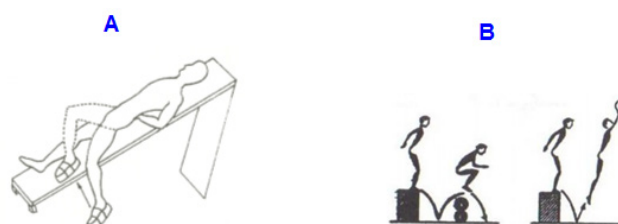


Figure 1 (A) Special strength training of the running²⁵ (illustration elaborated by the author) and (B) reactive strength training (Extracted ofVerkoshanski²⁰).

The years 80 was the Cooper era because the volleyball players practiced long-running of 5 kilometers or more.²⁶ Second Oliveira²⁷, the long-running is not specific for the volleyball player because this match is intermittent. Then, the type of training with an intermittent action is the fartlek and the interval training.^{28,29} Therefore, knowing the content of the specificity principle is important for the physical trainer elaborates the training.

The ball training needs to be similar with the competition.³⁰ Then, the emphasis of the ball training is the game training and the game situation training because these training are similar the dispute.⁷ A

game situation training that the coach prescribes is the block training. The coach is standing in a box and he practicing attacks for the players practiced the double block. This training is a little specific because the ideal is the volleyball players practiced attacks for the other players practiced the double block.²⁹ However, the game situation training of block and attack has high effort and high injury¹⁰, then the ideal is the coach elaborates this training with the increase of the effort and of the injury level. The first 30 minutes the players practiced the block with coach attack and the others 30 minutes the players practiced the block training with the attack of other players.

Second Rigolin da Silva³¹, the study on the history of each periodization model is important for the coach to know the best periodization for the volleyball (team and indoor). For example, the individualized periodization of Bondarchuk is for the hammer throw athletes³² and the high load system periodization of Vorobiev is for weightlifting.³³ Then, these models are not specific to the volleyball.

Which periodization model follows the specificity principle for the volleyball coach uses in the volleyball?

The traditional periodization of Matveev and the periodization of the structural scheme of high-intensity loads of Tschien are models that the volleyball players have high performance.⁷ Matveev periodization is the more known model and easier to structure the training.¹⁶ Tschien periodization is a model of training of high velocity, this is specific for the volleyball because the actions during the match are in high velocity.³⁴ Block periodization of Verkhoshanski and the non-linear periodization the coach prescribes for the volleyball player when the objective is of increasing the strength.^{35,36} The ATR block periodization the emphasis is in the physical training with the organization of the training for the athlete has several numbers of peak during the year.³⁷ The tactical periodization the emphasis is the match to developing the tactical³⁸ and the periodization of selective loads the emphasis is in two motor capacities and the match.¹⁷ Therefore, the coach deserves to elaborate the periodization based on the objective of the training and based on the specificity principle. Figure 2 illustrates an example of 1 year of how the coach can elaborate on the periodized training for the volleyball.

The article showed how the specificity principle is important for elaborate on the training.

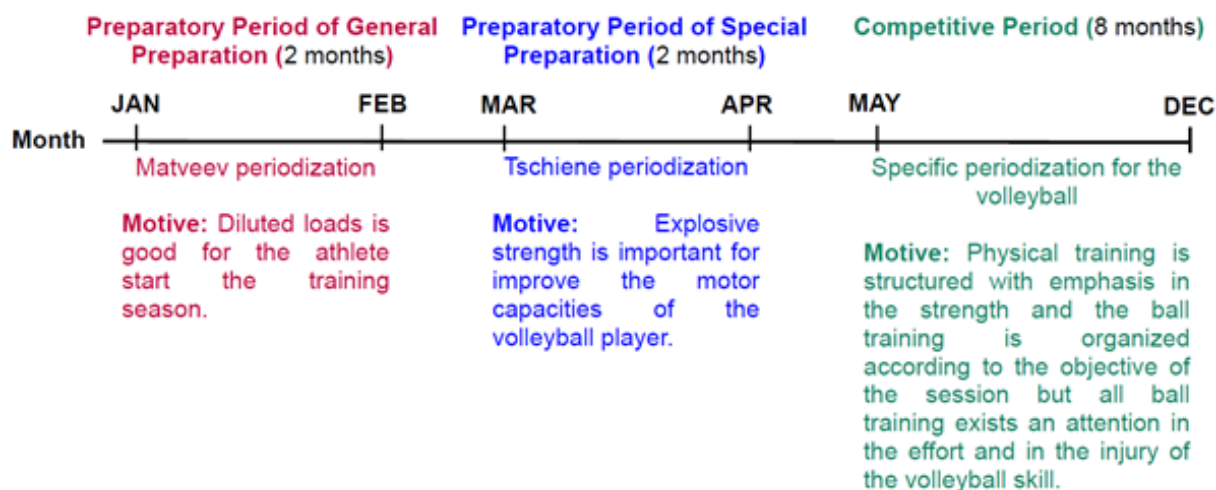


Figure 2 Example of elaboration of periodization (illustration elaborated by the author).

Conclusion

The article taught how the coach and the physical trainer deserves to use the specificity principle in the volleyball. Based on the specificity principle, the author of the article determined the types of training (strength and resistance) for the volleyball player, how to elaborate the ball training and how to determine the best periodized model for the volleyball team (indoor and double). Therefore, this content is very important for the training. The volleyball coach needs to know the specificity principle for elaborate with more quality the session and the periodization for the volleyball players. In conclusion, the specificity principle is useful to guide the training.

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Conflicts of interest

The author declares that there are no conflicts of interest.

References

1. Tubino M. *Metodologia científica do treinamento desportivo*. 11ª ed. São Paulo: Ibrasa; 1993.
2. Hoffman J. *Physiological aspects of sport training and performance*. 2nd ed. Champaign: Human Kinetics; 2014.
3. Lambert M, Viljoie W, Bosch A, et al. General principles of training. In: Schwellnus M, editor. *The olympic textbook of medicine in sport*. Oxford: Blackwell; 2008. p.1–48.
4. Gomes A. *Treinamento desportivo: principios, meios e métodos*. Londrina: Treinamento Desportivo; 1999.
5. Dantas E. *A prática da preparação física*. 3ª ed. Rio de Janeiro: Shape; 1995.

6. Marques Junior N. Periodização específica para o voleibol: atualizando o conteúdo. *Rev Bras Prescr Fisio Exerc.* 2014;8(47):453–484.
7. Marques Junior N. Specific periodization for the volleyball: a training organization. *MOJ Sports Med* 2018;2(3):108–111.
8. Padilla J, Marques Junior N, Lozada J. Análisis del tiempo del rally y de la pausa en el voleibol máster. *Rev Arrancada* 2018;18(33):38–49.
9. Turpin J, Gutiérrez L, Aranda C, et al. Performance indicators in young elite beach volleyball players. *Front Psychol* 2019;10(2712):1–7.
10. Marques Junior N. Specific periodization for the volleyball: a training organization with ball and of the physical training. *Rev Bras Prescr Fisio Exerc* 2019;13(81):58–69.
11. Verkhoshanski Y. *Treinamento desportivo: teoria e metodologia.* Porto Alegre: Artmed; 2001.
12. Papageorgiou A, Spitzley W. *Handbook for competitive volleyball.* Oxford: Meyer & Meyer Sport; 2003.
13. American Volleyball Coaches Association. *Coaching volleyball.* Chicago: Masters Press; 1997.
14. Reeser J, Bahr R. *Handbook of sports medicine and science: volleyball.* Oxford: Blackwell; 2003.
15. Matveev L. *Fundamentos do treino desportivo.* 2ª ed. Lisboa: Horizonte; 1991.
16. Marques Junior N, Arruda D, Api G. Periodização tradicional no voleibol (parte 1). *Rev Con Ci Dep* 2019;2(1):31–55.
17. Gomes A. *Treinamento desportivo: estruturação e periodização.* 2ª ed. Porto Alegre: Artmed; 2009.
18. Martínez M, Medrano I, Tormo J, et al. La potenciación post-activación en el salto vertical: una revisión. *Retos* 2019;36:44–51.
19. Verkhoshanski Y. *Preparação de força especial.* Rio de Janeiro: GPS; 1995.
20. Verkhoshanski Y. *Todo sobre el método pliométrico.* Barcelona: Paidotribo; 1999.
21. Marques Junior N. Efeito de dois tipos de treino de força reativa (na água e na areia). *Rev Peru Ci Act Fis Dep* 2018;5(3):640–654.
22. Verkhoshanski Y. *Special strength training.* Moscow: without publisher; 2006.
23. Verkhoshanski Y. Gli esercizi con sovraccarico come mezzo più important della preparazione fisica speciale degli atleti praticanti atletica leggera. *Biologia e Allenamento* 2001;3(4):3–8.
24. Verkhoshanski Y. *Força: treinamento da potência muscular.* Londrina: CID; 1996.
25. Marques Junior N. *Voleibol: biomecânica e musculação aplicadas.* Rio de Janeiro: GPS; 2001.
26. Guimarães G, Matta E. Uma história comentada da transformação do voleibol: do jogo ao desporto espetáculo. *Rev Educ Fis* 2004;128:79–88.
27. Oliveira P. O processo de desenvolvimento da resistência motora e sua relação com a preparação geral e especial. In: Pellegrinotti I, organizador. *Performance humana.* Ribeirão Preto: Tecmedd; 2003. p. 181–230.
28. Arruda M, Hespagnol J. *Fisiologia do voleibol.* São Paulo: Phorte; 2008.
29. Marques Junior N. Periodização tática: uma nova organização do treinamento para duplas masculinas do voleibol na areia de alto rendimento. *Rev Min Educ Fis.* 2006;14(1):19–45.
30. Lourenço L. *Mourinho: a descoberta guiada.* São Paulo: Almedina; 2010.
31. Rigolin da Silva L. Treinamento esportivo: diferenciação entre adultos e crianças adolescentes. In: Rigolin da Silva L, editor. *Desempenho esportivo: treinamento com crianças e adolescentes.* São Paulo: Phorte; 2006. p. 13–53.
32. Marques Junior N. Individualized periodization of Bondarchuk. *Olimpia.* 2019;16(57):66–73.
33. Camacho J, Ochoa N, Rincón N. Revisión teorica de la planificación tradicional y contemporánea en el entrenamiento deportivo. *Rev Dig Activ Fis Dep.* 2019;5(2):171–181.
34. Tschieni P. As novas teorias de planeamento de treino. *Rev Atletismo.* 1992;122:28–29.
35. Verkhoshanski Y. Principles for a rational organization of the training process aimed at speed development. *Rev Trein Desp.* 1999;4(1):3–7.
36. Kraemer W, Häkkinen K. *Treinamento de força para o esporte.* Porto Alegre: Artmed; 2004.
37. Issurin V. Block periodization versus traditional training theory: a review. *J Sports Med Phys Fitness.* 2008;48(1):65–75.
38. Carvalho C. *No treino de futebol de rendimento superior. A recuperação é... muitíssimo mais que “recuperar”.* Braga: Liminho; 2001.