

# MODERN ANALYSIS OF THE PROBLEM OF FORMING THE SYSTEM OF LONG-TERM TABLE TENNIS PLAYERS DEVELOPMENT

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**Abstract:** *In the modern sports world, preparation of athletes for the main competitions - Olympic Games or world championships - is examined through the lens of long-term athlete development. Specific national, political, organizational principles exist in all countries of the world; however, preparation of athletes at the same time contains many common features. First of all, this is the complexity and significant role of each of the training components in ensuring the final result: theoretical, methodological and organizational framework; material and technical conditions; concentration of financial resources, staff, and reserve training; the training process itself and competitive activity; medical and methodological support. Conjunctive use and accounting of all components ensure success in the sports arena. Expansion of methodological framework of long-term table tennis players development, organizational changes in the sphere of high-performance sport, the experience of the advanced sports practice require constant consideration and improvement of the provisions underlying the rationally organized teamwork of the coach and the athlete in the training system development. The goal of this research is to form a holistic system of scientific knowledge on the basis of theoretical analysis and experimental research, to optimize the system of long-term table tennis players' development.*

**Key words:** *long-term development, athletic training, table tennis, high-performance sport, reserve training.*

## 1. Introduction

According to existing notions, regularities in formation and improvement of sports skills form the basis of division of long-term training development into the

stages and phases. Many authors rightly point out the biological dependence of sports development from the regularities of lifespan development, individual differences in the dynamics of training level and mutual integrated effect of these

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factors. They pay great attention to the issues of training process orientation, the balance of general and special training, character and dynamics of physical load volume and intensity at each stage of long-term athlete development [3], [6].

The idea of training management at different stages of the sports training was reflected in the papers of A. D. Novikov [6] and N. G. Ozolin [8] already in the 50s. In the early stages of sports theory development, the management system was developed in view of the achievements of pedagogy, psychology, physiology, biology, biomechanics and other sciences. Already in the 1960s - 1980s such distinguished experts in the field of sports, as L. P. Matveev [2, 3, 4]; V. P. Filin [12]; M. Ya. Nabatnikova [7] addressed issues of long-term training process management in sports. A significant contribution to the development of the pedagogical aspect of this issue was made in the paper of I. G. Ozolin *The Modern System of Sports Training* [8].

The papers of L. P. Matveyev [2, 3, 4], A. D. Novikov [5], V. P. Filin, [12]; M. Ya. Nabatnikova [7], V. N. Platonov [9, 10, 11] and D. Harre [13] were addressed to the issues of the development and justification of the main components of the long-term training process structure.

The expansion of scientific and methodical bases of athletes training, organizational changes in the field of high-performance sport, and best sports practices require constant consideration and improvement of the provisions underlying the rationally organized joint work of the coach and athlete to build a

training system [15]. The desire to achieve the highest results considerably determines all distinctive features of the athletic training: its focus and objectives, composition of means and methods, structure of various entities of the training process (stages of long-term training, macrocycles, and periods, etc.), integrated control and management system, selection and orientation, and competitive activity [9, 10, 11], [15].

## 2. Materials and Methods

When building a system of long-term development is necessary to take into consideration that athletic training is a long-term and year-round process, all components of which are interrelated, interdependent and subordinated to the task of achieving the maximum sports results; the impact of each subsequent training session, micro cycle, stage and others is seeming to superimpose on the results of previous actions, consolidating and developing them.

Theorists and practitioners in the field of long-term athlete development indicate the importance of its components, along with the continuity of athlete development process: the balance and sequence of periods and stages in its cyclic structure. Moreover, in the framework of large cycles, the preparatory period is structured to ensure the transition from creation and optimization of prerequisites of target achievements to the direct implementation of the achieved athlete proficiency. It proves that during the building of athlete development system it is necessary to consider the balance of

sports training types, as well as their planning in the cyclic structure of the training process [13, 14, 15].

Data from numerous studies of the long-term development system and training process suggest that athlete development should be built considering continuity and consistency of the specific objectives and methodological orientation of each individual year cycle in order to facilitate optimal preparation of athletes to main competitions [14, 15]. Studies show that very often, paying attention to organizational issues, many experts overlook the most important pedagogical aspects of the strategy and methods of training in the Olympic cycle.

Yu.V. Verkhoshansky [1] offers his own scientific theory and methodology of sports training and periodization of long-term development, who believes that building of athlete development elaborated by L. P. Matveev [2, 3, 4], lost their theoretical and practical significance.

According to Yu.V. Verkhoshansky [1] building of athlete development should be based solely on biological knowledge [1], [16], excluding pedagogy, and developed by professional experts in the fields of sport, sport science and related sciences (physiology, biomechanics, biochemistry, medicine, psychology), with the active participation of professional philosophers and methodologists.

The structure of the athlete development process is based on objectively existing regularities of sports skills development, which have a specific refraction at specific athletic disciplines. These regularities are stipulated by factors determining the efficiency of competitive activity and the optimal structure of training, the adaptation peculiarities typical for methods of influence in a specific athletic discipline, individual athlete's characteristics, dates of main competitions and their compliance with the age of the athlete optimal to achieve the highest results, stage of long-term sports perfection [14, 15].

Contemporary views of sports training as a long-term process are sufficiently well-known [9, 10]. The whole long path in sport is presented as a process divided into three major stages: 1) basic training conducted in the mass sport in most cases with formation of the potential reserves for further progress to high-performance; 2) activities in high-performance sport; 3) sports activities after retiring from high-performance sport. These ideas were also reflected in the general theory of sport.

L. Matveev [2, 3, 4], based on empirical data obtained during the athlete development in different athletic disciplines (swimming, track-and-field and weight-lifting), divides the whole process of long-term athlete development into three stages: basic training, full realization of sports skills, and final development (sporting longevity stage). Within each stage, the author identifies a number of phases (Table 1).

**Table 1*****The approximate duration of the major phases of long-term sports activities***

<b>Stage</b>	<b>Phase</b>	<b>Duration</b>
Basic training	I. Initial basic and preparatory stage (phase of involvement in sports, initial sport orientation, and general basic training).	1 – 3
	II. Main basic and preparatory stage (phase of detailing and beginning of deep sport specialization, specialized basic development).	2 – 3
Maximal realization development (maximal realization of individual sports achievement opportunities)	III. Prelimatic (phase of deep sport specialization development with possibly full activation of sports activities; in case of gifted athletes - it is the stage of transition to sports professionalization).	2 – 4
	IV. Climatic (the most active phase of the sports activities associated with individual maximal achievements).	4 – 5
The final development (sports camps)	V. Stabilization (phase of maintenance of the achieved level of sports performance).	4 – 6
	VI. Transitional and generally conditional (phase of transfer to physical culture and sports activity of the conditional training type).	Without definite temporal boundaries

**3. Discussions**

Rational planning of long-term development is largely associated with the establishment of exact optimal age limits, within which athletes usually demonstrate the highest athletic performance. Usually the following age-related areas are identified in the process of long-term

development: first great success, optimal capacity and maintenance of high results.

This division allows creating a perfect system of training process, and defining precisely the period of intense training aimed at achieving the highest results.

The optimal age limits for high-performance in most athletic disciplines are quite stable. However, certain factors,

in particular genetic ones, caused by athletes belonging to a particular ethnic group, can significantly shift the zone of optimal capabilities in the direction of a more youthful age. For example, representatives of North-East African countries demonstrate not only a special predisposition to high results in long-distance running, but also the ability to achieve the highest results at their young age, i.e. being 20-22 years old.

The development of theory and methodology of sports training in historical terms is inextricably linked with the increasing of social functions of sport

in modern society. One retrospective analysis of preparation and participation of world sports elite in the Olympic, World, European and other large competitions shows that the modern winning performances in sports are the end result of total intellectual and physical energies of a wide range of professionals, materialized in the training process [10, 11].

Table 2 presents a retrospective analysis of literature data devoted to the periodization of long-term athlete perfection.

Table 2

*The boundaries of phases of long-term athlete development, covering the period from the phase of athlete preparation to high performance until the end of the sports career (revised)*

Phase	Athletic disciplines in which the world ranking is compiled by results of the year	Athletic disciplines in which the world ranking is compiled by results of the year
Preparation to high performance	Beginning: first appearance in the rating of top 50 strongest athletes. End: first appearance in the rating of top 10 strongest athletes.	Beginning: first podium finish at the national championship. End: winning the 8th place minimum at the Olympics Games or the World Cup.
Maximal realization of individual capacities	Beginning: the end of the previous phase. End: achieving the best result in sports career.	Beginning: the end of the previous phase. End: achieving the best result in sports career.
Maintenance of highest sports mastery	Beginning: the end of the previous phase. End: last appearance in the rating of top 10 strongest athletes.	Beginning: the end of the previous phase. End: last winning the 8th place minimum at the Olympics Games or the World Cup.
Gradual reduction of the achievements	Beginning: the end of the previous phase. End: the end of sports career.	Beginning: the end of the previous phase. End: the end of sports career.

If the concept of periodization of long-term athlete perfection [3, 4], has not been revised since its publication, then the concept proposed by V. N. Platonov and his colleagues [9, 10, 11], has been constantly reviewed and modernized in line with the needs of sports theory and practice.

The development of concept of periodization of long-term athlete perfection is based on new knowledge and experience gained by scientists from various countries in recent years [13], [15].

Periodization of long-term development proposed by V. N. Platonov [9], clearly characterizes modern peculiarities and requirements to athlete development. If the first three phases retain their relevance over a long period of the theory of sports training development, then the new phases offered by the author are stipulated by the strong clear trend to demonstrate first achievements and further long persistence of sports performance throughout the career (Table 2).

#### 4. Conclusions

1. During several decades the system of athlete development has been constantly changing, which indicates the dynamism of the system and the need for further study of its components. Selection of athletes and orientation of their training is one of the elements of long-term athlete development management. Elaboration of the selection and orientation issue in the athlete development system in the last two decades is stipulated by a general trend to objectification of athlete development system and introduction of scientific and technological advances.

term athlete perfection, proposed by L. P. 2. An equally important problem is that curricula and syllabi were built on the basis of the principles established back in the 50s and practically they did not reflect a wealth of knowledge and experience accumulated during the rational building of long-term athlete development in table tennis, focused on full disclosure of individual capabilities of each athlete in his / her optimal age area. 3. The conservatism of the state system, territorial and institutional interests and contradictions, flawed criteria for evaluating the efficiency of sports organizations and a number of other reasons did not allow optimizing system of the long-term athlete development in table tennis. 4. Theoretical analysis of the long-term athlete development showed that currently a generalization and systematization of accumulated knowledge into a holistic system is actual as well as further research in areas where knowledge is patchy.

#### References

1. Филин В.П. Спортивная подготовка как многолетний процесс / Современная система спортивной подготовки, М.: СААМ, 1995, с. 351-389. [Filin, V.P.: *Sports training as a long-term process / Modern system of sports training*, М.: СААМ, 1995, p. 351-389]
2. Harre, D.: *Principles of Sports Training*. Berlin. Sportverlag, 1982, 231 p.
3. Mueller, E.: *Grundlagen zur Langfristigen Trainingsplanung in Tennis* / E. Mueller // *Leistungssport*. – 1988. Nr. 18(6). – P. 33-36.

4. Матвеев Л.П. О современных подходах к построению макроциклов тренировки// Теория и практика физической культуры, 1971, № 11.с. 9-14, № 12 с. 5-7. [Matveev, L.P.: *On modern approaches to building macrocycles of training*. In: *Theory and Practice of Physical Culture*, 1971, No.11, pp.9-14, No.12, pp. 5-7]
5. Матвеев Л.П. Теория и методика физического воспитания/ М.: Физкультура и спорт, 1976, 256 с. [Matveev, L.P.: *Theory and methods of physical education*. Moscow. Physical Culture and Sports, 1976, 256 p.]
6. Матвеев Л.П. Заметки по поводу некоторых новаций во взглядах на теорию спортивной тренировки/ Теория и практика физической культуры, 1995, № 12, с. 49-52. [Matveev, L.P.: *Notes on some innovations in the views on the theory of sports training*. In: *Theory and Practice of Physical Culture*, 1995, No.12, p. 49-52]
7. Новиков А.Д. Проблемы теории физического воспитания/ Теория и практика физ. культуры. 1966, № 5, с. 11-16. [Novikov, A.D.: *Issues of the theory of physical education*. In: *Theory and Practice of Physical Culture*, 1966, No.5, p. 11-16]
8. Новиков А.Д. Система подготовки спортсменов высокой квалификации/ Теория и практика физ. культуры: тренер: журнал в журнале, 2003, № 10, с.38. [Novikov, A.D.: *Highly qualified athletes training system*. In: *Theory and Practice of Physical Culture: coach: journal inside journal*, 2003, No.10, p.38]
9. Набатникова М.Я. Основы управления подготовкой юных спортсменов, М.: Физкультура и спорт, 1982, с. 280. [Nabatnikova, M.Ya.: *Basics of young athletes training management*. Moscow. Physical Culture and Sports, 1982, 280 p.]
10. Озолин Н.Г. Современная система спортивной тренировки/ М.: Физкультура и спорт, 1970, 479с. [Ozolin, N.G.: *Modern system of sports training*. Moscow. Physical Culture and Sports, 1970, 479 p.]
11. Платонов В.Н. О концепции периодизации спортивной тренировки и развитии общей теории подготовки спортсменов/ Теория и практика физической культуры, 1998, № 8, с. 23-26, 39-46. [Platonov, V.N.: *On the concept of the sports training periodization and the development of the general theory of athletes training*. In: *Theory and Practice of Physical Culture*, 1998, No.8, p. 23-26, 39-46]
12. Платонов В.Н. Современная стратегия многолетней спортивной подготовки, Платонов В., Сахновский К., Озимек М.,// Наука в олимпийском спорте, 2003, № 1, с. 3-13. [Platonov, V., Sakhnovsky, K., Ozimek, M.: *Modern Strategy of Long-term Athlete Development*. In: *Science in the Olympic sport*, 2003, No.1, pp.3-13]
13. Платонов В.Н. Ориентация тренировочного процесса юных пловцов с учётом их предрасположенности к выступлениям на дистанциях различной протяжённости/ В.Н. Платонов, М.М. Булатова, А.А. Морозова// Управление процессом адаптации организма спортсменов высокой квалификации, - К., 1992, с. 3-13. [Platonov, V.N.: *Orientation of the young swimmers training process, taking into account their predisposition*

- to performances at various lengths distances / Platonov V.N., // Management of the process of adaptation of the highly qualified athletes' organism, - K., 1992, p. 3-13]*
14. Portman, M.: *Planification et periodization des programmes' d'entrainement et de competition/ M. Portman// Track and field journal de l'athletisme (Ottawa). – Summer 1986. – N. 30 – p. 5-15.*
15. Tcchiene, P.: *Die Prioritat des biologischen Aspekts in der Theorie des Trainings [Leistungssport]. 1991. Nr. 6, p.5-11.*
16. Верхошанский Ю.В. Горизонты научной теории и методологии спортивной тренировки/ Теория и практика физ. культуры, 1998, № 7, с. 41-54. [Verkhoshansky Yu.V.: *Horizons of the scientific theory and methodology of sports training.* In: Theory and Practice of Physical Culture, 1998, No.7, p. 41-54].