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9th LUMEN International Scientific Conference Communicative Action &
Transdisciplinarity in the Ethical Society | CATES 2017 |
24-25 November 2017 | Targoviste, Romania

Communicative Action & Transdisciplinarity in the Ethical Society

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<https://doi.org/10.18662/lumproc.17>

How to cite: Mocrousov, E. (2018). Organizational and Methodological Bases of the Long Term Training of Table Tennis Players. In T. Ciulei, G. Gorghiu (eds.), *Communicative Action & Transdisciplinarity in the Ethical Society* (pp. 170-182). Iasi, Romania: LUMEN Proceedings.

<https://doi.org/10.18662/lumproc.17>

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Organizational and Methodological Bases of the Long Term Training of Table Tennis Players

Elena MOCROUSOV^{1*}

Abstract

During a long period of time, in sports theory, it is argued that the success of any sport test with complex coordination depends first of all on technical and tactical training, with a gradual increase (depending on the age criterion) of the functional tasks' complexity. In this respect, within tennis test, there is still a considerable potential to: improve the quality of technical and tactical training, including on a large scale, improve the pedagogical control system and turn it into a long-term reference point for all stages of the training; organize a system of incentives for increasing and keeping the group involved in this test in order to increase the dynamics of cognitive-motor activities. This potential should be capitalized. For table tennis, the quality improvement of technical and tactical training as well as the increase of the number of participants can be ensured by: improving the content, consistency and methodology of technical and tactical training; improving the pedagogical control system and turning it into a long-term reference point for all phases of training; organizing a system of incentives to increase and maintain the number of participants. The purpose of the activity is to increase the participations and achievement of the sporting results within the "table tennis" test due to the creation of a logical technical and tactical training system in the long run. This article highlights the aspects related to the formation of long-term technical and tactical training, maintenance of the same numerical group of participants for the "table tennis" test. Methods of research: analysis and generalization of literature data, interviewing, pedagogical experiments. The article presents the content of the long-term training tasks for table tennis players, taking into account the stages of training and advancement to additional levels during the initial technical training phase. The results of the competitive activity of the participants within the experiment demonstrated the effectiveness of this method. In the case of long-term training, it is impossible to overlook the issue of sport-cognitive motivation and to maintain the numerical group of pupils from sports schools. The research process has made possible to conclude that, in order to

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<https://doi.org/10.18662/lumproc.17>

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Selection and peer-review under responsibility of the Organizing Committee of the conference



motivate sporting activities under the conditions of early specialization, it is necessary to diversify the sport tests, starting with the introduction of table tennis for the "children" category.

Keywords: *long-term training, table tennis, technical-tactical training, stages of training, sports category.*

1. Introduction

The constant growth of sports records, increased competition in the international sports arena, and rapid expansion of the athletic calendar in recent years due to commercial competitions have led to the intensification of the training process and competitive activities, significant increase of loads on the athlete's body, requiring maximal mobilization of functional reserves and psychological resilience in the process of training and competition activity [18, 20].

In view of the above, it is relevant to systematize the existing body of knowledge about the long-term table tennis players' development and to bring it into holistic system; to conduct additional pilot studies to generate data that are underdeveloped or fragmented, and which do not allow to create the integrated system of practical realization of individual capabilities of table tennis athletes [16].

Modern table tennis places extremely high demands to the level of special physical, technical, and tactical fitness of the trainees. A tennis player should have a high level of athleticism, as well as the ability to perform complex technical techniques and tactical activities [2, 3].

2. Theoretical Background

The idea of training process management at different stages of sports activities was reflected in the research papers of Novikov A.D. and Ozolin N.G. back in 50's. The management system at different stages of sports theory development was elaborated with a glance to the achievements in pedagogy, psychology, physiology, biology, biomechanics and other sciences. Already in the 60-80's, the issue of long-term athlete's development was addressed by such eminent sports specialists as Matveev L.P., Filin V.P., and Nabatnikova M.Ya. Modern System of Sports Training written by Ozolin I.G. has made a significant contribution to the pedagogical aspect of this issue [12, 14].

The research papers of Matveev L.P., Novikov A.D., Guzhalovskii A. A., Filin V.P. [19, 20], Nabatnikova M.Ya., Verkhoshanskii Yu.V.,

Platonov V.N., and Harre D. [5,13,18,21] were devoted to the development and objectivation of the main components of the long-term athlete's development process.

The methodological aspects of the long-term athlete's development process optimization were set out in the research papers of Vaitsekhovskii S.M., Martirosov E.G., Tumanyan G.S. and others.

The principles of the modern athlete's training system were developed by Russian coaches in the early 50's in connection with preparation and participation of Soviet athletes in the XV Olympic Games in Helsinki (1952) and other international competitions. The accumulated practical experience was summarized and presented in the form of the theorized concept of training periodization. The concept of training periodization, which was the first resumptive research in the field of sports training theory in the USSR, naturally attracted attention of foreign specialists [18].

Over several decades, the table tennis athlete's development system has been constantly changing, reflecting the dynamic nature of the system and the need to further explore its components. Athlete's selection and orientation of their development is one of the elements of long-term development process management. The development of the selection and orientation issues in the system of athlete's training during the last two decades is caused by the general trend and objectification of athlete's training system and introduction of scientific and technological advances [1,2,3].

A theoretical analysis of the long-term athlete's development has shown that it is now relevant to synthesize and systematize the accumulated body of knowledge into the holistic system and conduct additional pilot studies in areas where knowledge is fragmented.

Long-term athlete development is a single process of competition and training activity ensuring continuity of tasks, means, methods, and organizational forms of training at the following stages: sports and fitness, initial training, learning and training, improvement of sports skills and sporting excellence. The highest sporting result achieved within the optimum age limits for a particular sport is the main criterion for the effectiveness of the long-term development [10, 14, 15].

Formation of the individuality of an athlete with a high spiritual and moral potential is the essential component of the athlete development. The long-term athlete development provides an optimal balance between the different sides of the athletes' fitness. The means and methods of pedagogical influence used during the long-term development must not fundamentally change the common factors of the psychophysical developmental age of the person [14, 15, 19, 22].

3. Argument of the paper

The methodological provisions of the long-term athlete development of table tennis players:

1. The goal of the young athletes training with regard to the sporting excellence. Incorporation of the sporting excellence requirements will allow determining the most important factors which deserve attention in the system of the long-term development of the young athletes [4, 10, 11]. The orientation towards the goal provides a positive continuity in the process of using the means, methods, and organizational forms of training at the stages of learning and training and improvement of sports skills and strict interconnection between the training and competition loads of young and adult table tennis players [3, 6, 9].

2. Proportionality in development and applying of the basic physical qualities. In accordance with this provision, it is necessary to ensure an optimal correlation of the physical qualities development and their effective implementation in the competition and training activities of the young athletes, taking into account the age peculiarities of the children and adolescents' organisms [1, 2, 3, 4, 5].

3. Perspective anticipation of sports and technical skills formation. The young athletes must acquire the basic arsenal of movement skills to better tolerate significant competition and training loads in the future [4, 10].

The multi-pronged approach serves as the basis for the process of long-term development of the table tennis players. It is determined by the combination of the collective and individual forms of training, which allows organizing the process of training and sports training of children, adolescents, boys and girls in accordance with their compound-specific and individual characteristics [1, 7, 8].

4. Arguments to support the thesis

The main factors stimulating the high rate of improvement of the long-term athletes development systems include: globalization of the top-level sports importance for the advancement of the world and national physical culture and its increasing role in the life of civilized nations; enhancement of the professionalism of the coaches, specialists in scientific accompaniment of reserve and national team training, physical culture and sports managers; developing trend of Olympic and professional sport integration and the

growing popularity of the latter as a promising sector of employment; rapidly growing competitiveness in the Olympic sports; intensive search for sportsmanship growth reserves for elite athletes.

The scope of this research is to develop, based on theoretical analysis and in-house pilot studies, a holistic system of scientific knowledge, integrating the long-term athlete's development and their orientation, in order to optimize management of the long-term development process in table tennis.

Research tasks:

1. Undertake a theoretical analysis of the special literature on the long-term athlete's development in table tennis.
2. On the basis of the compilation of theoretical data, practical experience and in-house pilot studies, outline the basic provisions that form the basis of knowledge of the long-term athlete's development in table tennis and the mechanism for their practical implementation in training activities.
3. Systematize the training process orientation in accordance with the stages of the long-term athlete's development.

5. Arguments to argue the thesis

The scientific novelty of the study consists in:

1. Theoretically substantiated structure of long-term table tennis training in the modes of adequacy of its content with the developmental age of kinesiological systems of the young athletes.
2. The content of the stages of initial, basic and advanced special training for the young tennis players has been defined.
3. A system of special training of the young tennis payers at each stage of the long-term training has been developed.

The theoretical value of the paper is based on (a) provision of a rationale for the technology of long-term special training of the young athletes during preparing a reserve of elite table tennis players; (b) development of basic theoretical provisions determining the content and tendency of training and coaching effects on the young athletes in solving specific pedagogical tasks at each stage of training.

The practical value of the paper consists in the possibility of using its theoretical provisions and sports and technological developments to improve the system of long-term training in the table tennis.

Content of stages of the long-term athlete development

Goals and objectives of sports training, solved consistently, determine the continuity of its content, as well as the criteria for the training process success.

1. **The main content of the training and the leading criteria for the athletes' fitness at the stages of the long-term learning and training process.** Each stage of the long-term athlete development must meet certain objectives and performance criteria [Table 1].

Table 1. The main objectives and criteria for the athletes' fitness

| Training stages | Main objectives of athlete development | Leading criteria for fitness |
|---------------------------------|--|---|
| Sports and Fitness Stage | <ul style="list-style-type: none"> -Health promotion; -Acquisition of the basics of the different physical exercises performing technique; -Enhancement of the functional capabilities of the organism; -Formation of demands in a healthy lifestyle; | <ul style="list-style-type: none"> -State of health; -Level of general physical fitness; -Naturalness of performance of individual basic elements and various integral movements; -Basic level of knowledge about healthy lifestyle, physical culture and sports, self-control, hygiene, and first aid. |
| Initial Training Stage | <ul style="list-style-type: none"> -Health promotion; -Acquisition of the basics of the different physical exercises performing technique including those ones in the selected sport; -Diversified physical training; Enhancement of the functional capabilities of the organism; -Participation in the mass team competitions; -Harmonious development of personality; -Formation of motivation to training; | <ul style="list-style-type: none"> -State of health; -Level of acquisition of the basic technique elements and integral movements in the selected sport; -Registered growth trend of individual indicators of general physical fitness. |

| | | | |
|--|---------------------------------|---|--|
| <p>Learning and Training Stage</p> | <p>1-2 Year of Study</p> | <ul style="list-style-type: none"> -Health promotion; -Enhanced training in the selected sport; overall and special physical training; instilling moral qualities and volitional powers; -Enhancement of the functional capacity by means of overall physical training; -Mastering the volume of learning and training loads by the types of training provided by the sports training program in the selected sport; acquisition of competition experience in the selected sport (technical component). | <ul style="list-style-type: none"> -State of health; -Level of technical fitness in the selected sport; -Positive dynamics of physical and functional fitness indicators; -Level of psychological proficiency (moral qualities and volitional powers, and discipline); -Volume of training performed under the training program in the selected sport. |
| | <p>3-4 Year of Study</p> | <ul style="list-style-type: none"> -Mastering the volume of learning and training loads by the types of training provided by the sports training program; -Enhancement and expansion of physical and functional capacity through special physical training; -Improvement of technical and tactical proficiency in the selected sport; -Formation of an emotional and volitional approach to training and competition activities; -Increasing the experience of competition activity. | <ul style="list-style-type: none"> -State of health; -Positive dynamics of main physical and functional fitness indicators, fitness shape and technical and tactical proficiency; -Level of psychological proficiency (preparedness to the increasing requirements of the learning and training process); -Accomplishment of sport norms and rankings envisaged by the training program; -Mastering the volume of learning and training loads envisaged by the tentative sports training program in the selected sport; -Achievement of pattern indicators of overall and special physical fitness; -Selection to the Republican junior national teams by sports. |
| <p>Improvement of Athletic Skills Stage</p> | | <ul style="list-style-type: none"> -In-depth customizing of the training process; -Improvement of the various proficiency aspects in accordance with the requirements of the main competitive exercise; -Strengthening the capacity to withstand stress conditions; -Expansion of competition practices. | <ul style="list-style-type: none"> -Sportsmanship level; -performance of pattern characteristics that define a high level of special physical, - functional, technical and tactical proficiency; -Level of psychological proficiency (capacity to withstand stress conditions of sporting activities); -Fulfillment of the qualifying |

| | | |
|---------------------------------------|--|--|
| | | requirements of Master of sports, Master of Sports of International Class, and Merited Master of Sports. |
| -The Sporting Excellence Stage | -Maximal realization of the movement, mental and intellectual potential in competition activity. | -Level and stability of sporting achievements at Republican and international competitions. |

2. Sports Competition System. Competition activities at the stages of long-term athletes development is a core factor of progress in sport, which is based on the principles of equity, accessibility, comprehensiveness and preservation of sporting capacity, taking into account the age and gender peculiarities of children, adolescents, youth and young people [Table 2].

Table 2. Goals and objectives of competition activity at the stages of long-term development

| Training stages | Goals of the competition - activities | Main objectives | Focus and results of competition activities |
|-----------------------------------|--|---|---|
| Sports and Fitness - Stage | Building skills for performing technically diverse gaming and complex exercises. Health promotion. | Attraction of the maximum number of trainees. Comprehensive physical and psychological healing of the young athletes. Development of team forms of competition based on the development of simple and holistic movement skills. | High-emotional team and gaming competitions that do not require the excessive psychophysical tension of the young athletes. |

| | | | | | |
|------------------------------------|--------------------------|---|--|--|--|
| | Initial Stage | Training | Formation of movement (technical) skills in complex competitions. | Assurance of attractiveness and wide availability of competitions. | Mass high-emotional team competitions of different character, based on a variety of exercises from different sports. |
| Learning and Training Stage | 1-2 Year of Study | Development of sportive and technical skills in accordance with the requirements of the selected sport, if possible in a variety of ways. | Maintaining the number of trainees. Ensuring equal rights to participate in competitions. Ensuring openness of competitions. Mastering of key methods and techniques of competitive struggle. Promotion of patriotism based on Fair Play principles. | Complex competitions mainly based on body-conditioning means. Achievement of mainly sporting and technical results corresponding to age and gender standards and criteria for the effectiveness of the training process. | |
| | 3-4 Year of Study | Improvement of physical, functional, and psychological capabilities by performing a basic competitive exercise. | Differentiation of leaning and training groups by the criterion of sports specialization. Improving the quality of physical, functional and psychological proficiency. Improving the sporting and technical skills in conditions of the important competitions. Gaining experience in competing at different levels. | Sporting achievements consistent with the pattern indicators of proficiency and competition activities in compliance with the training program requirements. | |

| | | | |
|---|--|--|--|
| <p>-Improvement of Athletic Skills Stage</p> | <p>Development of sporting and technical capabilities according to the requirements of the main competitive exercise and individual characteristics of the athletes.</p> | <p>Specialized physical, technical, tactical and psychological training. Accumulation of the competitive struggle experience. Improving the ability to show high athletic results in the conditions of the important competitions and high competitiveness .</p> | <p>Focus on the achievement of the results of the Master of sports and Master of Sports of International Class and the pattern characteristics of the various aspects of proficiency and competition activity.</p> |
| <p>-Sporting Excellence Stage</p> | <p>Maximal realization of sporting potential in conditions of important competitions.</p> | <p>Improvement of all types of special proficiency. Enhancement of competitive struggle experience in conditions of important competitions. Improvement of the ability to demonstrate high athletic results in the main competitions.</p> | <p>Focus on achieving the highest sporting result.</p> |

6. Conclusions

1. The basic methodological provisions of training envisage the continuity of tasks, means and methods of training children, adolescents, youngsters, juniors and adult athletes, and the progressive growth of general

and special physical training means, observance of the principle of graduality in the course of long-term athlete development.

2. Escalation of competition in the international sports arena with reducing of previous opportunities for extensive development of the sport reserve training system in our country require a compensating move forward in scientific and methodical support of this vital element of the top-level sport system. One of the main directions of its improvement - the development of new technologies for long-term athlete development - is hindered by scientific contradictions emerging in this area, both in the methodology of organization of a personally oriented organization of training impacts, and in its technological continuations.

3. In theory, it seems possible to create a relatively consistent system for the table tennis sports reserve training, based on the key features of evolutionary, systemic and activity approaches, the theoretical framework of individualization of the process of long-term athlete development, the achievements of modern sports theories, and local experience in managing the sports reserve training.

4. The use of typical model characteristics of competition activities and fitness, corresponding individual models, constructed considering specifics of movement skills and characteristics of functional systems increases the effectiveness of tennis players training management. The use of typical model characteristics differentiated by biological age typologies, the pace of development of subsystems of special physical, tactical and technical proficiency and the integral game and training preparedness is considered to be the most effective. The individual models of competition and training activities should, in each specific case, describe the intended structure of these sporting activities based on the personality characteristics of the young tennis players, strengths and weaknesses of their proficiency, the specificity of its dynamics and the identification of acceptable strategies and tactics to ensure the adequacy of the training and coaching effects and coaching instructions with the athletes' operational and current conditions.

5. The technological solutions on which it is based make it possible to develop the training effect programs adequate with the most significant individual peculiarities of the trainees and work conditions. Mastering of such programs enhances the prospects for improving the subjective

relationships between coaches and athletes, stimulates their creativity in the search for reserves of sports excellence and achievement of tactical and strategic goals and objectives of long-term athletes development.

The principle of the adequacy of the training effects and their structural organization (from the stages of long-term development up to the training microcycles) for the operational, current and prospective tasks of athletic development in the fullest possible compliance with the individual biorythmological characteristics of age development of morphofunctional systems of concrete athletes and individually oriented programs of their long-term development should serve as the basis for the organization of a process of long-term tennis players development, aimed at achieving the higher levels of sporting excellence.

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