

CZU 796.015.2:796.32

DIDACTIC DRAFT MODEL OF PLANNING A TRAINING PROCESS FOR HIGHLY QUALIFIED TABLE TENNIS ATHLETES

Mocrousov Elena¹

¹State University of Physical Education and Sport, Chisinau, Republic of Moldova

Abstract. *One of the most important factors in the successful and dynamic growth of players mastery in table tennis is a competent planning of the training process throughout their sports career. Distinguish between long-term multi-year planning (it is called promising), annual planning, current, or operational planning, defining the tasks of a single workout or several sessions combined into microcycles. The goals of research is a system of long-term training of highly qualified table tennis athletes. The subject of the research is a planning model of a long-term training process for table tennis athletes at the current stage (from beginners to high performance). Objectives of research: 1. Planning of training impacts in the process of long-term training in annual mesocycles of highly qualified table tennis athletes at the present stage. 2. Creating thematic work plans of highly qualified table tennis athletes at all stages of the annual training process, involving all types of sports training, their special combination and content. 3. Development a pedagogical load in the periods of sports training of table tennis players in annual mesocycles. Also theoretical and practical training in the preparatory period of the annual mesocycle, the pre-competition period (mesocycle) of the training process, in the competitive period, the special preparatory period and the transition (recovery) period of the annual training process.*

Keywords: *training process, table tennis athletes, preparation periods, competitive period.*

Introduction. The training process consists of relatively complete structural units, within which the construction of sports training in any sport takes place. Distinguish between long-term multi-year planning (it is called forward-looking), annual planning, current, or operational planning, defining the tasks of an individual training or several sessions combined into microcycles. Training management includes the formulation of real perspective and current tasks, the definition of methods and means of solving these tasks, the organization of the training process in a mode that is optimal for a specific athlete. The training management includes: 1. Planning of training process. 2. Control the process of training (accounting and analysis of the work done) and the level of training of the athlete (biological, technical and psychological readiness). 3. Compilation and analysis of current control data and making the necessary amendments in the planning (both in the tasks

of the plan and in the methods of their implementation).

The object of the research - a system of long-term training of highly qualified table tennis athletes.

The subject of the research - the planning model of the long-term training process of table tennis athletes at the present stage.

The objectives of the research: 1. Analysis of training sessions of highly qualified table tennis athletes, reflecting the topic of theoretical and practical training of athletes at each of the annual preparatory stages (mesocycles) of the entire training process. 2. Planning of training impacts in the process of long-term training in the annual mesocycles of highly qualified table tennis athletes at the present stage. 3. Creation of thematic work plans of highly qualified table tennis athletes at all stages of the annual training process, including all types of sports training, their special combination and content.

Along with the development of a graphic representation about the phased periods of the structure of the training process for table tennis athletes, applying to obtain a high sports qualification, it was also important for us to develop an effective substantive component of the pedagogical impact on children in specific

training sessions. First of all, we proceeded from the fact that in the first 4 stages (mesocycles) of sports training, the children selected for table tennis were organized for a six-day weekly training process twice a day and lasting 1.5 hours (2 academic hours = 90 min.) each lesson.

Table 1. The pedagogical load in the periods of sports training of tennis players in annual mesocycles (1 to 4)

No.	Periods of sports training of table tennis athletes	The number of academic hours of training sessions
1	Preparatory phase	288
2	Special-preparatory phase	288
3	Pre-competition phase	288
4	Competitive phase	192
5	Transition (recovery) phase	96

Thus, Table 1 presents the approximate pedagogical load in all periods of sports training of tennis players in each of the first four annual mesocycles (that is, from the 1st to the 4th). At the same time, the six-day weekly planning of 2 academic hours at each training session was 24 hours a week and was

generally determined by the age of the students and their not yet formed physical preparedness.

Table 2 presents the pedagogical load in subsequent periods of sports training of tennis players, that is, from the 5th to the 8th mesocycle.

Table 2. Pedagogical load in the periods of sports training of tennis players in annual mesocycles (from 5 to 8)

No.	Periods of sports training of table tennis athletes	The number of academic hours of training sessions
1	Preparatory phase	432
2	Special-preparatory phase	432
3	Pre-competition phase	432
4	Competitive phase	288
5	Transition (recovery) phase	144

This approximate load was calculated from the fact that tennis players athletes were already in the older age category and they, according to the level of physical, coordination-technical and functional preparedness, could already form stable skills

in longer training-time aspects and with greater intensity. Therefore, for this category of athletes, we planned training sessions in daily weekly mode based on 3 (three) sessions per day and a duration of 2 (two) academic

hours in each session. At the same time, in the weekly mode there were 36 training sessions.

The next program document for the training of highly qualified table tennis athletes should be a work plan reflecting the topics of theoretical and practical training of tennis players at each of the annual preparatory stages (mesocycles) of the entire training process.

Table 3 presents an approximate thematic work plan of the preparatory phase of sports

training of tennis players at the first stage of a long-term training process. As can be seen from Table 3, in this regard are reflected both theoretical and practical types of training, the topics of which are studied in weekly training sessions. Moreover, in each training week (reflected by numbers) issues of a theoretical nature and practical implementation of the tasks were solved.

Table 3. Approximate thematic plan on the theoretical and practical training of tennis playersathletes in the preparatory phase for the 1st stage (mesocycle) of the training process

Topics of theoretical and practical training	Required athletes competencies	Preparatory phase											
		Week numbers and time in each session (minutes)											
		5	6	7	8	9	10	11	12	13	14	15	16
Topic 1. Theory.	Master the knowledge of the rules and techniques of playing table tennis and the rules of behavior of an athlete in training and competitions.	20	20	15	15	10	10	5	5	5	5	5	5
		20	20	15	15	10	10	5	5	5	5	5	5
		20	20	15	15	10	10	5	5	5	5	5	5
		20	20	15	15	10	10	5	5	5	5	5	5
		20	20	15	15	10	10	5	5	5	5	5	5
		20	20	15	15	10	10	5	5	5	5	5	5
Topic 2. Practice. General physical training. The development of physical qualities. General developmental exercises. Force development.	Develop speed-power abilities and speed of movements.	30	30	30	30	30	30	30	30	25	25	25	25
		30	30	30	30	30	30	30	30	25	25	25	25
		30	30	30	30	30	30	30	30	25	25	25	25
		30	30	30	30	30	30	30	30	25	25	25	25
		30	30	30	30	30	30	30	30	25	25	25	25
		30	30	30	30	30	30	30	30	25	25	25	25
Topic 3. Practice. Special physical training. The development of movement coordination. Speed development.	Develop coordination abilities of general nature and specialized coordination of dance nature.	20	20	25	25	30	30	30	30	30	30	30	30
		20	20	25	25	30	30	30	30	30	30	30	30
		20	20	25	25	30	30	30	30	30	30	30	30
		20	20	25	25	30	30	30	30	30	30	30	30
		20	20	25	25	30	30	30	30	30	30	30	30
		20	20	25	25	30	30	30	30	30	30	30	30
Topic 4. Practice. Technical and tactical training. Practical skills of possession of a racket, a ball in place and in motion. Commencement of training a two-way game.	Master the skills of possession of the ball with a help of the racket in various positions.	20	20	20	20	20	20	25	25	30	30	30	30
		20	20	20	20	20	20	25	25	30	30	30	30
		20	20	20	20	20	20	25	25	30	30	30	30
		20	20	20	20	20	20	25	25	30	30	30	30
		20	20	20	20	20	20	25	25	30	30	30	30
		20	20	20	20	20	20	25	25	30	30	30	30

As can be seen from the presented Table 3, thematic planning of sports training for tennis players of the 1st stage (mesocycle) in the preparatory phase is divided into obtaining theoretical and practical knowledge and development on general physical training (GPT), special physical training (SPT) and

basic possession of techniques on table tennis. In so doing, the time aspect of obtaining theoretical knowledge by the end of the preparatory phase is reduced, and for practical development it increases (with some exceptions for GPT).

Table 4 presents an approximate thematic work plan for theoretical and practical training of tennis players athletes in a special preparatory phase for the 1st stage (mesocycle) of the training process. As can be seen from Tables 3 and 4, thematic planning of sports training for tennis players of the 1st stage (mesocycle) in the special preparatory phase is also subdivided into obtaining theoretical and practical knowledge and motor development in general physical training (GPT), special physical training (SPT) and obtaining

sustainable practical skills in mastering the techniques of an active two-sided game, as well as learning and improving tactical game activities.

In so doing, the time aspect of obtaining theoretical knowledge (TK) and general physical training (GPT) by the end of a special preparatory phase in each of the weekly sessions is reduced, and for practical development of SPT it stabilizes, but increases to improve technical and tactical techniques in active two-way game.

Table 4. Approximate thematic plan for the theoretical and practical training of tennis players athletes in a special preparatory phase for the 1st stage (mesocycle) of the training process

Topics of theoretical and practical training	Required athletes competencies	Special-preparatory phase											
		Week numbers and time in each session (minutes)											
		17	18	19	20	21	22	23	24	25	26	27	28
Topic 1. Theory.	Master the knowledge on features of techniques of table tennis game: - snap of the ball; - ball innings; - attacking blows ; - displacement.	15	15	15	10	10	5	5	5	5	5	5	5
		15	15	15	10	10	5	5	5	5	5	5	5
		15	15	15	10	10	5	5	5	5	5	5	5
		15	15	15	10	10	5	5	5	5	5	5	5
		15	15	15	10	10	5	5	5	5	5	5	5
		15	15	15	10	10	5	5	5	5	5	5	5
Topic 2. Practice. General physical training. The development of physical qualities	Master speed-strength abilities and elements of endurance.	15	15	15	10	10	15	15	10	10	10	10	10
		15	15	15	10	10	15	15	10	10	10	10	10
		15	15	15	10	10	15	15	10	10	10	10	10
		15	15	15	10	10	15	15	10	10	10	10	10
		15	15	15	10	10	15	15	10	10	10	10	10
		15	15	15	10	10	15	15	10	10	10	10	10
Topic 3. Practice. Special physical training. Development of special movement coordination	Develop coordination abilities of general nature and specialized coordination of dance nature.	30	30	30	30	30	30	30	30	30	30	30	30
		30	30	30	30	30	30	30	30	30	30	30	30
		30	30	30	30	30	30	30	30	30	30	30	30
		30	30	30	30	30	30	30	30	30	30	30	30
		30	30	30	30	30	30	30	30	30	30	30	30
		30	30	30	30	30	30	30	30	30	30	30	30
Topic 4. Practice. Technical and tactical training. Practical skills in mastering techniques of active game. Tactical actions training.	Master the gaming skills in table tennis and the variability of innings. Learn to determine the ball flight trajectory after hitting an rival's racket.	30	30	30	40	40	40	40	45	45	45	45	45
		30	30	30	40	40	40	40	45	45	45	45	45
		30	30	30	40	40	40	40	45	45	45	45	45
		30	30	30	40	40	40	40	45	45	45	45	45
		30	30	30	40	40	40	40	45	45	45	45	45
		30	30	30	40	40	40	40	45	45	45	45	45
Topic 5. Camp and sports training (training camps) of tennis players (TK, GPT, SPT, TTK).	General development and special training in the sand and accumulation of gaming experience.												

Table 5 presents an approximate thematic work plan on theoretical and practical training of tennis players athletes in the pre-competition phase for the 1st stage (mesocycle) of the training process. As can be seen from Table 5, thematic planning of sports training for tennis players of the 1st stage (mesocycle) in the pre-competition phase is divided into obtaining theoretical and practical knowledge and special motor development (SMD) and obtaining sustainable practical skills in

mastering the techniques of active competitive two-sided games, as well as improving game technical and tactical actions in official competitions of the republican level. A feature of this period is that it excludes general physical training (GPT), special physical training is significantly reduced, and from week 37 it, as a separate topic, has completely stopped. Thus, a little more time is spent on TTT (instead of GPT and partially of SPT), but only up to 37 weeks.

Table 5. Approximate thematic plan on the theoretical and practical training of tennis players athletes in the pre-competition phase for the 1st stage (mesocycle) of the training process

Topics of theoretical and practical training	Required athletes competencies	Pre-competition phase											
		Week numbers and time in each session (minutes)											
		29	30	31	32	33	34	35	36	37	38	39	40
Topic 1. Theory.	Master the knowledge of the features of competitive technique and tactics of game in table tennis:	5	5	5	5	5	5	5	5	10	10	10	10
		5	5	5	5	5	5	5	5	10	10	10	10
		5	5	5	5	5	5	5	5	10	10	10	10
		5	5	5	5	5	5	5	5	10	10	10	10
		5	5	5	5	5	5	5	5	10	10	10	10
Topic 2. Practice. Special physical training. Improving special technical coordination	Improve the general and specialized coordination of a dance nature (leg work and torso motion).	10	10	10	10	10	10	10	10	–	–	–	–
		10	10	10	10	10	10	10	10	–	–	–	–
		10	10	10	10	10	10	10	10	–	–	–	–
		10	10	10	10	10	10	10	10	–	–	–	–
		10	10	10	10	10	10	10	10	–	–	–	–
Topic 3. Practice. Technical and tactical training. Improving the practical skills mastering of technical skills and tactical actions in active game.	The accumulation of experience in competitive games and the formation of sustainable skills in the implementation of technical and tactical techniques.	20	20	25	25	30	30	30	30	–	–	–	–
		20	20	25	25	30	30	30	30	–	–	–	–
		20	20	25	25	30	30	30	30	–	–	–	–
		20	20	25	25	30	30	30	30	–	–	–	–
		20	20	25	25	30	30	30	30	–	–	–	–
Topic 4. Practice. Training games and competitions in the Republic of Moldova. Competitive and practical skills in training games and in official tournaments at the Republican level.	Accumulate the competitive experience of the game and prepare to implement the classification level in table tennis.	–	–	–	–	–	–	–	–	80	80	80	80
		–	–	–	–	–	–	–	–	80	80	80	80
		–	–	–	–	–	–	–	–	80	80	80	80
		–	–	–	–	–	–	–	–	80	80	80	80
		–	–	–	–	–	–	–	–	80	80	80	80

Instead of these types of training, tennis players athletes are given much more time to friendly games and tournaments, as well as official classification competitions at the

Republican level. At the same time, the content of the theoretical training includes an analysis of the results of the official and unofficial friendly matches.

Table 6. Approximate thematic plan for the theoretical and practical training of tennis players athletes in the competitive phase for the 1st stage (mesocycle) of the training process

Topics of theoretical and practical training	Required athletes competencies	Competitive phase							
		Week numbers and time in each session (minutes)							
		41	42	43	44	45	46	47	48
Topic 1. Theory. Analysis of technical and tactical allowed mistakes in game situations.	In training sessions the elimination of the most pronounced errors.	–	180	180	180	–	180	–	180
		–	180	–	180	–	180	–	180
Topic 2. Practice. Training games and competitions of the Republic of Moldova. Official classification competitive games and tournaments. Competitive and practical skills in training games and in official tournaments at the Republican level.	Acquire practical skills of a competitive game and complete the required classification level in table tennis.	180	–	–	–	180	–	180	–
		180	–	180	–	180	–	180	–
		180	180	180	180	180	180	180	180
		180	180	180	180	180	180	180	180
		180	180	180	180	180	180	180	180
		180	180	180	180	180	180	180	180

Table 6 presents an approximate thematic work plan for the theoretical and practical training of tennis players athletes in the competitive phase for the 1st stage (mesocycle) of the training process. As can be seen from Table 6, thematic planning of sports training for tennis players of the 1st stage (mesocycle) during the competitive phase is divided into obtaining theoretical and practical knowledge and obtaining sustainable gaming skills in mastering techniques of active competitive activity, and at the same time improving the game tactical actions in official competitions at the Republican level. The peculiarity of this phase is that it excludes general physical training (GPT) and special physical training (SPT). At the same time, most of the time is devoted to participation in competitions at the Republican level and official tournaments (CRM and TT), as well as analysis of competitive tactical and technical actions (TTA) characterizing the results of the competition.

Therefore, the time allotted for solving the planned topics in Table 6 are placed conditionally in weekly modes, since competitions and tournaments at the

Republican level in table tennis do not have a constant annual schedule.

Table 7 presents an approximate thematic work plan for the transition (recovery) period of tennis players after the 1st stage (mesocycle) of the annual training process.

As can be seen from Table 7, in the first two weeks of the transition (recovery) phase, activities are planned for active recreation of tennis players athletes, which include pedagogical, psychological and biomedical means and whose task in complex terms is to take off fatigue and bring the body of athletes to a functional-normal state, “Switch” their attention to other types of active, cognitive and entertaining activities organized centrally through sports school and support of the parents. The second important topic of this period is the solution of two tasks: the first is relatively light warm-up and training exercises, as a preparatory process for the subsequent annual stage (for example, the 2nd) and the second is the implementation of a set inter-stage transitional control of normative, with the successful implementation of which athletes are transferred to the main team of the 2nd stage of sports training. Moreover, in

addition to the control of normative, athletes must implement a proper sports classification at official competitions and successfully pass a

medical examination. Tennis athletes who do not implement these requirements are transferred to the alternate players.

Table 7. Approximate thematic work plan for the transition (recovery) period of tennis players athletes after the 1st stage (mesocycle) of the annual training process

Topics of recovery activities and motor preparation for the implementation of inter-stage transitional norms	Required athletes competencies	Transition (recovery) phase			
		Week numbers and session time per day (minutes)			
		1	2	3	4
Topic 1. Active leisure. Pedagogical means. Psychological means. Biomedical means.	Bring the body of athletes in a functional-normal state.	180	180	–	–
		180	180	–	–
		180	180	–	–
		180	180	–	–
		180	180	–	–
		180	180	–	–
Topic 2. “Involving” training, as the process of readiness for the subsequent preparatory period and the implementation of transitional inter-stage control norms.	Recovery of sports condition and the implementation of inter-stage transitional control of normative.	–	–	180	180
		–	–	180	180
		–	–	180	180
		–	–	180	180
		–	–	180	180
		–	–	180	180

Such a didactic plan of each training session in table tennis implies a consistent solution of the motor-developing tasks, while respecting all the pedagogical principles of teaching and the implementation of the proper intensity of the planned actions in combination with the methodological instructions. We present an approximate didactic plan of one of the training sessions with tennis players of the 1st stage of sports training. It should also be noted that during the 8 years of the training process, all didactic plans summaries of each session in structure are relatively the same, with the exception of the tasks to be solved,

the selection of motor means, dosage of their implementation and methodology sheets. Thus, Table 8 presents an approximate didactic plan of the training session on table tennis for athletes of the 1st stage of sports training.

As can be seen from Table 8, the didactic plan-abstract for the implementation of the objectives of sports training for girls of 7-9 years old in table tennis has a three-part structure: the preparatory, main and final part of the session, which are resulting by time parameters and the specific formulation of the objectives to be implemented and the conditions for their implementation.

Table 8. Approximate didactic plan of the training session in table tennis for the athletes in the preparatory period of the 1st stage of sports training

Table tennis sports training session No. 72.

The purpose of the training session: to form in athletes the motor coordination abilities for table tennis and in perfection to master the playing technique.

Objectives:

1. Improving the technique of moving and possession of the ball in the transfer:
2. Development of speed-strength qualities and general coordination:
3. The development of special coordination of the work of legs and torso:

Sessions venue: sports hall.

Inventory: table tennis tables and nets, rackets, table tennis balls, gymnastic benches, gymnastic mats, jump ropes.

Contingent: girls 7-9 years old.

Time of the session - 90 minutes

The structure of the session and the time of its parts	The content of didactic means of sessions	Dosage of exercise implementation	Organizational and methodical instructions
Preparatory part 26 minutes	Organization of sessions. Construction, greeting, presentation of session objectives.	1 minute	Pay attention to the appearance (sports condition) and readiness for the session.
	Theoretical information.	5 minutes	Master the knowledge of ball innings techniques and the characteristics of moving the torso.
	General developmental exercises in motion around the perimeter of the hall and on the sport:	10 minutes	In the course of the exercises implementation are given methodological instructions and the necessary evolution.
	- walking and its varieties;	3 minutes	
	- warm-up run and its varieties in combination with side jumps and crossover side steps;	3 minutes	
	- exercises on site for stretching the muscles.	4 minutes	During marching the ball against a wall, change the sides of the racket
	Special preparatory developmental exercises: - practicing ball strokes with a racket against the wall with a movement with crossover side steps to the left, to the right;	10 minutes 3 minutes	

II. The main part of the sessions 60 minutes	Evolution to perform the 1st task. Task 1.TK. Improving the technique of moving and possession of the ball in the transfer: - movement with crossover side steps around the table with a racket touching the edge of the net; - stopping a falling ball with a racket on the overlay; - juggling the ball with two sides of the racket; - two-sided game in table tennis.	1 minute 19 minutes 4 minutes 4 minutes. 4 minutes 7 minutes	Control the actions of athletes and correct mistakes. Movement to the left and right. Stop the ball at waist level. Juggling a ball with a racket to a height of about 30-40 cm, with two sides of the racket and then with its ribs counting - at least 30 times. Pay attention to the trajectory of the ball from the opponent for the timely movement of the torso.
	Task 2. GPT. The development of speed-strength skills and overall coordination: - jumping rope; - jumping sideways: left, right; - jumping over a gymnastic bench in the direction of its length. Task 3.SPT. The development of special coordination of work of legs and torso: -individual dance exercises with the musical accompaniment at a 4/4 pace.	20 minutes 7 minutes 7 minutes 6 minutes 20 minutes	Control the actions of athletes and correct mistakes. Do jump rope on gymnastic mats. Jumping sideways on the perimeter of the sports hall. Jumping with a wave of hands up. Control the actions of athletes and correct mistakes Monitor the external signs of fatigue athletes
III. Final part of the session 4 minutes	Evolution. Walking in a column, one around (around the perimeter) of the sports hall. Exercises in motion to bring the body into a calm state. Summing up the sessions.	4 minutes	Control the actions of tennis players and follow the breath

Conclusions

1. For optimal preparation of highly qualified table tennis athletes, the entire training process from the first to the eighth stage must be ensured by system planning of using general, special and specialized training means allowing to effectively mastering the technique and tactics of the game, subsequently realizing high sporting excellence at the highest international competitive levels.

2. As part of the annual planning of the training process for table tennis athletes, there should be a didactic plan for each training session or for a group of such sessions, which

reflects the implementation of the tasks set in accordance with the themes of the work plans.

3. The didactic plan-abstract of each training session in table tennis involves the consistent solution of motor and developmental tasks, while respecting all the pedagogical principles of learning and the implementation of the proper intensity of the planned actions in conjunction with the methodological instructions.

4. Planning a complex of such didactic projects allows us to systematically determine the entire training process, giving it the targeted nature on sustainable improvement of sporting excellence for children dedicated themselves to table tennis.

References:

1. Амелин, А.Н. (2005). *Настольный теннис*. Москва: Физкультура и спорт. 175 с.
2. Быстрицкий, Д.Ю., Погадаев, М.Е. (2013). *Основы блоковой периодизации спортивной тренировки*: Учебно-методическое пособие. Уфа: ИРО РБ. 29 с.
3. Барчукова, Г.А., Богушас, В.М., Матыцин, О.В. (2006). *Теория и методика настольного тенниса*. Москва: Академия, с.6-8.
4. Demetrovic, E. (1996). *Encyklopedia stolneho tenisu slovenska*. Bratislava: Sport. 225 p
5. Demetrovic, E. (1984). *Stolny tenis. Ucebna pri skolenie trenerov*. Bratislava: Sport. 252 p.
6. Dick, F. (1980). *Sports training principles*. London: Lepus Books. 275 p.
7. Команов, В.В. (2014). *Тренировочный процесс в настольном теннисе: учеб.-метод. пособие*. Москва: Совет.спорт, с. 348.
8. Матыцин, О.В. (2001). *Многолетняя подготовка юных спортсменов в настольном теннисе*: Учеб. пособие Москва, с. 167–195.
9. Филин, В.П. (1987). *Теория и методика юношеского спорта*. Учебное пособие. Москва: Физкультура и спорт. 128 с.
10. Шинкарук О.А. (2011). *Отбор спортсменов и ориентация их подготовки в процессе многолетнего совершенствования (на материале олимпийских видов спорта)*. Дис. доктора наук. Киев. 523 с.