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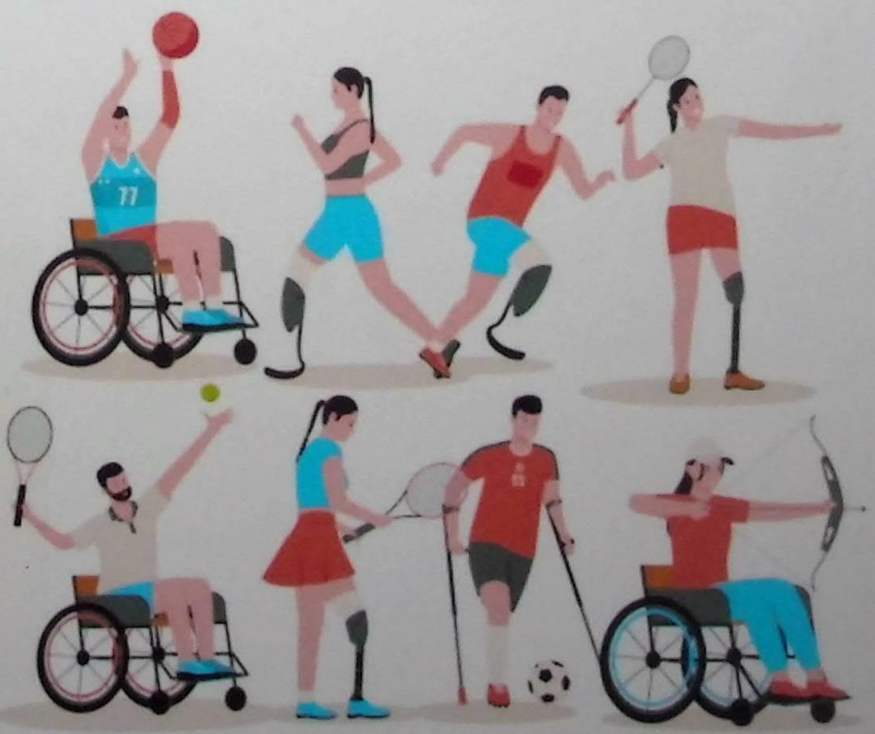
INTEGRAL PREPARATION IN ADAPTIVE SPORT



MINISTRY OF HIGHER EDUCATION, SCIENCE AND INNOVATION OF THE REPUBLIC OF UZBEKISTAN

UZBEK STATE UNIVERSITY OF PHYSICAL EDUCATION AND SPORTS

DEPARTMENT OF ADAPTIVE PHYSICAL EDUCATION AND SPORTS

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INTEGRAL PREPARATION IN ADAPTIVE SPORT

(For masters of degree)
71010303 – " "Adaptive recreational and Physical Education in Sports""

TRAINING MANUAL

«EVRIKA NASHRIYOT-MATBAA UYI»
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This training manual has been developed based on the curriculum of the " Integral preparation in adaptive sport" course within the "Sports Activity" master's program at higher educational institutions. The manual comprehensively addresses issues related to adaptive physical education and sports training, elaborating on the development of various types of training across multi-year preparation stages. Additionally, it provides an in-depth analysis of adaptive physical education sessions, training planning, and monitoring strategies.

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Annotatsiya

Ushbu o'quv qo'llanma Adaptiv jismoniy tarbiya va sport nazariyasi va uslubiyati haqida bolib, amaliy tavsiyalar, xulosa va foydalanilgan adabiyotlardan iborat. O'quv qo'llanma adaptiv jismoniy tarbiya va sport nazariyasining maqsad va vazifalari, mashg'ulot vositalarini saralash va qo'llash, adaptiv sportdagi integral tayyorgarlik xususiyatlari ochib berilgan. Shug'illanuvchilarning rivojlanish xususiyatlari, ta'lim va tarbiyaning asoslari, jismoniy tarbiya mashqlariga o'rgatish, sportchilarni saralash, sportchilarni Respublika va xalqaro musobaqalarga tayyorlash, mashg'ulot sikllarini tashkil qilish, ko'p yillik tayyorgarlik sikllar, davrlarni rejalashtirish va nazorat qilish kabi masalalar yoritilgan.

Аннотация

Данное учебное пособие посвящено теории и методике адаптивной физической культуры и спорта и состоит из практических рекомендаций, выводов и использованной литературы. В учебном пособии описаны цели и задачи теории адаптивной физической культуры и спорта, выбор и использование средств тренировки, особенности комплексной подготовки в адаптивных видах спорта. Такие вопросы, как особенности развития, и основы воспитания и обучения, подготовка по физической культуре, отбор спортсменов, подготовка спортсменов к национальным и международным соревнованиям, организация тренировочных циклов, многолетних тренировочных циклов, планирование и контроль периодов подготовки.

Annotation

This manual is about the theory and methodology of adaptive physical education and sports, and consists of practical recommendations, conclusions, and used literature. The study guide describes the goals and objectives of adaptive physical education and sports theory, the selection and use of training tools, and the features of integrated training in adaptive sports. Issues such as the characteristics of the development of the employees, the basics of education and training, training in physical training, selection of athletes, preparation of athletes for national and international competitions, organization of training cycles, multi-year training cycles, planning and control of periods are covered.

INTRODUCTION

Currently, under the leadership of the President of the Republic of Uzbekistan, Sh. M. Mirziyoyev, extensive efforts are being undertaken to enhance the management system in the field of physical education and sports, promote mass sports, identify and nurture talented athletes, and strengthen the sector with highly qualified specialists.

In our republic, scientifically grounded modern systems, forms, and methods of physical education for children have been implemented, with key objectives set in this field. To achieve these objectives, the development of specialized literature in the field of special physical education, along with other related disciplines, has been established.

The training manual elaborates on the goals and objectives of the theory of adaptive physical education and sports, outlining the methodological approaches for selecting and applying training tools. It covers the developmental characteristics of participants, the fundamentals of education and training, teaching physical education exercises, athlete selection, preparation of athletes for international competitions, organizing training cycles, multi-year preparation cycles, and planning and monitoring periods.

The Law of the Republic of Uzbekistan on "Education" and the "National Program for Personnel Training" are increasingly becoming integral to social life. As outlined in the "National Program for Personnel Training," critical tasks such as preparing highly qualified specialists and retraining those currently active in the field are being addressed. Furthermore, the President is placing special emphasis on the development of physical education and sports in the country.

Due to the significant negative changes taking place in the physical development, physical fitness, and health of the growing younger generation, the problem of preparing healthy, physically fit young people is becoming particularly important.

CHAPTER I: THE THEORETICAL AND METHODOLOGICAL FOUNDATIONS OF ADAPTIVE PHYSICAL EDUCATION AND SPORTS

§ 1.1. The Theoretical and Practical Foundations of Adaptive Physical Education and Sports

As a new approach to organizing the process of professional and individual development of students, the goal of developing the structure and application technologies of teaching specialized subjects based on intellectual systems is one of the urgent issues of today.

The intellectual system of teaching is the practical result of applying artificial intelligence methods and tools in the field of automated learning, representing the new generation of educational systems. To achieve high indicators in the process of developing students' knowledge, skills, and competencies, the instructor of specialized subjects utilizes three main types of knowledge: knowledge of the specialized subject being taught, knowledge of teaching methods, and knowledge of the learner. In traditional automated teaching systems, many parts of this knowledge are strictly incorporated into specific sections of the subject based on the chosen teaching methodology. In the intellectual teaching system, the necessary knowledge is identified and presented using various methods and technologies of artificial intelligence. In the intellectual teaching system, when presenting educational material, it is possible to determine and regulate the most effective teaching methods, techniques, and pace, based on the utilization of this knowledge and taking into account the psycho-physiological and intellectual capabilities of the student. This allows for the adjustment of the content of the subject, its volume, and the complexity level of the tasks. The intellectual system of teaching specialized subjects consists of a knowledge base, a management system, a teaching system, and a communication system. The foundation of the intellectual system of teaching specialized subjects is the knowledge base. For each specialized subject, the knowledge base is composed of several interconnected databases, each of which represents a specific part

of the subject being taught: "Terminology and Key Concepts," "Theory," "Practical-Laboratory Work," and "Independent Work."

Knowledge about teaching methods is accumulated in the "Assignments" database, which classifies and organizes didactic materials for all sections of the subject in a systematic manner, aligned with teaching methods. Knowledge about the learner is gathered in the "Teaching Results" database. In this database, an individual card is created for each student, which reflects the level and quality of the student's knowledge in the subject being taught, as well as information about their psycho-physiological development characteristics.

- The management system of the knowledge base is designed for the introduction and accumulation of new knowledge. The first stage involves studying the system, where all knowledge related to the specialized subject is considered new, and this knowledge is collected through the communication (dialogue) process between the system and the expert. In subsequent stages, the search for new knowledge is carried out automatically: all incoming information is compared with existing data, new information is selected based on the existing knowledge, analyzed, and its classification is presented in one or more variants. For example, when a new method of processing an item is discovered, information about the methods of execution, required tools and equipment, materials to be used, and the applicable fields is presented for study.

The teaching system is designed to organize and support a goal-oriented educational process and consists of three modules: managing teaching, forming assignments, and analyzing results. At each stage of teaching, the objective of instruction is determined based on the analysis of the student's individual card, and teaching tasks are selected or developed. If the student works independently, their actions are monitored, and errors or difficulties encountered are recorded. This allows for the identification of when intervention in the educational process, assistance, or adjustments to the student's individual card are necessary. When help is requested, the optimal forms of providing assistance are selected (e.g., pointing out errors, offering informational materials for the student to correct their mistakes or fill in gaps in knowledge, etc.).

All decisions are made based on the individual characteristics of the student, ensuring that the intellectual system facilitates the educational process in the most optimal way for the student.

The communication system serves to ensure interaction between the learner and the system, both individually and in network mode, during distance learning. This system is aimed at identifying the student, ensuring their ability to access the knowledge base, data, and educational information materials from the teaching system. Communication between the student and the system should be conducted in forms that are easy to understand and in simple language.

The overall process of implementing the intellectual system for teaching specialized subjects can be represented in the following diagram: After the user's identity is verified, their access rights to the system are determined. The module of the teaching management system analyzes the status of the student's individual card and defines the objective, methodology, and tasks of the upcoming instruction. The task formulation module, based on the selected methodology and the knowledge base information, develops the teaching task. The student performs the assigned task (studying theoretical material, completing practical work, taking tests, answering questions, etc.), with ongoing interaction with the system, meaning the student's work is monitored, and assistance is provided if necessary. The results analysis module identifies errors and difficulties, makes adjustments to the student's individual card, and concludes the teaching cycle, preparing the system for the next process. The user can independently define tasks (e.g., displaying the relevant section of theoretical material or assignment on the screen, referring to available dictionaries and sources, reviewing the individual card, etc.).

The intellectual system for teaching specialized subjects, taking into account the individual characteristics of the student, enables the implementation of an education process aimed at the development of the individual, directed towards specific goals, in a closed system with automated control tools, and in independent, individual, group, and distance learning formats.

The importance of education plays a crucial role in developing

the intellectual and creative potential of young people. The essence of the educational process for enhancing intellectual and creative potential reflects internal connections and relationships that are characteristic of this process and manifest according to specific laws. In the process of developing the intellectual and creative potential of young people, ethical skills and competencies are formed in students that align with moral requirements set for individuals and benefit society. To achieve this, systematic and consistent influence is applied to the student's consciousness, worldview, and will. If any of these aspects are neglected during the development of creative potential, it becomes difficult to achieve the desired goal. It is only by taking these psychological aspects into account that the development and shaping of young people's intellectual and creative abilities can be facilitated and promoted.

In the process of education and upbringing, it is of significant importance for the teaching to be directed towards a specific goal. The educational process cannot creatively develop young people without shaping their intellectual and creative abilities. The essence and objectives of any education process aimed at developing students' intellectual and creative potential are planned by the teacher, and sequential methods to be followed are determined:

1. The development and stimulation of traits that shape students' intellectual and creative potential are planned.
2. Methods for developing these traits are created, or sources aimed at enhancing intellectual and creative potential are sought and identified.
3. The theoretical and practical sources that serve the defined goal are selected, and their application is planned.

In this way, the tasks carried out according to the plan will not only develop the intellectual and creative potential of young people within the educational system but also enhance the intellectual and physical activities of society and individuals. The process of increasing intellectual and creative potential is multifaceted and long-term. The activity of young people, the presence of numerous contradictions, and the multifaceted nature of the process involve various factors such as educational institutions, families, neighborhoods, and the broader community, including cinema, theater, television, literature,

and art. This process involves the child's innate talent. Unlike education, this characteristic begins from the moment the child is born, continues through the school years, and persists throughout life. The distinguishing feature of intellectual and creative potential, as compared to education, is that it is realized in a holistic and concentric manner. In this process, the types of education are interconnected. This includes the child's innate talent as well as the intellectual and creative potential based on the knowledge they acquire. This process has a dual nature, where the child actively participates as well.

These contradictions manifest in the struggles between the intellectual and creative potential initially developed in children according to their own understanding and the qualities being formed by education and upbringing, as well as the demands placed on students and their ability to meet those demands.

Despite the theoretical situations and practical examples mentioned above, the issue of ability and its development remains one of the most complex problems in psychology and pedagogy. Ability is related to natural talents such as sensory analyzers, strength, movement, as well as the coordination of nervous system features like nervous, physical, and mental processes. Furthermore, it develops under the influence of the external social environment. Like all individual psychological characteristics of a person, abilities are not given in a ready-made form by nature, but rather develop during the process of life and activity. A person is born without any psychological characteristics, only with general possibilities aimed at acquiring them. Currently, the theory that links the signs of talent with the microstructure of the brain and sensory organs is considered the most productive. It can be hypothesized that the deep study of brain cells allows for the identification of differences in the morphological and functional characteristics of the nervous tissue of talented individuals. Additionally, the hypothesis linking the signs of talent with certain differential characteristics of nerve processes (differences in nerve strength, balance, and mobility) and with types of higher nervous activity is also closer to the truth. Serious statistics do not provide any evidence supporting the inheritance of abilities and talents. The scientific theory about the inheritance of

abilities is also contradictory. Although the development of abilities is influenced by different natural conditions and is not the same for every individual, the relationship between the signs of talent and abilities, as discussed above, shows that abilities are not merely a gift from nature, but rather the product of human history. While in animals, the transfer of achievements from one generation to the next occurs primarily through genetic morphological changes, in humans, this process takes place through socio-historical means, such as tools, language, works of art, and similar cultural elements. The factor that determines whether a person perceives themselves as having the ability for a particular activity or not is the methodology of education. Where educational methodology is weak, discussions about the innate nature of abilities emerge. It is self-evident that methodology is constantly improving, which leads to the narrowing of the concept of "innate abilities." The issue of developing abilities and talents is a matter of great social and national importance. One of the key factors in the development of human abilities is stable specialized interests. Specialized interests refer to an individual's interest in the content of a particular field of activity, which increases in proportion to their inclination to engage in that activity professionally. In this context, cognitive interest stimulates the practical acquisition of methods and techniques of the activity. The emergence of interest in a particular labor or educational activity is closely linked to the awakening of abilities related to that activity and serves as an initial foundation for their development. It has been noted that many bourgeois scholars believe that abilities are innate and are transmitted from generation to generation. According to the proponents of this theory, there are relatively few capable families among the majority of people who are not particularly talented, and the abilities of individuals in these families are inherited across generations. According to the data of some bourgeois researchers, these so-called "centers of talent" have always belonged to privileged classes, while, at the same time, there are allegedly almost no talented individuals among the majority of the working people. It is not difficult to see that such a concept is aimed at providing a scientific justification for the bourgeois scholars' claim that ordinary people are inherently inferior, whereas

wealthy and famous individuals are naturally gifted. This, in turn, serves to legitimize their right to rule over and exploit the masses. It is clear that there is nothing scientific about the conclusions drawn by these so-called "scholars," nor can there be. However, there exists an entirely opposing perspective on abilities, which completely denies the existence of innate qualities and asserts that everything depends solely on upbringing and the conditions in which an individual matures, develops, and works. Modern psychological scientists believe that abilities are linked to the structure of the brain and sensory organs and that they vary among individuals from birth. Every person possesses innate predispositions, meaning specific characteristics of the brain's higher nervous activity and analyzers. Consequently, the tendency to develop certain abilities in the future depends on these factors.

Natural anatomical and physiological predispositions form the physiological basis of abilities. A set of predispositions that later develop into abilities is referred to as talent. As mentioned earlier, abilities develop through activity. Academician B.A. Obruchev aptly stated that abilities, like muscles, develop through practice. Therefore, the first condition for developing abilities is nurturing the need for activity. Abilities do not develop in individuals who dislike working and avoid both intellectual and physical labor. All distinguished individuals who have achieved great success in their fields emphasize the importance of hard work in developing their abilities. The famous aircraft designer and two-time Hero of Socialist Labor, A. Yakovlev, stated: "Talent is not a gift from God… it is, above all, labor multiplied by perseverance—labor, labor, and once again, labor." Cultivating an interest in work and developing a habit of engaging in it play a crucial role in fostering the need for labor.

Abilities are integrally connected with other qualities of an individual. A person's talent is, to some extent, dependent on the development level of their psychological processes (perception, memory, thinking, speech, imagination, attention) as well as various psychological characteristics. The high level of certain cognitive processes plays a decisive role in the development of specific abilities. A strong development of multiple psychological processes and characteristics in an individual leads to overall well-rounded

competence. As a person engages in developing their abilities, they should strive to ensure that this development does not become a mere end in itself.

Abilities are only one aspect of an individual's personality and constitute one of their psychological characteristics. If a talented person lacks moral determination, they cannot be considered a positive individual. On the contrary, capable individuals with high moral standards, principles, ethical sensitivity, and strong willpower have contributed and continue to contribute significantly to society. The application of tests helps students gain a deeper understanding of their personal traits, facilitates the resolution of the complex issue of career choice, and enables them to better recognize their strengths and weaknesses.

One of the most important and relevant tasks of applied psychology today is identifying the potential for abilities from an early age and determining the direction of an individual's abilities based on their level of intelligence. Therefore, many intelligence tests and methods for diagnosing abilities have been developed and are successfully applied in practice. The issue of measuring abilities began to be systematically addressed at the end of the 19th century and the beginning of the 20th century.

Abroad, such work was studied by researchers like Spearman, Binet, Eysenck, and others. They used special tests to study abilities and talents. The general essence of these tests is that they consist of a system of tasks, which gradually become more difficult, forming a battery of tests. For example, Eysenck's famous intelligence test consists of 40 tasks and measures the speed of intellectual processes. The time factor is considered important here. Other authors, however, have considered slow performance as a sign of incapacity and have developed different methods. For many scholars, particularly Russian scientists, a reliable criterion for measuring abilities is recording an individual's achievements and changes in their abilities directly within the process of activity.

The Russian scientist Ye.A. Klimov developed a methodology to determine the direction of youth talent by focusing on the fields of activity and professions, and he called it the "Professional-Diagnostic Questionnaire." In this methodology, he classified all

professions into five categories based on their directed fields:

- P(T) - Nature (plants, animals, microorganisms)
- T - Technology (machines, materials, types of energy)
- Ch(O) - People (groups of people, teams)
- Z (B) - Symbols (various data, symbolic representations)
- X (I) - Artistic, creative images (visual arts, music)

The questionnaire determines an individual's inclination towards various professions. It contains 20 pairs of questions, and the examinee must indicate to what extent they are inclined to engage in each type of activity on a special response sheet. One of the most important and pressing tasks of applied psychology today is identifying the potential for abilities from an early age and determining the direction of an individual's abilities based on their level of intelligence. Therefore, many intelligence tests and methods for diagnosing abilities have been developed and are successfully applied in practice.

As we have seen above, the elements of theory are organically connected with the tactical, technical, and other types of athlete preparation. At the same time, the theoretical preparation part can be somewhat conditionally distinguished from the others. There is a certain range of knowledge necessary for an athlete that does not fall into any of the previously mentioned areas of preparation.

The theory and methodology of subjects such as the history and sociology of sports, the hygiene of sports practice, medical monitoring, and so on, are part of this knowledge. Mastering these subjects forms the theoretical preparation part. With the development of sports, the role of theoretical preparation also grows rapidly. The theoretical preparation of an athlete primarily involves acquiring intellectual knowledge and engaging in independent study, typically through lectures, seminars, and independent work with books.

Theoretical preparation is directly integrated with practical training as an element alongside technical, tactical, moral-volitional, and physical preparation in sports. Thus, an athlete's preparation is a multifaceted and multidimensional process. All its aspects are strongly interconnected with each other. For example, physical preparation creates the foundation and conditions necessary to solve the tasks in the areas of technical and tactical preparation. In turn, the

process of physical preparation itself, as well as its ultimate results, are largely dependent on technical and tactical preparation. During certain periods of the training process, these aspects of preparation are often quite similar to each other. Similarly, such a strong interconnection also exists between other aspects of preparation. In this regard, moral and volitional preparation is particularly important, as it demonstrates the athlete's overall attitude towards their activity.

As we have seen above, sports practice does not encompass the entire content and all forms of an athlete's preparation. It is constantly supplemented by other forms of preparation and is part of the broader system of training.

§ 1.2. Psychological mechanisms of developing intellectual creative abilities.

Psychological Mechanisms for Developing Intellectual and Creative Potential – are psychological processes and skills that facilitate the effective realization of an individual's cognitive and creative activities. These mechanisms are aimed at fostering a person's ability to generate new ideas, solve problems, find innovative solutions, and enhance overall creative thinking. Below are the key psychological mechanisms for developing intellectual and creative potential:

1. Cognitive Flexibility

Description: Cognitive flexibility refers to the ability to quickly adapt to different thoughts or situations and to modify one's thinking in response to new information.

Impact on Creativity: It supports creative thinking by enabling individuals to view ideas from various perspectives and discover novel solutions.

Development Mechanism: Enhancing cognitive flexibility involves openness to new experiences and information, engaging in diverse activities, and practicing the ability to shift perspectives in varying contexts.

2. Divergent Thinking

- **Description**: Divergent thinking is the ability to generate multiple and diverse solutions to a single problem.

- **Impact on Creativity**: It is a core component of creative thinking, facilitating the discovery of novel, original, and unconventional solutions.
- **Development Mechanism**: Engaging in brainstorming exercises, practicing free association, and encouraging the exploration of new ideas contribute to the development of divergent thinking.

3. Intrinsic Motivation

Description: Intrinsic motivation refers to engaging in an activity out of personal interest and enjoyment, rather than in response to external rewards or criticism.

Impact on Creativity: Intrinsic motivation supports sustained engagement in creative activities and the development of new ideas, as individuals derive satisfaction directly from the process itself.

Development Mechanism: Encouraging independent tasks that promote self-development and paying attention to personal interests can strengthen intrinsic motivation.

4. Problem-Solving Skills

Description: Problem-solving skills refer to an individual's ability to identify, analyze, and resolve various problems effectively.

Impact on Creativity: Creative thinking enhances the ability to address problems through novel and innovative approaches.

Development Mechanism: Developing analytical and systematic thinking, engaging in practical exercises, and exploring solutions in diverse scenarios foster creative problem-solving abilities.

5. Emotional control

Description: Emotional regulation refers to an individual's ability to manage their emotions and utilize them in a constructive and positive direction.

Impact on Creativity: Managing stress, anxiety, and other negative emotions is essential for sustaining creative activity. Effective emotional regulation ensures continued engagement in the creative process.

Development Mechanism: Practices such as meditation, self-awareness, and the development of emotional intelligence enhance emotional regulation.

6. Cognitive Load Management

Description: Cognitive load refers to the amount of mental resources required to perform a cognitive task.

Impact on Creativity: Managing cognitive load allows individuals to engage more effectively in creative work, as excessive stress and mental strain can hinder the creative process.

Development Mechanism: Effective time management, meditation, and strategic planning are key strategies that support cognitive load management.

7. Social and Environmental Influence

Description: The social and environmental context namely, the conditions surrounding an individual has a significant impact on their creative potential.

Impact on Creativity: A positive social and work environment supports creative thinking, encourages the generation of new ideas, and promotes engagement in creative activities.

Development Mechanism: Strong social networks, openness to diverse thoughts and ideas, and active participation in social and academic environments contribute to the development of creative potential.

8. Metacognition

Description: Metacognition is the ability to analyze, monitor, and effectively regulate one's own thinking processes.

Impact on Creativity: Metacognition facilitates the evaluation and refinement of ideas during the creative process, enabling individuals to identify and correct errors.

Development Mechanism: Self-reflection, monitoring one's cognitive processes, and implementing necessary adjustments contribute to the development of metacognitive skills.

9. Risk-Taking and Acceptance of Mistakes

Description: Risk-taking involves striving to find creative solutions through new and unfamiliar paths, while viewing mistakes as opportunities for learning and growth.

Impact on Creativity: Creative individuals must be willing to embrace risks when implementing their ideas and recognize the value in mistakes as part of the creative process.

Development Mechanism: Learning from mistakes, seeking new

and significant experiences, and accepting creative risks enhance creative potential.

Thus, a combination of psychological mechanisms is essential for the development of intellectual and creative potential. These mechanisms are interrelated, and through their development, an individual gains the ability to generate new ideas and solve problems creatively.

The role of education is crucial in developing the intellectual and creative potential of young people. The essence of the educational process aimed at enhancing intellectual and creative potential reflects the internal connections and relationships characteristic of this process, which manifest according to certain patterns. In the process of developing the intellectual and creative potential of young people, students acquire moral skills and competencies that align with the ethical requirements placed on individuals, benefiting society.

To achieve this, systematic and regular influence is exerted on the student's consciousness, worldview, and will. In the process of developing creative potential, if any of these aspects are overlooked, achieving the intended goal becomes more difficult. Only by considering these psychological aspects can the intellectual and creative abilities of young people be shaped and opportunities for their development be created. In the process of education and upbringing, the focus of education on a specific goal is of great importance. The educational process cannot creatively develop young people without first shaping their intellectual and creative abilities. The essence and tasks of any educational process aimed at developing students' intellectual and creative potential are planned by the educator, and methods to be implemented sequentially are determined.

Currently, the theory that links the signs of talent to the microstructure of the brain and sensory organs is considered the most productive. In-depth study of brain cells provides the possibility to hypothesize that there are morphological and functional differences in the nerve structures of talented individuals.

Additionally, the hypothesis linking the signs of talent to certain differential characteristics of neural processes (such as differences

in nerve strength, balance, and mobility) and, consequently, to the types of higher nervous activity is also closer to reality.

In addition, hypotheses that link the natural foundations of abilities to the specific characteristics of the nervous system such as the distinct typological traits manifested in vision in some individuals, hearing in others, and motor abilities in yet others are also closer to reality.

There is no evidence to support the inheritance of significant statistical abilities and talents. The scientific theory regarding the inheritance of abilities is also controversial. The field of psychology has not denied the congenital nature of differential abilities.

The morphological and functional characteristics of the motor organs and brain structure that serve as the natural basis for the development of abilities are referred to as aptitude.

Aptitudes can vary in different directions, and different abilities can develop from a single aptitude, depending on the nature of the activity. Today, much can be said about the validity or invalidity of the hypotheses regarding the natural basis for the development of abilities. Of course, just like the concept of abilities, the issue of aptitude also has its own history. However, a definitive solution to these matters has yet to be reached.

There are various viewpoints in science regarding the hereditary basis of abilities. The Australian scientist F. Gall (1758-1828) proposed the hypothesis that there is a connection between the brain and specific abilities. At one time, this hypothesis was very popular, linking abilities to the brain. However, F. Gall's idea that the quality of intellect, talent, and abilities are located in specific areas of the large hemispheres of the brain has been rejected in science. However, there are still views that suggest a connection between brain weight and abilities. The idea that individuals with large foreheads are intelligent, insightful, and quick problem solvers is still encountered, while those with narrow foreheads are often subject to opposite views. Of course, these ideas have not been proven. It is known that the human brain weighs approximately 1400 grams. In this context, it has been determined that the brain weight of I.S. Turgenev was 2012 grams, D. Byron's was 1800 grams, N. Franenik's was 1017 grams, and the famous chemist Yu.

Liebig's was 1362 grams.

It is also known that the brain weight of an intellectually weak individual was quite large (close to 2 kg). Thus, the ideas discussed above have not been proven. Science, however, continues its research. Today, the hypothesis linking aptitudes to the microstructure of the brain and sensory organs is showing its productivity. It should be noted that any aptitude must undergo a certain developmental process to reach the level of ability. The first stage of any aptitude is related to the development of necessary organic systems and functional organs (from birth to 6-7 years old). The formation of special aptitudes continues until the early and middle school years. Observations show that the active formation of abilities begins to manifest during the early stages of personal development. Such events are well-known, for instance, Mozart began composing musical pieces at the age of 9, Raphael started painting at 8, Repkin at 4, Pushkin at 7, and Lermontov began writing poetry at 8. The father of cybernetics, Wiener, entered university at the age of 12. However, it is also possible for aptitudes to manifest later (Akeakov, Shishkov).

The main requirements for activities that develop a person's abilities are as follows:

- The creative nature of the activity;
- Its high level of difficulty for the performer;
- Ensuring the necessary motivation and emotional preparation.

It is important to emphasize that if the activity being performed is highly challenging, it will serve as a foundation for the development of the child's abilities, which L.S. Vygotsky referred to as the zone of proximal development.

It is important to remember that for a child, the most crucial condition for the development of their abilities is education and upbringing. Today, in our country, the issue of developing aptitudes has become a social and state problem. In order to address this issue, diagnostic centers have been established at the national level and in all regions and districts of the country. Nowadays, students with identified special abilities, demonstrating their talents, continue their work by choosing their paths in vocational colleges and academic

lyceums, both voluntarily and obligatorily. In this process, the field of psychology plays a crucial role.

The important factors in the development of human abilities are stable special interests. Special interests are the specific interests individuals have in certain areas of human activity, and these interests grow into a tendency to engage in this type of activity professionally. The curiosity to learn in this context motivates the practical acquisition of methods and techniques related to the activity. Integral preparation is aimed at harmonizing and implementing the various components of an athlete's preparation—technical, physical, tactical, psychological, intellectual—during training and competitive activities. The point is that each aspect of preparation is shaped by narrowly focused tools and methods. The specific qualities, abilities, and skills demonstrated during training sessions often cannot be fully manifested in competitive activities. Therefore, a specialized training section is necessary to ensure the consistency and effectiveness of the complex manifestation of all aspects of preparation in competitive performance. Special training exercises that are as close as possible to competitive abilities in terms of their structure and nature. At the same time, it is important to adhere to the conditions of the competition.

In any sport, integrated preparation is one of the key factors for mastering and enhancing athletic skills. For instance, in team sports, in order to perform well, the team must play numerous games throughout the year. Exercises aimed at developing technique or strength, improving flexibility, or refining specific tactical elements, etc., cannot replace practice and competitive games. It is only through games that each athlete's full potential is revealed, interconnections and understanding among them are established and strengthened, technical and tactical skills are improved, and the harmonious development of all bodily systems, mental traits, and personality characteristics is ensured, in accordance with the complex competitive environment inherent to the specific sport.

In the process of integrated training, along with the general direction that ensures the comprehensive improvement of all aspects of preparation, it is recommended to highlight several specific directions related to the conjugation of various components of the

athlete's readiness for achievement. These include physical and technical, technical and tactical, physical and tactical, physical and psychological, among others.

Various methodological approaches are used to enhance the effectiveness of integrated training. These include simplifying, complicating, and making the conditions of actual competition exercises more complex.

In these exercises, systematic physical training related to the concepts of "sport" and "sports training" is aimed at achieving individual maximum results.

In addition, the athlete must have a good understanding of all the complex processes occurring in the body under the influence of training loads and other factors of the surrounding environment. The main forms of training are as follows: training sessions (exercises), competitions, additional training (exercises, independent training, recovery activities, and others).

Physical preparation;

Technical preparation;

Tactical preparation;

Psychological preparation;

Theoretical (integral) education.

Each section has its own specific tasks, and certain tools and methods are applied, which are determined by the type of sport, the athlete's level of preparation, age, the competition schedule, and conditions.

§ 1.3. Content and structure of the training process

The process of showing the characteristics of training phases involves identifying unique features that characterize the content and structure of the training process at each stage, and simultaneously monitoring how these features change when transitioning from one phase to another. It is important to note that periodization mainly relates to the practical components of athlete preparation. The development of the athlete's mind and behavior, like the sections of overall training, has its own logic of progression, and they are not

only related to the training periods but also to the broader process of development.

In the fundamental period, as mentioned earlier, the necessary conditions for entering the sports form must be created and developed, and the sports form itself must be directly ensured. Accordingly, this period is divided into two main stages. The first of these is typically the longer-lasting stage. The first stage of the fundamental period (general preparation) consists of the following:

The direction of the training. In the first stage, it is crucial to establish a solid foundation for the sports form. This task is addressed in accordance with the main components of the athlete's preparation, as follows:

In physical training, the primary task at the first stage is to significantly improve the overall level of functional capabilities by comprehensively developing all physical qualities of the organism. Physical training at this stage is more focused on expanding functional abilities that directly or indirectly contribute to progress in the selected sport, rather than deepening specialization. This is because the future level of sports form primarily depends on the initial level of physical preparation, as well as the role of general physical preparation in laying the foundation for specialized preparation. At the first stage, there are favorable opportunities to utilize the interconnection of various directions of the athlete's physical development. The "direct and indirect transfer" of physical qualities serves as the main mechanism of physical training at this stage.

In sport technical-tactical training, the key tasks at the first stage include: acquiring and consolidating knowledge that forms the theoretical basis of sport activity; expanding the foundation of movement skills and techniques that create favorable conditions for achieving proficiency in the chosen sport; and developing, retraining, and improving the skills and techniques that are part of the selected sport's technical and tactical components (primarily specialized and interconnected).

These tasks are based on the understanding that achieving technical-tactical mastery in the chosen sport primarily depends on the systematic enrichment of general physical knowledge, skills,

and expertise. Additionally, it is a legitimate process to transition from specific and "minor" skills in the chosen sport to more comprehensive forms by utilizing positive movement skills and overcoming "negative influences." In mental-strength preparation, the formation of a drive for extensive training efforts, the cultivation of a strong work ethic in the athlete, and the enhancement of willpower capabilities that ensure success in sports activities are of particular importance in the first stage.

The characteristics of the composition of tools and methods. As mentioned earlier, the initial stage of the fundamental period is distinguished by the particularly wide range of training tools. In this stage, the number of exercises that have a comprehensive impact (in relation to the chosen sport) is significantly higher compared to the subsequent stages.

For example, exercises aimed at developing general endurance, strength, and power qualities, as well as coordination abilities, give more emphasis to exercises that improve coordination capabilities in general. When selecting a variety of exercises, more freedom in variation is not allowed.

In competition exercises (in the chosen sport), minimal emphasis is placed during this phase. For example, in this phase, the exercises of several strong weightlifters with barbells account for 1.5-2% of the total load volume, while for sprinters and swimmers, running or swimming constitutes 0.5-1% of the total distance.

In some cases, for example, in "seasonal" sports, the main competition exercises are completely excluded from training. In this case, various specialized preparatory exercises aimed at mastering the relevant skills and selectively developing the necessary qualities serve as the primary tool for specialization.

The point is that, in the first stage, competition exercises can only be performed in the form of previously acquired skills. Therefore, using them as the main tool for preparation leads to the reinforcement of movements. This can become an obstacle that prevents further development. Furthermore, in this stage, the effect of competition exercises is relatively unstructured, and, to some extent, one-sided. However, it is extremely important in the first stage for all components that form the foundation of athletic form to be impacted

comprehensively and precisely in a targeted manner.

The contribution of competition exercises, of course, depends on the specific characteristics of the sport, the athlete's initial level of preparation, and other factors. In sports with complex, multi-variant movements (such as team sports, combat sports, or certain multi-discipline events), the amount of such exercises will be much higher compared to the examples mentioned above.

In the first stage, since the general preparation direction is the leading focus, the training methods here are relatively less specialized compared to the later stages. The methods typical for the chosen sport are supplemented with methods that are not directly related to specialization but are necessary for performing specific tasks in both general and special preparation areas. To ensure a gradual increase in training load, more emphasis is placed on methods that require relatively fewer demands, such as cyclic movements with moderate or variable intensity, uniform and changing training methods, and repetitive and progressive training methods with extended rest intervals between them.

CHAPTER II: "PHYSICAL EDUCATION DIRECTIONS IN PARALYMPIC SPORTS. METHODS OF DEVELOPING PHYSICAL ABILITIES"

§ 2.1. Physical Preparation

Paralympic sport is an international sports movement specifically organized for individuals with disabilities. It plays a significant role in developing a person's physical abilities, as well as in their adaptation and integration into society.

Physical education directions in Paralympic sport are organized based on the following main directions:

1. **Health promotion direction** – strengthening the health of individuals with disabilities and ensuring rehabilitation.
2. **Pedagogical direction** – teaching children in special educational institutions through physical exercises and directing them towards sports.
3. **Sports direction** – training professional or semi-professional athletes and preparing them for competitions.
4. **Social-psychological direction** – aiding social adaptation, building confidence, and helping individuals feel useful in society through physical education.

2. Methods of Developing Physical Abilities

In Paralympic sport, physical abilities (such as strength, endurance, speed, balance, coordination, and others) are developed individually and in groups, depending on the athletes' capabilities.

Main Methods:

a) **Adapted Physical Exercises:** Sport exercises are redesigned according to the type of disability.

For example: Exercises performed in a wheelchair for individuals with mobility restrictions. Coordination exercises based on auditory cues for visually impaired athletes.

b) Rehabilitation methods: Physiotherapy Hydrotherapy (aquatherapy) Massage and passive exercises

c) Through specialized sports: Developing physical and mental health through sports such as goalball, wheelchair sports on smooth surfaces, amputee football, and others.

d) Individual approach:Personal training plans are created based on each athlete's disability, age, health, and psychological condition.

e) Psychological preparation:

Physical training is conducted alongside psychological abilities such as motivation, confidence, stress management, and goal-setting.

Scientific foundations and modern approaches Optimizing exercises based on biomechanics and ergonomics. Medical monitoring – managing loads through the observation of heart rate, blood pressure, and muscle activity. Sports psychology – psychological preparation and enhancing motivation.

Innovative technologies – enhancing performance through prosthetics, sports wheelchairs, and other devices.

The athlete's physical training is aimed at strengthening and maintaining health, shaping the athlete's physical characteristics, enhancing the functional capabilities of the body, and developing physical abilities such as strength, speed, coordination, endurance, and flexibility.

Modern sports place high demands on athletes' physical conditioning. This is due to the following factors:

1. The growth of sports achievements constantly requires elevating the athlete's physical capabilities to a new level. For example, to throw the shot put more than 20 meters, not only excellent technique is required but also the development of very high levels of strength and speed. Calculations show that increasing the flight distance of the shot put by 1 meter requires an increase in throwing force by 5-7%.

2. A high level of physical preparation is one of the key conditions for increasing training and competitive loads. Over the past 20-25 years, the workload indicators in the annual cycle have increased 3-4 times among the world's strongest athletes. As a result, the number of athletes with chronic myocardial overload has sharply increased. This condition is primarily characteristic of athletes with disabilities in physical development and the functioning of certain organs and systems.

Physical preparation is essential for athletes of all ages, skills, and sports. However, each sport imposes specific demands on athletes' physical preparation, based on individual qualities, functional

capabilities, and the level of physical development. Therefore, in any given sport, there are certain differences in the content and methodology of physical preparation among athletes of different ages and skill levels.

§ 2.2. Types, Tasks, and Means of Physical Education

The Difference Between General Physical Training (GPT) and Special Physical Training (SPT).

General Physical Training (GPT) is the process of developing physical abilities in a comprehensive way, which are not specific to a chosen sport, but which in one way or another determine the success of sports activity.

Tasks of General Physical Training:

1. To increase and maintain the overall level of the body's functional capabilities.
2. To develop all basic physical qualities – strength, speed, endurance, agility, and flexibility.
3. To eliminate deficiencies in physical development.

General physical education is exercises from its own and other sports. Agility is also important for improving flexibility and development. It has a small specific weight to increase overall stability. On the contrary, for distance runners, the overall distance results are of particular importance. They play an important role in the UJT process. Strength exercises are performed with small weights, but with a large number of repetitions.

It is aimed at developing physical abilities that correspond to the specific characteristics of the chosen sport. At the same time, it is aimed at their maximum development.

MJT tasks:

1. Development of physical abilities necessary for sports.
2. Increasing the functionality of organs and systems that determine achievements in the chosen sport.
3. Cultivating the ability to demonstrate existing functional potential in specific conditions of competitive activity. For example, in swimmers, the maximum oxygen consumption (MOC) under

standard load in laboratory conditions is on average 70 ml / kg min. And when swimming at a competitive speed - 46 ml / kg / min.

4. Formation of the physique of athletes taking into account the requirements of a specific sports discipline. For example, athletes specializing in different distances have different physical indicators (height, weight, constitution, etc.). Therefore, in the process of SMJ, it is necessary to directly influence the physical components that determine success in the selected sport and can be purposefully changed using the means and methods of sports training.

The main means of the athlete's SMJ are competitions and special training exercises.

The ratio of UJT and MJT means in the preparation of an athlete depends on the tasks being solved, the age, qualifications and individual characteristics of the athlete, the type of sport, the stages and periods of the training process, etc.

As the athlete's qualifications increase, the share of TFP funds increases and, accordingly, the amount of GPP funds decreases.

Physical education is the most important part of the athlete's training process, ensuring the creation of a solid foundation for achieving high sports results. It is, first of all, a process of comprehensive and special physical development of the athlete. In this regard, physical training is divided into general physical training and special physical training. General physical training is aimed at the harmonious development of the athlete's entire body as a whole, the development of all movements and muscles, the strengthening of organs and systems of the body and increasing their functional capabilities, the ability to coordinate movements, increase strength, speed, endurance, agility and dexterity, and the correction of body structure and body defects. The solution of these issues will have a greater impact on the comprehensive physical development of a person and ensure the harmonious development of an athlete. To achieve this, it is necessary to ensure a strong impact of physical exercises on all organs and systems of the body, a wide range of effects on all parts of the body, on organs participating in various motor activities.

Special physical training is aimed at having an exceptionally high impact on the high development of all organs and systems of

the athlete, activating all the functional capabilities of the athlete's body. However, special attention is paid to the development of the qualities required in the game of basketball. Naturally, the selected exercises also serve this purpose.

For general physical training, exercises with a wide range of effects are used. It is known that each physical exercise has a different effect on the athlete's body. This often allows you to solve several problems at once in sports training. For example, with the help of cross-country skiing, endurance qualities are developed, perseverance is cultivated, and the willpower necessary to overcome difficulties is strengthened. The greater use of specialized physical exercises is especially useful for special physical training sessions. However, even in general physical training sessions, such targeted exercises can be used to eliminate certain shortcomings in physical growth, when training in the field of strength or speed is insufficient, and to eliminate other similar shortcomings.

Exercises designed to develop strength, speed, endurance and other qualities play a key role in general and special physical training. In general and special physical training, it is these aspects that determine to a certain extent the comprehensiveness of development and the possibility of achieving high achievements. This is natural, since the indicated physical qualities are a manifestation of the movement capabilities of individual organs and systems of the athlete and, in general, the high level of working capacity of the whole organism.

General physical training is a vital process aimed at developing and improving the basic physical qualities necessary for an athlete and his movement skills. Its purpose is to create a general movement readiness of an athlete, and such preparation is used as a foundation when special training begins.

In the process of general physical training, the following issues are solved: training basic physical qualities, increasing functional capabilities, expanding the scope of movement skills, increasing performance in sports, comprehensive physical development, stimulating the processes of strength recovery, and strengthening health. For this purpose, a set of physical exercises is used that have a general effect on the body. This creates the basis for the special

development of certain qualities. Adaptation to exercises in various adaptations trains the individual and accelerates the processes of strength recovery.

Basic exercises selected from other sports are used as the main tool for UJT. A diverse selection of exercises ensures the expansion of movement capabilities. In this case, it is necessary to take into account the laws of interaction between various qualities and skills. They can be factors that have a positive, negative and moderate influence. With increasing strength, speed increases, coordination and accuracy of basketball players' throws improve. Creative influence is to provide qualities that are close in structure to the skills of basic game techniques, adapting the work of the athlete's muscles to the game mode. The training sessions widely use exercises with and without objects, high and long jumps, throwing and throwing exercises, running at various distances and jumping over obstacles, cross-country, acrobatic exercises, and exercises performed while lifting heavy objects of various weights.

Only if the above exercises are performed consistently and continuously, general physical training will achieve its goal. These exercises are part of the training exercises performed by athletes at all stages and in all periods of their training. Even after the athlete has achieved high sports skills, such general training exercises do not lose their importance. Then these exercises become increasingly important as a means of coordinating the athlete so that he does not become a part of a specialized field, ensuring the all-round development of the athlete's skills, creating the opportunity for him to move from one movement to another, and generally improving the health of the athlete.

In addition to the correct selection of exercises, the correct determination of the volume of physical load and the correct distribution of loads during training sessions are of great importance.

The movement qualities of an athlete are not formed evenly and simultaneously. Growth at different ages is also not the same.

Qualities such as strength, speed, endurance reach their highest level at different ages. The growth of movement qualities depends on the functional state of a number of body systems.

For example, endurance largely depends on the activity of the

cardiovascular and respiratory systems, and the economical use of their energy. In such conditions, the characteristic feature of game activity is the player's choice of his position relative to the approaching object and his reaction to it, that is, to the object in motion, the repeated change of starting speed with the change of the direction of the ball, the movement towards and away from the opponent; the replacement of one technique with another and, finally, the implementation of sports technique methods and the implementation of tactical combinations associated with moving from one place to another at maximum speed - all these are characteristic features of game activity.

The method of developing the speed of transition from place to place is based on a complex of special sprint exercises. However, during the entire year-long training cycle, experimental training with sprint equipment leads to a certain loss of interest in the athlete after a certain period of time, and as a result, results are achieved that are lower than the maximum speed. Therefore, basketball players should have special stimulating factors that promote the development of speed qualities.

The speed of movement, along with many other factors, also depends to a large extent on the level of technical skill. Performing techniques accurately at maximum speed is a very complex skill, just like performing movements from place to place at maximum speed, because in such situations, sensor correction, i.e., adaptive movements, are much more difficult to perform during the execution of the movements.

The high speed of the transition from place to place and, as a result, the lack of mastery of the technique leads to either a deterioration in accuracy or a decrease in speed. A basketball player cannot allow either of these. Therefore, it is not advisable to perform mixed exercises combining speed and technique exercises at the initial stages of training (i.e., the addition of movements that improve the technique technique while the pace of the exercise is directly accelerated) and to use these exercises to develop the skills of basketball players. Only after the athlete has mastered the techniques perfectly, it becomes reasonable to use such exercises. In this case, it is better to initially separate the speed qualities and the

game technique from each other and, after initially improving them separately, move on to performing them together.

In the process of searching for special tools for developing speed, it becomes clear that these exercises have a positive effect on developing agility and dexterity.

Agility- is a quality that is of great importance in all types of sports, and it is especially important in those sports that are distinguished by complex techniques and constantly changing conditions. Until now, the main measure of agility has been considered to be the coordination complexity of the movement, the accuracy of execution and the time of its execution.

"Agility of movement" is a very subtle movement due to its accuracy in space, which is coordinated in space and, at the same time, requires execution in a certain, sometimes very short time. This, on the one hand, and on the other hand, agility is also considered as the ability to quickly change the trajectory of motor activity in accordance with changing situational conditions.

Three levels of agility are distinguished from each other. The first level is characterized by spatial accuracy and coordination of movements. The second level is characterized by spatial accuracy and coordinated execution of movements in a very short time. The third, that is, the highest level of agility is characterized by the manifestation of speed and agility in the specific conditions of basketball. In this regard, there is a need to carry out parallel work on the development of these qualities. To develop agility as a skill for mastering new movements, any exercise that includes elements of novelty is used. To develop agility as a skill for rationally restructuring motor activity in a short period of time, exercises that require an immediate response to suddenly changing situations are used.

Flexibility is a morphofunctional characteristic of the athlete's musculoskeletal system, which determines the level of mobility of the athlete's limbs. Two types of flexibility are distinguished: active flexibility (which is manifested due to the strength of the athlete's own muscles) and passive flexibility (which is manifested under the influence of external forces on the moving part of the body - gravity, resistance from partners, etc.). Passive flexibility is always

greater than active flexibility, and in many cases its increase creates opportunities for an increase in the amplitude of active movements.

Flexibility depends on the morphofunctional characteristics of the athlete's vascular and neuromuscular apparatus. The most important of these characteristics are: the elasticity of muscles, tendons, ligaments and vascular bags; The muscular forces exerted to move parts of the body in a given direction; the shape of the veins, their degree of compatibility with each other, and the area of the bones where the veins meet are measured, etc. Flexibility increases due to the strengthening of the muscles and the improvement of the ligaments.

Flexibility depends on a person's age: this property is usually best developed in children. As age increases, flexibility opportunities decrease. It is believed that the most optimal conditions for the development of flexibility exist between the ages of 10 and 16. Flexibility also depends on gender. Younger and older girls have greater vascular mobility than boys and adolescents. Flexibility largely depends on the ability of muscles to relax, which undergoes significant changes as a result of fatigue and under the influence of fatigue, with active flexibility indicators decreasing, while passive flexibility indicators increasing. Under the influence of active movements, the elasticity of muscles and their temperature increase. Flexibility improves, and, conversely, passive rest, cooling of the body worsens flexibility.

When developing flexibility, exercises are performed in parts, repeating each part several times. If the task is to maintain a certain level of flexibility, it is enough to perform the exercises occasionally and in a limited amount.

Endurance largely depends on the tension force of the muscles, expressed as a percentage of the maximum. The smaller the percentage of tension shown in relation to the maximum strength of the muscles, the higher the endurance.

Speed- is characterized by the latency time of the reaction, the speed of the individual movement, and the frequency of the movement. There is not always a reliable connection between the individual manifestations of speed. At high speeds of movement, there may also be a slowed-down reaction.

Speed is the ability of a person to perform actions in the minimum time frame under given conditions. There are elementary types of speed (simple and complex reaction speed, speed of the individual movement) and complex (speed of movement of a basketball player from place to place). Improving some aspects of the basketball player's speed using generally accepted means is a priority task.

§ 2.3. General special physical training (GSP)

GSP is understood as a process of developing the athlete's physical qualities and functional capabilities in a single-purpose manner, carried out in accordance with the specific characteristics of the selected sport and ensuring the achievement of high sports results. GSP helps to master the technique of game methods, increase the effectiveness of tactical actions, acquire sports form, and also improve mental preparation.

The main goal of GSP is to develop strength, speed and other physical qualities in interaction with each other and in a holistic manner to the maximum. To solve this problem, special training exercises are used. These exercises mainly consist of exercises associated with high tension, coordination of movements, which at the same time regulate the pace and rhythm of movement. Exercises of a technical-tactical nature are more suitable for performing such tasks in sports with movement. The boundary between UJT and MJT is rather conditional, and the effectiveness of their influence on the body depends more on the method used than on the exercise used. MJT is based on the UJT of the athlete. An athlete can be included in the task set only after he has achieved a certain level of general development. This applies equally to both the one-year training cycle and certain stages of multi-year training.

In modern basketball, the presence of special endurance qualities, manifested in various modes of muscle activity, is becoming increasingly important. At the same time, basketball requires a number of other qualities from the athlete. These qualities include speed, endurance, sudden use of great force, agility, and dexterity, and this should be taken into account when choosing training

equipment.

Specific endurance is a physical quality that is mainly formed by the mixed nature of energy supply (aerobic-anaerobic energies). Improving this quality requires a fairly long time - up to 150 minutes of high-intensity and variable-intensity exercises. When running cross-country on uneven terrain where walking and running are difficult, when training with alternating speeds, sometimes slow, sometimes fast, when playing various games, it is necessary to work in such regimes with very high intensity.

Anaerobic- endurance can be increased by performing exercises performed at maximum power - for example, running up hills and slopes as much as possible, carrying a heavier load, starting and increasing speed, and running with multiple jumps.

Special speed. The success of sports movements in basketball is determined by the speed of execution of simple and complex movement reactions, the speed of transition from one place to another, the speed of individual movements associated with the speed of reaction to the external appearance of the movement model situation.

The development of speed requires increasing the efficiency of centralized control of movements and functional improvement of the corresponding execution mechanisms.

Special strength training. The power capacity, which is directly manifested in the magnitude of the work (movement) expenditure, is provided by the mobilization of the psychic qualities of a person, through the integrated reaction of the organism, which is associated with the function of the motor system, musculoskeletal and other physiological systems. Training in strength training exercises by lifting heavy objects and performing these exercises repeatedly (repeatedly) for this purpose mobilizes a large number of muscle fibers in our body that provide speed. At the same time, exercises performed by lifting light objects and a large number of repetitions of these exercises activate muscle activity. Explosive strength is a sudden force that appears in sports conditions, when the muscles work in isometric and dynamic modes. Explosive power is especially evident in situations where external forces are exerted and obstacles of varying sizes are overcome. The manifestation of explosive power

largely depends on the state of the muscles before performing a particular exercise.

Speed strength- is manifested in conditions of rapid movement over small obstacles with external resistance, and speed strength is provided by the expenditure of maximum force - energy. It is this maximum force that determines the starting force of the muscles and their increasing force. Means and methods of MJT. The exercises performed are MJT means. These exercises, firstly, correspond to the competitive exercises in terms of the body's operating mode, secondly, have a training effect on the body, increase the functional capabilities previously available in the body, and thirdly, provide the necessary energy base for improving technical and tactical skills. When choosing MJT means, it is necessary to adhere to the principle of dynamic compatibility in practice. Such devices should be similar to competitive exercises and should meet the following criteria: muscle group - that is, the group of muscles involved and used in this exercise, the amplitude and direction of movement, the speed of movement. Based on some of these criteria, the initial position, the magnitude of external resistance and other factors are determined. The method of repeating these devices involves performing the exercises in a qualitatively higher level than the movement characteristics. Therefore, the total number of repetitions of the exercises is gradually reduced, starting from the moment when the efficiency of the movement noticeably weakens and decreases due to the increase in fatigue. Rest breaks between repetitions of the exercises should be sufficient to restore the body's working capacity. This working capacity should be optimized to the point where the planned exercise can be performed qualitatively. The repetition method in the athlete's training system usually implements a training effect on the athlete's body, and this direction significantly increases the athlete's existing level of functional capabilities.

The circuit method- is a variant of the interval method. It differs from the interval method in that it has a greater and more comprehensive effect on the athlete's body due to the use of exercises of different training directions and a lower intensity of muscle work.

Combined method - MJT, means a methodological idea of using the technical and tactical training of athletes as a whole. This

idea involves the implementation of such tools and methods that ensure the simultaneous implementation of the tasks of MJT and the task of improving the elements of sports technique. In this case, the means of MJT are selected based on the principle of their dynamic compatibility.

The method of modeling competitive activity involves intensification of the organism's work regime during training at certain stages of its annual cycle, bringing it as close as possible to the characteristics characteristic of competitions. The essence of this method is the performance of competitive exercises in a holistic manner and at a high level, but at the level of mastered sports intensity and taking into account the conditions and rules of the competition.

The control method of MJT involves the addition of exercises performed in a special movement regime with a period of assessment of the athlete's readiness for this regime, as well as measures to assess the intensive training effect of specific exercises. In the control method, complex exercises, their simplified versions, or exercises that are close to those complex exercises in terms of movement structure and energy supply regime are performed. Unlike the popular practice of evaluating only results, the monitoring method involves recording a whole range of the most important functional quality changes that occur in the athlete's body during training and training.

The ratio of general and special training.

The first stage, in accordance with the main direction of training, is distinguished by the predominance of general training. True, the exact quantitative ratio of general training to special training varies greatly depending on the specifics of the sport, the athlete's qualifications and his individual characteristics, but at the beginning of the cycle, general training often takes much more time than at the second stage of the training period and during the competition.

If we express the ratio of general and special training in terms of time, then for highly qualified athletes a ratio of 2:1 - 3:2 can be recommended for the first stage of the training period. Studies show that these data are valid for most sports. Such a ratio can be excluded, since the content and comprehensiveness of special

training in it is extremely rich. For them, a ratio of approximately 1:2 - 1:3 can be recommended.

Beginners, especially young athletes, naturally have a greater general training, since their training process is generally less specialized. Determining the optimal ratio of general and special training for all stages of the long-term path of sports development and for different stages of the training cycle is one of the main research problems of our time. The ratios given so far are quite approximate. To determine them, in addition to time indicators, it is necessary to use other, more vivid criteria.

Features of the dynamics of loads. The general tendency of the dynamics of loads in the first stage of the fundamental period is characterized by a gradual increase in their volume and intensity (in this case, an increase in volume). Here, the main preparatory work in terms of volume is carried out, which is necessary to lay a solid foundation for sports form. At this stage, the cumulative intensity of the loads can increase to an unlimited level, allowing the total volume to be increased even before the next stage of training begins. Therefore, the rate of increase in volume is higher than the rate of increase in intensity. It is quite difficult to give a general assessment of all loads during training. So far, sufficiently good criteria have not been found that would allow measuring all the various components of the load and expressing them in a single indicator. Therefore, the details of the general view of the loads have a number of shortcomings due to the necessity. This can be supplemented to some extent by a thorough analysis of the components of the Load (by groups of exercises that are close to each other).

The volume of general preparatory exercises, as well as the total volume of exercises based on selected motor activity, reaches its apogee already during the first stage. The volume of more specific loads with a higher intensity increases at a relatively slow rate. Intensity indicators, however, change even more slowly. In this case, relative intensity, in general, increases slightly faster than absolute intensity.

Such dynamics of loads is completely legal at the first stage. If at the beginning of the training period an attempt is made to

combine the maximum rates of increase in volume and intensity, then this will lead to an acceleration of training and a violation of the principle of gradualness and all the resulting frustrations. In this regard, the graphs presented in Fig. 50 are very interesting. It is clear from this that the dynamics of sports results are usually best only when the relative intensity of the loads in the cycle reaches its maximum level later than the volume.

Although the intensification of training sometimes increases the training experience quickly, it cannot ensure the stability of the sports form. The stability of the sports form depends primarily on the volume of preparatory work and the length of time spent on performing this work. The same law is taken into account when organizing the preparatory period of training.

On the other hand, an excessive increase in volume slows down the addition of intensity, which in turn prevents the development of special training experience (Fig. 50, option 4 in swimmers). Consequently, the tendency to increase the volume is correct only up to a certain limit. The more endurance the chosen sport requires, the further this limit will be from the beginning of the preparatory period.

The described tendency of loads is characteristic of most exercises that are included in the training at the first stage. However, depending on the function of the equipment used, it manifests itself differently. There is also a group of exercises in which the intensity stabilizes at the very first stage. In such exercises, the volume of loads seems to prevail over the intensity. All exercises used to develop general endurance, as well as some exercises aimed at developing strength and power endurance (especially in sports that require more endurance), should be included in this type of exercise.

The situation is different in training exercises aimed at developing speed and strength. In this case, the intensity from the very beginning tends to its absolute maximum. This limits the increase in volume much more than in endurance exercises. Also, in competition exercises and in special training exercises close to them, the dynamics of loads also takes on a specific form. The volume of special - preparatory exercises reaches its maximum only in the second stage, while the volume of competitive exercises

(in the selected sport) reaches its maximum even later - after the preparatory period has passed. Finally, there is a group of exercises that are not associated with even a slight increase in the volume and intensity of the training stages (active rest, exercises used for relaxation, and some others). The loads in this type of exercises vary depending on the content of individual exercises and the structure of microcycles, but in general they remain practically standard throughout the stage. In accordance with the mentioned general trend, the average "waves" of the dynamics of the loads in the first stage are usually much longer than in the subsequent stages (about 4-6 weeks). An approximate scheme of a six-week "wave" may be as follows:

Weeks	Character of Weekly Load Dynamics
First-third or first-fourth	Gradual increase in volume and intensity (volume increases more than intensity). Decline or stabilization of volume, further increase in intensity. Decline in intensity, stagnation or decrease in volume
Fourth-fifth	
Only fifth-sixth (Loading)	

There may be other options: only if the principle of gradually increasing the training requirements by increasing the initial volume more than the intensity, and then increasing the intensity against the background of decreasing volume, without accelerating, is not violated. In this case, the dynamics of the Loads in microcycles is characterized by relatively frequent changes in the Load type (type of exercises) and longer intervals (in the initial stages) between training sessions with a much larger or maximal load.

CHAPTER III. CHARACTERISTICS OF SPORTS AND TECHNICAL TRAINING

§ 3.1 Characteristics of technical training

Sport is an important socio-life activity that not only increases the physical activity of the body, but also tests the will, thinking and mental state of a person. Athletes must have deep physical and mental training to achieve high results. In particular, technical training is one of the main factors determining the result in each sport.

Components of sports training

Sports training is a complex system of training that ensures the athlete's readiness for competition. It consists of the following main areas:

Physical training consists of exercises aimed at developing such qualities as strength, endurance, agility, flexibility and speed, which increases the athlete's overall functional potential.

Technical training is the process of mastering a system of sports-related movements and perfecting them. Each sport has its own technical movements, and teaching them requires a special methodological approach.

Tactical training forms the ability to make the right strategy and decisions during sports competitions, and quickly adapt to the actions of opponents.

Psychological training is training aimed at developing stress tolerance, willpower, attention and emotional stability.

Theoretical training includes knowledge of the theoretical foundations of sports training, the laws of the body's activity, sports rules and proper nutrition.

The essence and scientific basis of technical training

Technical training is one of the main parts of sports training, ensuring that the athlete is able to perform certain movements accurately, economically and automatically. This training develops the athlete's coordination, speed and accuracy of movements.

Technical training is carried out in the following stages:

Introduction stage: the athlete gets acquainted with the structure and phases of the movement.

Learning stage: he gradually masters the movements.

Reinforcement stage: the exercises are brought to the level of automation through repetition.

Adaptation stage: the athlete is able to effectively use the technique in complex and changing conditions.

The theoretical foundations of technical training are closely related to sports biomechanics, physiology, pedagogy and psychology. For example, the most convenient and effective form of movements is determined through biomechanical analysis. From a physiological point of view, the coordination between the neuromuscular system directly affects the quality of technical movements.

Also, reflex activity, the dynamism of the cerebral cortex and the mental state of the athlete are of particular importance for achieving movement automation.

The technical training of an athlete is understood as teaching him the techniques of movement and activity that serve as a means of competition or training in sports. In the process of special technical training, the athlete studies the technique of the selected sport, learns the biomechanical laws of movements and activities related to the field of specialization in sports, masteres the relevant movement skills in practice and improves them to the highest possible level.

In parallel with this and in this regard, general technical training is carried out. The purpose of technical training is to systematically expand the athlete's general physical education knowledge, knowledge in the field of general technical foundations of physical exercises, and replenish the fund of movement skills and abilities that are useful in life and sports practice.

• **Technical training** aims to teach the athlete movement techniques and bring them to perfection.

• **Sports equipment** is a method of performing a sports movement, which is characterized by the athlete's effective and rational use of his psychological and physical abilities to a certain extent.

• Role sports equipment is not the same in different sports. There are four groups of sports with their own sports techniques.

• 1. Speed-power sports (sprint running, throwing, jumping, weightlifting, etc.). In these sports, the technique is aimed at developing the athlete's strongest and fastest movements in the

leading stages of competitive exercises, for example, during a run or in a long and high jump, performing the final. movement in throwing a javelin, discus, etc... d.

• 2. Sports characterized by a predominant manifestation of endurance (running. long distances, skiing, cycling, etc.). Here the technique is aimed at saving energy resources in the athlete's body.

• 3. Sports based on the art of movement (gymnastics, acrobatics, diving, etc.). The technique should provide the athlete with beauty, expressiveness and accuracy of movements.

• 4. Sports games and martial arts. Technique should ensure high efficiency, stability and variability of the athlete's movements in the constantly changing conditions of wrestling (Kuramshin Yu.F., 2003, pp. 356-357).

• Under technical training should be understood the level of mastering by the athlete of a system of movements (sports techniques) that correspond to the specific characteristics of this sport and are aimed at achieving high sports results.

• In the structure of technical training, it is important to highlight the following:

• **Basic movements,** which include movements and actions that form the basis of the technical equipment of this type of sport, without which it is impossible to effectively conduct competitive wrestling in compliance with the existing rules. Mastering basic movements is a must for an athlete specializing in a particular sport.

• **Additional movements and actions-** these are secondary movements and actions, elements of individual movements that are characteristic of individual athletes and are associated with their individual characteristics. It is they who form the individual technical style, manner of the athlete.

• According to the level of mastery of techniques and movements, technical preparation is characterized by three levels:

• 1 - the presence of active ideas about techniques and movements and attempts to implement them;

• 2 - the emergence of motor skills;

• 3 - the formation of motor skills.

• **Motor skills** are characterized by unstable and not always adequate methods of solving a motor task, significant concentration

of attention when performing individual movements and the absence of their automated control.

• The characteristic features of motor skills, on the contrary, are the stability of movements, their reliability and automation. (Platonov, Theory of Sports, p. 144).

• A sufficiently high level of technical training is called **technical mastery...** The criteria for technical excellence are:

• Technology scope - the total number of techniques that an athlete can perform.

• Technology versatility - the degree of diversity of techniques. Thus, in sports games, this is the ratio of the frequency of application of various game techniques.

• Efficiency of possession of sports techniques is characterized by the degree of proximity of the technique of sports movements to the individual optimal option.

• Mastery of movement technique. This criterion shows how well a given technical movement is remembered and determined. For well-mastered movements, the following are characteristic:

• stability of the sports result and a number of features of the movement technique when performed under standard conditions;

• b) stability of the result (relatively low variability) when performing the movement (when the athlete's position changes, the opponent's movements in complex conditions);

• c) preservation of motor skills during breaks in training;

• d) automation of movements.

• Types, tasks, means and methods, technical training of an athlete

• Distinguish between general and special technical training. General technical training is aimed at mastering various movement skills and abilities necessary for sports activities.

• **The tasks of the OTP:**

• 1. To increase (or restore) the range of movement skills and abilities, which is a prerequisite for the formation of skills in the chosen sport.

• 2. To master the technique of exercises used as a means of general physical education.

• **Special technical training** is aimed at mastering the technique of movements in the selected sport. Its tasks:

• 1. Formation of knowledge about the technique of sports movements.

• 2. Development of individual forms of movement techniques that fully correspond to the athlete's capabilities.

• 3. Formation of skills and qualifications necessary for successful participation in competitions.

• 4. Change and update the forms of technique (to the extent determined by the laws of sports and tactical improvement).

• 5. Formation of new, previously unused variants of sports methods (for example, the "Fosbury flop" in high jump; the technique of throwing a shot based on the principle of turning, as in discus throwing; the "skating" course in skiing, etc...).

• In the process of technical training, a set of tools and methods is used sports training... They can be conditionally divided into two groups:

• **Verbal, visual and sensory-correctional means and methods.** These include:

• a) conversation, explanation, story, description, etc.;

• b) demonstration of the movement technique being studied;

• c) demonstration of posters, diagrams, cinematography, video recordings;

• d) use of the subject and other signs;

• e) sound and light guidance;

• f) various simulators, recording devices, emergency information media.

• **The means and methods** of physical training based on the performance of any athlete. In this case, apply:

• a) general preparatory exercises. They allow you to master various skills and abilities that are the basis for the growth of technical skills in the selected sport;

• b) special preparatory and competitive exercises. They are aimed at mastering the technique of their own sport;

• c) integral and segmented training methods. They are aimed at mastering, correcting, strengthening and improving the technique of an integral motor movement or its individual parts, phases, elements;

• d) uniform, alternating, repetitive, interval, game, competitive and other methods that mainly help improve and stabilize the

technique of movements.

• The use of these means and methods depends on the characteristics of the technique of the selected sport, the age and qualifications of the athlete, the stages of technical training in annual and long-term training cycles.

• Stages and content of technical training in multi-year and annual training cycles

• The long-term process of an athlete's technical training can be divided into 3 stages:

• 1. The stage of basic technical training.

• 2. The stage of advanced technical improvement and achievement of the highest sports and technical skills.

• 3. The stage of maintaining sports and technical skills. Each stage includes stages consisting of annual cycles. For example, the first stage usually consists of 4-6 annual cycles, the second - 6-8, the third - 4-6.

• Today, only athletes with a high level of physical, technical, tactical, spiritual and volitional preparation, combined with a sufficiently high theoretical preparation, can achieve success in sports.

• The development of the necessary intellectual abilities in the chosen sport, as well as the acquisition of the necessary knowledge, allows young athletes to correctly assess the social significance of sports activities and determine their own attitude to them, to understand the objective laws of sports training, pedagogical phenomena, to consciously approach lessons, to fulfill the coach's instructions, to show more independence and creativity in training and competitions.

• Every year the level of requirements for the athlete's intellect is increasing. Intellectual abilities affect both the educational process and the training process (especially the process of teaching movement techniques, mastering tactical methods, etc.), as well as the results of performances in competitions. In sports games, this is expressed, for example, in the game culture of athletes, in the speed of performing technical and tactical actions, in the level of game situation, in the perception and processing of information, in the creative implementation of planned tactical combinations, etc.

can be considered important components of the athlete's training.

• We see the practical significance of the proposed work in the possibility of using its materials in connection with the preparation of sports training by all participants.

• All of the above gives grounds to conclude about the importance of this work for everyone involved in sports activities, the need to increase the level of knowledge of athletes in order to achieve the highest sporting achievements.

• The work set the following main tasks:

• 1. Promoting the development of physical fitness, comprehensive physical education of students and strengthening their health.

• 2. Preparing an athlete for high qualifications

• 3. Cultivating strong-willed qualities of an athlete: Purposefulness, perseverance and perseverance, initiative and independence, determination and courage, endurance and self-control.

• 4. Regulating the level of emotional arousal of young athletes before the competition.

• The work consists of two chapters, an introduction, a conclusion and a bibliography.

§ 3.2. Types, tasks, means, methods and stages of an athlete's technical training

Distinguish between general and special technical training. General technical training is aimed at mastering various motor skills and abilities necessary for sports activities.

In the process of general technical training, the following tasks are solved:

1. Increasing (or restoring) the range of motor skills and abilities, which is a necessary condition for the formation of skills in a selected sport.

2. Mastering the technique of exercises used as a means of general physical education. Special technical training is aimed at mastering the technique of movements in a selected sport. It provides for the solution of the following tasks:

1. Formation of knowledge about the technique of sports

movements.

2. Development of individual forms of movement techniques that fully correspond to the capabilities of the athlete.

3. Formation of skills and qualifications necessary for successful participation in competitions.

4. Changing and updating the forms of techniques (to the extent determined by the laws of sports and tactical improvement).

5. Formation of new variants of sports techniques that have not been used before (for example, the "Fosbury flop" in high jump; the technique of throwing a shot on the principle of rotation, as in discus throwing; the "skating" course in skiing, etc.).

In the process of technical preparation, a complex of means and methods of sports training is used. They can be conditionally divided into two groups:

Verbal, visual and sensory-correctional means and methods include:

1. conversations, explanations, stories, descriptions, etc.;

2. demonstration of the movement technique being studied;

3. demonstration of posters, diagrams, cinematograms, video images, etc.;

4. use of objects and other targets;

5. sound and light guidance;

6. various simulators, recording devices, emergency information devices.

Means and methods based on the athlete's performance of any physical exercises. In this case, apply:

1. general preparatory exercises. They allow you to master various skills and abilities that are the basis for the growth of technical skills in the chosen sport;

2. special preparatory and competitive exercises. They are aimed at mastering the technique of their own sport;

3. methods of integral and segmented exercises. They are aimed at mastering, correcting, strengthening and improving the technique of an integral motor movement or its individual parts, phases, elements;

4. uniform, alternating, repetitive, interval, game, competitive and other methods that mainly help to improve and stabilize the

technique of movements. The use of these means and methods depends on the characteristics of the technique of the selected sport; the age and qualifications of the athlete, the stages of technical training in annual and long training cycles.

The process of technical training is carried out throughout the entire long-term training of the athlete.

The long-term process of technical training of an athlete can be divided into 3 stages:

1. The stage of basic technical training.

2. The stage of advanced technical improvement and achievement of the highest sports and technical skills.

3. The stage of maintaining sports and technical skills. Each stage includes stages consisting of annual cycles. For example, the first stage usually consists of 4 - 6 annual cycles, the second - 6 - 8, the third - 4 - 6.

Therefore, the structure, specific content and methodology of the athlete's technical training at each stage, as a rule, depend on the periodicity of the annual training cycle. This is most often clearly manifested in the training of highly qualified athletes. The fact is that for beginners, the annual cycle is not divided into separate training, competition and transition periods. Their training throughout the year is of a preparatory nature.

It follows that the process of mastering and improving the technique of movements within the annual training cycle among qualified athletes largely depends on the laws of acquiring, maintaining and further developing sports form.

In this regard, there are 3 stages of technical training in the annual cycle:

- 1) search system;
- 2) stabilization;
- 3) adaptive improvement (adaptive).

Technical training at stage 1 is aimed at the formation of a new technique of competitive movements (or its updated version), improving the necessary conditions for its practical mastery, studying (or retraining) individual movements that are part of competitive movements. This stage corresponds to the first half of the preparatory period. Technical training at stage 2 is aimed

at the in-depth mastery and consolidation of the integral skills of competitive movements. It covers a significant part of the second half of the preparatory period. Technical training at stage 3 is aimed at improving the formed skills, increasing the range of their respective variability (variability), stability (stability), reliability in relation to the conditions of the main competitions. This stage usually begins in the final part of the preparatory period and generally coincides with the competition period. The main tasks of each stage of technical training in improving technical skills. (V.I. Dyachkov, L.P. Matveev, V.N. Platonov):

Achieving high stability and rational variability of movement skills that form the basis of techniques in a selected sport, increasing their effectiveness in competitive conditions;

2. Partial reconstruction of movement skills, improvement of the kinematics or dynamics of individual parts of the skill in the light of modern scientific achievements and the requirements of sports practice.

To solve the first problem, as a rule, the method of complicating the external situation, the method of training in different states of the organism, is used; to solve the second - the method of facilitating the conditions of technical movements, the method of conjugate influence.

§ 3.3 Stages and content of technical training in multi-year and annual training cycles

The process of technical training is carried out throughout the entire long-term training of an athlete.

The long-term process of technical training of an athlete can be divided into 3 stages:

Stages and direction of technical training in the process of long-term training

1. The stage of basic technical training.
2. The stage of advanced technical improvement and achievement of the highest sports and technical skills.
3. The stage of maintaining sports and technical skills.

The main direction of technical training at each stage can be represented in the form of a diagram below. Each stage includes stages consisting of annual cycles. For example, the first stage usually consists of 4-6 annual cycles, the second - 6-8, the third - 4-6.

Therefore, the structure, specific content and methodology of the athlete's technical training at each stage, as a rule, depend on the periodicity of the annual training cycle. Often this is most clearly manifested in the training process of highly qualified athletes. The fact is that for beginners, the annual cycle is not divided into separate training, competition and transition periods. They are training sessions that take place throughout the year.

It follows that the process of mastering and improving the technique of movements within the framework of the annual training cycle among qualified athletes largely depends on the laws of acquiring, maintaining and further developing sports form.

In this regard, there are 3 stages of technical training in the annual cycle: 1) search; 2) stabilization; 3) adaptive improvement (adaptive). Technical training at stage 1 is aimed at forming a new technique of competitive movements (or its updated version), improving the necessary conditions for its practical mastery, and studying (or retraining) individual movements that are part of competitive movements. This stage corresponds to the first half of the preparatory period. Technical training at stage 2 is aimed at in-depth mastering and strengthening the integral skills of competitive movements. It covers a significant part of the second half of the preparatory period. At the 3rd stage, technical training is aimed at improving the formed skills, increasing the range of their corresponding variability (variability), stability (stability), reliability in relation to the conditions of the main competitions. This stage usually begins with the final part of the preparatory period and generally coincides with the competition period. The main tasks of each stage of technical training in improving technical skills (V.I. Dyachkov, L.P. Matveev, V.N. Platonov):

1) achieving high stability and reasonable variability of motor skills that form the basis of the technique in the selected sport, increasing their effectiveness in competitive conditions;

2) partial reconstruction of motor skills, improving the kinematics or dynamics of individual parts of the skill in the light of modern scientific achievements and the requirements of sports practice.

To solve the first problem, as a rule, the method of complicating the external situation, the method of training in various states of the organism, is used; to solve the second - the method of facilitating the conditions of technical actions, the method of conjugate exposure.

The method of complicating the external situation when performing technical techniques is implemented in a number of methodological techniques.

1. The methodological method of resisting a conditional opponent is mainly used in sports games and hand-to-hand combat. Elements of fighting with a conditional opponent help the athlete improve the structure and rhythm of the technique, quickly achieve stability and effectiveness. It also provides a high intensity of the load in the classroom, is an effective psychological factor for developing self-confidence, cultivating courage and determination.

2. Methodical acceptance of difficult initial positions and preparatory movements. So, in figure skating, a jump of one and a half revolutions ("axle") is improved first with a simple run, and then from the "boat" position. In diving, the height of the springboard decreases. Footballers are recommended to kick and head the ball flying along a complex trajectory.

3. Methodical acceptance of the maximum speed and accuracy of movements. For example, in boxing, an athlete is given a high blow at a certain time interval - 1 round. In long jumping - a take-off run is performed along a slightly inclined path. In football, the rapprochement between partners is used when passing the ball with constant force, etc.

4. The methodological method of limiting the space for performing movements allows you to complicate the conditions of orientation while improving skill. So, in skiing, slopes with closed turns are difficult to navigate, which limits the time to choose a turn within a certain radius. In running and jumping, steps are performed according to predetermined marks. In boxing, a reduced ring is used, etc.

5. The methodological technique of performing movements in

unusual conditions involves changing the training conditions (natural conditions, equipment, inventory), which helps to improve one or more characteristics of the movement technique (spatial, temporal, dynamic, rhythmic, etc.). For example, in track and field athletics, a running or running start is performed when jumping against a strong wind, on wet ground, and in cross-country skiing - when moving on an icy track.

The method of training in conditions of the athlete's body that prevent the execution of technical movements is also carried out in various techniques.

1. Methodical technique of performing movements in a state of significant fatigue. In this case, the athlete is offered technical exercises after a large volume and intensity of physical exertion. So, in gymnastics, at the end of the training, the athlete performs the most difficult combination "for technique", and in skiing on various terrain, the technique is improved after overcoming the competitive distance at a speed close to the competitive distance... This technique gives a large load on the central nervous system of the body and requires higher voluntary efforts from it.

2. The methodological technique of performing movements in a state of significant emotional stress is carried out by introducing control, competition and game methods into the performance of exercises on the technique.

3. The methodological technique of periodically turning off or limiting visual control allows you to selectively influence the receptive-analyzing components of motor skills. As a result, the ability of athletes to carefully evaluate their movements based on subtle perception and kinesthetic sensations increases. For example, rowing with your eyes closed allows you to better feel the movement of the boat and more easily control the stability of the skill using the "muscle feeling".

4. The methodological approach to the formation of the working environment adapts the athlete to the mandatory use of improved techniques in a competitive environment, stimulates his activity in the process of improving his skills. Thus, in a training fight, the fencer is instructed to focus on the technique of defense or, conversely, on the technique of attack.

The method of facilitating the conditions for performing technical movements consists of a number of methodological methods. Here are some of them.

1. The methodological method of isolating the element of movement. For example, in boxing, the following are distinguished: an emphasized percussion movement of the hand, a push with the foot and pelvis, a rotational movement of the trunk and shoulder girdle with the subsequent connection of these elements. In swimming, the work of the arms and legs is distinguished.

2. The methodical method of reducing muscle tension allows the athlete to more finely correct individual movements in motor skills, to control the coordination of movements (according to the feedback mechanism), which accelerates the improvement process. So, in wrestling, a lighter opponent is selected, in boxing, athletes train in light training gloves.

3. The methodical reception of additional landmarks and urgent information helps to most quickly master the necessary amplitude, tempo, rhythm of movement, activates the process of understanding the performed movement. For example, in figure skating on ice, the longitudinal axis of the figure is drawn in advance and reference flags are set. A straight line is drawn for the javelin thrower, strictly along which he runs.

The conjugate impact method is implemented in sports training mainly using two techniques.

1. The methodological approach to specialized dynamic exercises is based on the mutual development of physical abilities and the improvement of movement skills. This is achieved through the selection of special exercises: So, in swimming, the wings of the arms and shoulder blades are used to create additional resistance in rowing movements. In athletics, jumping exercises, long and high jumps are performed with a weighted belt. In water polo, passes and throws are performed with a weighted ball, etc.

2. The methodological approach to specialized isometric exercises involves the use of isometric exercises at certain articular angles characteristic of the technique. For example, in weightlifting, isometric stresses are performed in a low sitting position with an angle of flexion of the athlete's legs below 90 degrees.

In the special literature, various types and types of training of athletes are distinguished. Summarizing various and relatively reliable opinions, it is possible to propose three most important features for their general classification:

According to the predominant influence of certain components of the athlete's readiness to achieve (technical, tactical, physical, psychological, intellectual (theoretical) preparation);

By the nature of the relationship with sports specialization (general and special preparation);

By the degree of connection, coordination and implementation of various aspects of readiness, qualities and abilities in the conditions of training and competitive activity (integrated preparation).

§ 3.4. Tactical training

Tactical training is aimed at mastering sports tactics by an athlete and achieving tactical mastery in a selected sport. Tactics are a combination of forms and methods of conducting combat in a competitive environment.

Distinguish between individual, group and team tactics. Tactics can also be passive, active and combined (mixed).

Passive tactics are the initiative to the enemy in advance in order to take active action at the right time. For example, running, cycling, counterattack in boxing, finishing "throw" from behind in fencing, football, etc.

Active tactics are the imposition of actions that are beneficial to the opponent. For example, running with irregularly changing speeds, sprinting, a sharp transition from an active offensive fight in boxing to a slow movement. In football, handball, frequent changes in techniques and combinations; achieving a high result immediately on the first attempt, in racing, swimming - in long and high jumps, throwing, cycling, swimming, etc.

Mixed tactics include active and passive forms of wrestling. The athlete's tactics in competitions are determined, first of all, by the task set before him. All types of such tasks can ultimately be reduced to four:

1. Show the maximum, record result.

2. Defeat the opponent, regardless of the result shown.

3. Win the competition and at the same time show the highest result.

4. Show a result sufficient to advance to the next stage of the competition - the quarterfinals, semifinals and finals.

The solution of any of these tasks in the competition determines which tactic the athlete or team will choose. There are 4 tactical forms of competitive wrestling:

1. Record tactics. In cycling, leadership tactics are often used during the competition. The athlete assumes the role of leader long before the finish line and tries to maintain the lead until the end of the race. These tactics can unbalance the main competitors, make them nervous and change their tactical plans.

There are two types of leadership tactics:

Leading with the same speed when covering the distance - in running, swimming, rowing;

Leading with a change in speed, pace over the distance. Famous long-distance runners such as P. Bolotnikov, N. Sviridov (USSR), R. Clark (Australia) successfully demonstrated the tactics of setting records with the same speed. Victories at the Olympic Games in 1956 were achieved by the great runner V. Kutz over such famous finishers as the Englishmen G. Peary and K. Chathaway.

Most world records in endurance sports are set by running at a flat distance. This is because, from a physiological point of view, an uneven work regime leads to an increase in energy expenditure compared to a uniform one. Therefore, it is used only by well-trained athletes.

§ 3.4.1. Tactics for winning a competition regardless of the indicated result.

This tactic is usually used in final competitions, also when the specified sports indicators do not affect the final distribution of places among the main competitors. Any tactical technique must be thoroughly prepared in the training process.

When solving this complex problem, as a rule, the athlete:

1) strives to achieve maximum efficiency and break away from rivals at the very beginning of the competition ("breakout tactics") - develop maximum speed in the first half of the distance; jump to the maximum length or height in the first test attempt; perform the most difficult exercise well in the first part of the compulsory or free program in gymnastics;

2) retains strength until the decisive finish ("finishing sppurt tactics"). Immediately after the start, he takes a place behind the leader and carefully follows all competitors or remains in the leading group, preparing to maneuver at any time;

3) during the competition, deliberately changes the speed, tempo of movements, individual tactical methods and their combinations ("tactics of exhausting the opponent" - sharply changes the speed at a distance in running, swimming, skiing, performs repeated episodic explosive attacks in boxing, fencing), often changes the technique, thereby putting the opponent in a difficult position, etc.

§ 3.4.2. Tactics for winning high-scoring competitions.

This is a very rare tactic. This happens when places in the competition are determined without a final, i.e. according to the results shown in various races, trials, heats - in figure skating, weightlifting, swimming.

Two situations can arise when solving this problem:

1) when the main rivals have already started and the athlete knows their result;

2) when the main rivals start in subsequent competitions, in a heat.

In the first case, the athlete must show a result higher than his main rival ("tactics of beating the opponent's result"):

a) overcome the distance according to the schedule of rivals with a small difference - in running, swimming, rowing, etc.;

b) lift a barbell heavier than the opponent;

c) throw the projectile farther;

d) score more goals, score more points - in football, handball,

wrestling, etc.

In the second case, the athlete strives to achieve high results on the first attempts ("first strike tactics", "separation tactics").

3.4.3. Tactics for advancing to the next stage of competitions.

Some athletes, having shown high results in the preliminary competitions, spend a lot of effort, and in the finals, without having time to rest, significantly reduce their achievements and lose. Other athletes save too much effort in the initial part of the competition and, as a result, do not reach the final. To avoid these mistakes, you need to:

1. Know how many athletes (teams) will go to the finals.
2. Have an idea of the strength of your opponents.
3. Show a result sufficient to reach the semi-finals, finals.

In sports practice, when solving this tactical problem, the athlete (team) strives for the following:

1. Show a result sufficient to advance to the next stage of the competition ("tactics of rational distribution of forces in the competition process").
2. Show high results at each stage of the competition ("tactics of maintaining psychological superiority and invincibility").

Types, tasks and means of tactical training of an athlete.

General tactical training is aimed at teaching the athlete various tactical methods. **Special tactical training** is aimed at mastering and improving sports tactics in the selected sport.

In the process of tactical training, the following main tasks are solved:

1. The athlete's acquisition of knowledge of sports tactics (effective forms of it, development trends in the selected and related sports).
2. Collecting information about opponents, conditions of upcoming competitions, competition regime, socio-psychological environment in this country and developing a tactical plan for the athlete's performance in the competition.

3. Mastering and improving tactical methods of competitive struggle.
4. Formation of tactical thinking and abilities directly related to it - observation, ingenuity, creative initiative, anticipation of the enemy's tactical plans, the results of his and his actions, the speed of transition from one tactical action to another, depending on the specific nature of the competitive situation and the actions of the enemy.
5. Mastering the methods of psychological influence on the opponent and concealing one's intentions.

Specific means of tactical training are physical exercises, i. e. motor movements used to solve specific tactical tasks.

There are three main stages in tactical movements:

1) perception and analysis of the competitive situation;
2) mental solution of the tactical task;
3) motor solution of the tactical problem.

They can simulate individual tactics or integral forms of competitive tactics. Depending on the stage of preparation, these exercises are used:

a) in easy conditions;
b) in difficult conditions;
c) in conditions as close as possible to competition.

Knowledge of tactics is the basis for creative thinking in solving individual and team problems.

An athlete must know:

The rules of the competition, the features of judging them and behavior; the conditions of the competition and their opponents;

The basics of tactical movements in sports, their dependence on physical, technical and volitional preparation; the main features of the tactics of your sport, etc.

All means, methods and forms of competitive struggle are presented tactically.

A tactical plan- is a basic program of actions for individual athletes or teams. It is drawn up in the process of preparing for the competition and ends with the start of the competition.

The tactical plan consists of the following sections:

1. The main task set for the athlete or team in these competitions.

2. The general form of tactical combat is active, passive, combined.

3. Distribution of forces throughout the competition, taking into account the competition mode.

4. Distribution of forces during each performance (schedule of the speed of distance covered, pace of play, duration and nature of the fight, warm-up).

5. In connection with possible changes in tasks, it is possible to switch from one type of tactics to another directly in the process of competition.

6. Methods of masking one's intentions (actions).

7. Information about opponents, their strengths and weaknesses in training.

8. Information about the competition venues, weather, assessment of the upcoming competition and spectators.

The main sections of the tactical plan include: a) the main task; b) the general form of tactical combat (attack, active-defense, defense) and its variant in relation to the conditions of these competitions. In sports games, in addition, it is necessary to provide for the game system, combinations, personal technique in the interaction of players. In other sports - the possibility of using group tactics and individual combinations and techniques; c) the distribution of forces and rest - the competition mode, taking into account the intensity, duration and nature of the loads; d) the distribution of forces in each individual performance process (speed schedule, conditional schedule, pace of the game, duration and nature of the warm-up); e) the transition from one tactic (or system) to another tactic (system) in the course of the competition in connection with possible changes in the tasks and situation of tactical combat; f) methods and techniques for concealing one's intentions; g) information about the enemy, his strengths and weaknesses in preparation (physical, tactical, technical and strong-willed) and appropriate methods of attack (individual and group) and counteraction (active-defense and defensive); h) information about the venues of the competitions, weather, referees, spectators, etc.

In sports games, in addition to the general tactical plan of the team game, a tactical plan can also be drawn up for individual players.

The basis of such a plan can be an analysis of the balance of forces, one combat pair (attack and defense). The plan for the upcoming competition is drawn up jointly by the athlete and the coach, since the athlete's tactical skills cannot be developed without his active participation in drawing up the tactical plan for the competition.

CHAPTER IV. PSYCHOLOGICAL PREPARATION

§ 4.1. Psychological and pedagogical activities

Psychological preparation- is a set of psychological and pedagogical activities and the corresponding conditions of sports activities and the life of athletes, aimed at the formation of such mental functions, processes, states and personal characteristics in them that ensure the successful solution of training tasks and participation in competitions. Psychological training is usually divided into general and special. The essence of general psychological training is that it is aimed at developing and improving the mental functions and qualities necessary for athletes to successfully perform in their chosen sport, to achieve the highest level of skill for each athlete. This type of training also involves teaching methods of active self-control of mental states in order to form emotional resistance to extreme conditions of struggle, develop the ability to quickly eliminate the consequences of nervous and physical overstrain, voluntarily control the sleep pattern, etc. General psychological training is carried out during training. It is carried out in parallel with technical, tactical training. However, it can also be carried out outside of sports training, if the athlete independently or with someone's help specifically performs certain tasks to improve his mental processes, state, personal qualities.

4.2. Special psychological training

Aimed at the formation of the athlete's psychological readiness to participate in a particular competition. Psychological readiness for competitions (according to A.T. Puni) is characterized by the athlete's confidence in his own abilities, his desire to fight to the end to achieve the intended goal, the optimal level of emotional arousal, a high level of stability in relationships. the ability to voluntarily control his actions, feelings, behavior in various adverse external and internal influences, in changing conditions of the struggle.

The components of psychological preparation are: mental qualities

and processes that help master the technique and tactics; personal qualities that ensure stable performance in competitions; high efficiency and mental activity in difficult conditions of training and competition; stable positive mental states that manifest themselves in these conditions (P.A. Rudik, N.A. Khudatov).

The processes and qualities that help master the technique and control motor actions include, in particular, finely developed muscle sensations and sensations that allow you to control various parameters of movement; "Feelings" of time, rhythm, tempo, distance; ability to navigate in space; highly developed qualities of attention (concentration, switching, distribution); excellent ideomotor abilities; Working memory; speed and accuracy of simple and complex reactions (selective reactions, transitions, anticipation, reaction to a moving object, etc.). Developed specific mental qualities help in mastering tactics: the ability to instantly analyze incoming information about the actions of opponents and make decisions adequate to the situation; adaptability of thinking, etc.

Stages and directions of technical training in the process of long-term training

1. Stage of basic technical training.
2. Stage of advanced technical improvement and achievement of the highest sports and technical skills.
3. Stage of maintaining sports and technical skills.

The main direction of technical training at each stage can be represented in the form of the following diagram.

Therefore, the structure, specific content and methodology of the athlete's technical training at each stage, as a rule, depend on the periodicity of the annual training cycle. Often this is most clearly manifested in the training process of highly qualified athletes. The point is that for beginners, the annual cycle is not divided into separate training, competition and transition periods. Training sessions that they have throughout the year are considered preparatory.

It follows that the process of mastering and improving the technique of movements within the annual training cycle among qualified athletes largely depends on the laws of acquiring, maintaining and further developing sports form.

In this regard, there are 3 stages of technical training in the

annual cycle: 1) search; 2) stabilization; 3) adaptive improvement (adaptive).

Technical training at stage 1 is aimed at the formation of a new technique of competitive movements (or its updated version), improving the necessary conditions for its practical mastery, studying (or retraining) individual movements that are part of competitive movements. This stage corresponds to the first half of the preparatory period. Technical training at stage 2 is aimed at the in-depth mastery and consolidation of the integral skills of competitive movements. It covers a significant part of the second half of the preparatory period. Technical training at stage 3 is aimed at improving the formed skills, increasing the range of their respective variability (variability), stability (stability), reliability in relation to the conditions of the main competitions. This stage usually begins in the final part of the preparatory period and generally coincides with the competition period. The main tasks of each stage of technical training in improving technical skills (V.I. Dyachkov, L.P. Matveev, V.N. Platonov):

1) achieving high stability and reasonable variability of motor skills that form the basis of the technique in the selected sport, increasing their effectiveness in competitive conditions;

2) partial reconstruction of motor skills, improving the kinematics or dynamics of individual parts of the skill in the light of modern scientific achievements and the requirements of sports practice.

To solve the first problem, as a rule, the method of complicating the external situation, the method of training in various states of the organism, is used; to solve the second - the method of facilitating the conditions of technical actions, the method of conjugate exposure.

The method of complicating the external situation in the performance of technical techniques is implemented in a number of methodological techniques.

1. The methodical method of resistance to a conditional opponent is used mainly in sports games and martial arts. Elements of fighting with a conditional opponent help the athlete improve the structure and rhythm of the technique, quickly achieve stability and efficiency. It also provides a high intensity of the load in the classroom, is an effective psychological factor for developing self-confidence,

cultivating courage and determination.

2. Methodical acceptance of difficult initial positions and preparatory movements. So, in figure skating, a jump of one and a half revolutions ("axle") is improved first with a simple run, and then from the "boat" position. In diving, the height of the springboard decreases. Football players are recommended to kick and head the ball flying along a complex trajectory.

3. Methodical acceptance of the maximum speed and accuracy of movements. For example, in boxing, an athlete is given a high blow at a certain time interval - 1 round. In long jump - the take-off run is performed along a slightly inclined path. In football, the rapprochement between partners is used when passing the ball with constant force, etc.

4. The methodological method of limiting the space for performing movements allows you to complicate the orientation conditions while improving skill. So, in skiing, slopes with closed turns are included in the difficult path, which limits the time for choosing a turn within a certain radius. In running and jumping, steps are performed according to predetermined marks. In boxing, a reduced ring is used, etc.

5. The methodological technique of performing movements in unusual conditions involves changing the training conditions (natural conditions, equipment, inventory), helping to improve one or more properties of the movement technique (spatial, temporal, dynamic, rhythmic, etc.). For example, in athletics, a running or running start is performed when jumping against a strong wind, on wet ground, and in cross-country skiing - when moving on an icy track.

The method of training in conditions of the athlete's body that prevent the execution of technical movements is also carried out in various techniques.

1. Methodical technique of performing movements in a state of significant fatigue. In this case, the athlete is offered technical exercises after a large volume and intensity of physical exertion. So, in gymnastics, at the end of the training, the athlete performs the most difficult combination "for technique", and in skiing on various terrain, the technique is improved after overcoming the competitive distance at a speed close to the competitive distance. This technique

gives a large load on the central nervous system of the body and requires higher voluntary efforts from it.

2. The methodological technique of performing movements in a state of significant emotional stress is carried out by introducing control, competition and game methods into the execution of exercises on the technique.

3. The methodological technique of periodically turning off or limiting visual control allows you to selectively influence the receptive-analyzing components of motor skills. As a result, the ability of athletes to carefully evaluate their movements based on subtle perception and kinesthetic sensations increases. For example, rowing with your eyes closed allows you to better feel the movement of the boat and more easily control the stability of the skill using the "muscle feeling".

4. The methodological approach to the formation of the working environment adapts the athlete to the mandatory use of improved techniques in a competitive environment, stimulates his activity in the process of improving his skills. Thus, in a training fight, the fencer is instructed to focus on the technique of defense or, conversely, on the technique of attack.

The method of facilitating the conditions for performing technical movements consists of a number of methodological methods. Here are some of them.

1. The methodological method of isolating the element of movement. For example, in boxing, the following are distinguished: an emphasized percussion movement of the hand, a push with the foot and pelvis, a rotational movement of the trunk and shoulder girdle with the subsequent connection of these elements. In swimming, the work of the arms and legs is distinguished.

2. The methodical method of reducing muscle tension allows the athlete to more finely correct individual movements in motor skills, to control the coordination of movements (according to the feedback mechanism), which accelerates the improvement process. So, in wrestling, a lighter opponent is selected, in boxing, athletes train in light training gloves.

3. The methodical reception of additional landmarks and urgent information helps to most quickly master the necessary amplitude,

tempo, rhythm of movement, activates the process of understanding the performed movement. For example, in figure skating on ice, the longitudinal axis of the figure is drawn in advance and reference flags are set. A straight line is drawn for the javelin thrower, strictly along which he runs.

The conjugate impact method is implemented in sports training mainly using two techniques.

1. The methodological approach to specialized dynamic exercises is based on the mutual development of physical abilities and the improvement of movement skills. This is achieved through the selection of special exercises. So, in swimming, the wings of the arms and shoulder blades are used to create additional resistance in rowing movements, In track and field athletics, jumping exercises, long and high jumps are performed with a weighted belt. In water polo, passes and throws are performed with a weighted ball, etc.

2. The methodological approach to specialized isometric exercises involves the use of isometric exercises at certain articular angles characteristic of the technique. For example, in weightlifting, isometric stresses are performed in a low sitting position with leg flexion angles less than 90 degrees.

§ 4.3. Functional training

Functional training is an important section of sports training, which studies the supply of energy sources and stimulation of the activity of the neuromuscular apparatus, the provision of plastic material and the removal of decomposition and decomposition products from the body. Functional training determines the efficiency and optimality of performing movements and ultimately directly affects the sports result. The functional training of an athlete is expressed in the indicators of the athlete's body's adaptation, reactivity and resistance to mental and physical influences during training and competitions.

Function (Latin functio-performance)–1) obligation, scope of activity, purpose, role; specific form of the overall activity of biological cells, tissues, organs and the organism. Functional

readiness determines the characteristics of the organs and systems of the organism, the functioning of the neuromuscular apparatus, as well as some functions, maintenance, and performance of the neuromuscular apparatus. Such supporting organs and systems include: The first support group: cardiovascular, respiratory, thermoregulatory, nervous and endocrine systems. The first group of systems provides the neuromuscular apparatus with what it needs during its activity: oxygen, nutrients and the release of decay products. The second support group: digestive and excretory systems, which sharply reduce their activity when the neuromuscular system is activated and are activated in peace. The task of functional systems.

1) To ensure the neuromuscular apparatus removes substances necessary for its functioning and waste products.

2) To create an energy reserve, substances and buffer volumes for work at high voltage.

3) During the period of physical activity, new tissues are replaced by new ones (synthesis).

The main characteristics of functional training.

1. An indicator of the specific activity of the cardiovascular, respiratory, humoral thermoregulatory, excretory, protective and other systems when performing motor activity.
2. The degree of adaptation to physical loads.
3. Recovery time after loads.
4. The economy of functional systems during motor activity.
5. Types of nervous system reactions (normal motor, hypertonic, hypotonic, dystonic, stepwise).

It is important to know that physical and functional training have different periods of development, improvement and recovery (heterochrony).

6. The strength of bone, muscle and connective tissues.

Control of functional training.

Control of the functional systems of the body is controlled by recording the adaptive capabilities of the cardiovascular, respiratory, endocrine, immune, nervous system and neuromuscular apparatus. The onset of the acute period is determined, after working in certain intensity zones, fatigue occurs, distress (pathological stress) occurs.

For this, hemodynamic studies are used, indices and indicators are measured during the test or when taking the probe multiple times. To assess the functional capabilities of the organism, the following indicators are used: HR (heart rate), ABP (arterial blood pressure), NOK, NOCH (respiratory rate), JSL, MOD, Ruff'e–Dijon index, Kedro index, universal cardiorespiratory index, heart minute volume index, cardiopulmonary apoic probe, average dynamic ABP, pulse acceleration percentage, oxygen consumption coefficient. To assess the functional capabilities of the athlete's body, dosed load tests are used: orthoclinostat standing test, Martine test (20 times sitting for 30 seconds), Letunov test, Harvard step test, PWC150 and PWC 170 tests, etc. The essence of functional training is reflected in the purposeful development of the functional system of the body in difficult environmental conditions and high physical loads. Yes, the ability to overcome high muscle tension, functional and psychological effects is necessary. Anatomy, physiology, biochemistry and other disciplines help to correctly organize the functional process that can overcome the extremely high physical loads that highly qualified athletes currently receive. Functional training includes special preparatory exercises that:

a) affect the vegetative support of all functions of the cerebral vessels, respiratory and excretory systems;

b) improve the function of the central nervous system to withstand high physical loads and develop physical qualities.

Forms of functional training:

1. Inclusion of functional training fragments in the entire training process;
2. Carrying out the entire training process in a functional training plan;
3. Widely use health-improving activities (morning exercises, walks, etc.).

Functional training tools

1. Restorative tools;
2. Exercises that regulate cerebral blood flow (standing on your feet, standing on your head);
3. Exercises that develop the vestibular analyzer, muscle sensation, breathing and other systems.

The functional system of the body depends on the supply of the neuromuscular apparatus with energy sources, the removal of plastic material and metabolic waste products from the body, prepares organs (cardiorespiratory, nervous, endocrine, immune, digestive and excretory), improving their functioning. Functional training affects the athlete's competitive readiness and the growth of sports results. Lack of necessary functional training can lead to injuries and illnesses for athletes.

CHAPTER V. STRUCTURE OF THE PROCESS OF ADAPTIVE PHYSICAL EDUCATION AND SPORTS TRAINING

§ 5.1. Structure of the training microcycle

– The ratio of the aspects of sports training (general and special physical, technical and psychological, etc.) with their interdependence;

– The ratio of the parameters of training and competition loads (volume and intensity of the load, etc.);

– The sequence and connection between the various links of the training process (training session, micro and mesocycles, periods, stages, etc.);

– In the process of training with exercise, a three-stage structure is distinguished;

– Microstructure - the structure of individual training sessions and microcycles;

– Microstructure - the structure of medium cycles and stages of training;

– Microstructure - the structure of large cycles.

The content, means, methods and other components of all parts of sports training are interconnected as a whole.

This is a series of training sessions held over several days, providing a comprehensive solution to the training tasks at this stage, the duration of microcycles is from 3-4 days to 10-14 days.

Often in life, a one-week (7-day) microcycle coincides with the weekly calendar and is included in the general regimen of the athlete. Microcycles lasting 7 days are often called weekly cycles.

In other cases, microcycles lasting more or less days are modeled in various variants, including at separate points in the period of individual competitions, depending on the duration of the competition.

Microcycles consist of at least two: cumulative (accumulative), (associated with a certain level of fatigue), and restorative, structured in the nature of training sessions,

The minimum duration of microcycles is 2 days. There is a

loading day and a recovery day. Often these phases are repeated within a microcycle, and each microcycle ends with a recovery phase.

The recovery phase does not always complete the microcycle, and it can also be repeated within it.

The sequence of training content depends on the preparatory period, the task, and what kind of microcycle it is. A large volume of work performed at low intensity does not require frequent recovery, but a large volume of work performed at high intensity requires frequent inclusion of recovery in the training.

When building a microcycle, it is necessary to take into account the direction of the previous and subsequent training.

1. A microcycle fundamentally requires the development of speed and speed-strength qualities only on days when optimal performance is increased. Therefore, greater demands are placed on endurance, followed by speed. After a heavy load, the body usually needs 24 hours to recover.

More precisely, after training the body in the qualities of speed and agility and quick strength, and improving the technique of exercises, on average, after 2-3 days:

After training aimed at developing aerobic capabilities, recovery occurs on average after 5-7 days.

For example: training aimed at developing fast strength must be carried out before training with high loads.

2. Highly qualified athletes who have entered sports form can recover 1.5-2 times faster than athletes of 1-2 categories.

Depending on individual abilities, recovery occurs within 24-72 hours after speed-strength exercises; and within 48-120 hours after endurance.

Therefore, the load in the microcycle during the individual competition should be distributed in such a way that it coincides with the peak phase of the competition. This is achieved by optimal loading 2-3 days in advance.

For this purpose, look at the Polish women's sprinters' microcycle variant (GANSE material).

Days	End of the preparation period	Competition period
Monday	Gymnastic exercises	Gymnastic exercises
Tuesday	Speed	Speed
Wednesday	Speed-endurance	Speed-endurance
Thursday	Vacation	Vacation
Friday	Vacation	Gymnastics
Saturday	Technique	Competition
Sunday	Technique	Competition

The conditions and circumstances that determine the structure of microcycles include the following.

1. The general regime of the athlete's life (in terms of study and work) and the dynamics of work related to it.

2. The total magnitude of the load in the microcycle is the number and content of training sessions.

The influence of these factors is determined by the sports specialty and level of preparation.

For example: the content of training sessions, their number in the microcycle, the magnitude of the load, in each sport are different for track and field athletes, gymnasts, swimmers, wrestlers, boxers, etc. In addition, similar differences can be observed in the training process of beginner athletes and high-level athletes.

3. Individual characteristics of the response to training load and biorhythmic factors.

The body of athletes responds differently to the same volume and intensity of the load. This depends on the different characteristics of their organism. In this regard, the organism of each athlete also adapts to the training load individually. According to NS. Kucherov et al., it is advisable to align the microcycle phases with the weekly biorhythm phases.

1. The structure of the microcycles Load can change within the cycle, % The dynamics of the load in the microcycle of ski jumpers during the competition period, depending on the high importance of the cycle.

2. The structure of microcycles, depending on the structure of training periods and stages, depends on which (planned) process it is located. By its form and content, the microcycle of the general preparatory stage of the training period will never resemble the microcycle of the individual competition period, and there can be no universal microcycle used for all periods. By changing the order of the main and additional training of the complex of exercises, changing the load and rest, the coach prepares the training process and the athlete's body for high results.

Types of microcycles and their specific features.

In the process of sports training, the following types of microcycles are determined;

– puller
– striker
– closer
– competition
– restorer

a) pulling microcycles: - are composed of small loads and are aimed at introducing the athlete's body to intense training. They are used in the 1st (general-training) stage of the fundamental period.

b) shock microcycles: - are aimed at intensively performing large loads. Their main task is to help the athlete's body solve the main technical and tactical, physical-moral, volitional, special psychological and integral tasks of the adaptation process. They are mainly used in the 2nd special training stage of the fundamental period and in the periods of individual competitions.

c) approximating (model) microcycles - their main task is to bring the athlete closer to the competition. They repeat the regime of the upcoming competitions. The coach mainly introduces the athlete to the work regime, his body's recovery, rest, draws his main attention and leads him to the competition without tiring.

g) recovery microcycles - with them, a series of shock microcycles is often completed. They are also (planned) to be developed after intense competitive activity.

d) competition microcycles - participation in a competition. They are compiled according to the program of a particular sport. To compile training microcycles, you must know the following.

– how the load of different volumes and directions affects the athlete's body.

– the dynamics and duration of the body's recovery after loads.

– the possibility of using moderate loads to accelerate the recovery process after heavy physical exertion

Alternating load and rest in microcycles can lead to the following 3 types of reactions in the body.

a) maximum development of the training with training.

b) low efficiency of training or its complete absence

c) exhaustion or exhaustion of the athlete.

The first type of reaction - the introduction of a large and rather large number of optimal training sessions into the microcycle, alternating them with training sessions with small loads, leads to the body's response through a reaction.

The second type of reaction - the number of exercises included in the microcycle and their load - has little effect on the level of training intensity, while the third type of reaction - if the exercises included in the microcycle are not rationally alternated, causes the body to react quickly.

5.1.1. Features of the dynamics and structure of microcycle loads.

The total level of loads during the transition period is determined by the laws of active rest and maintaining fitness with exercise. Here, the opposites seem to merge: on the one hand, active rest consists of "Load", since active rest is not without activity and a certain amount of work potential is spent on it, and on the other hand, it is also "rest", since it restores working capacity in relation to other activities. In this case, the recovery effect is achieved by significantly reducing the volume and intensity of specific loads. The total volume of physical loads can usually be significantly increased. Due to the habituation to motor activity as a result of many years of sports, the level of loads in highly qualified athletes during the transition period often exceeds the level of loads in novice athletes during the preparation period.

Microcycles during the transition period do not differ in their strict accuracy. They are built in accordance with the mode of activity with active rest as the main means. For example, the regime of a multi-day tourist hike can serve as the basis for microcycles. Depending on how the athletes feel, the number of training and rest days is determined in such a way that everyone feels a continuous increase in their strength. Figuratively speaking, at the end of the transition period, the athlete should feel a very strong desire, a desire to storm new heights in the chosen sport.

Like any phase of the cyclical process, the transition period does not have a strict boundary. As the functional and adaptive capabilities of the body are restored, it moves on to the preparatory period of the next cycle.

If the athlete did not receive sufficiently high loads during the preparatory period, that is, did not train often enough, did not participate in competitions and similar events, then the transition period is not necessary. In such cases, it is better to organize the training process in a double cycle type, that is, after the competition period, the second preparatory period begins, then the second competition period, and only after that the transition period begins. In some cases, when using semi-annual cycles, this structure of training is also correct.

§ 5.2. Structure of training mesocycles.

Mesocycle as a system of microcycles.

Training microcycles are a process of training processes lasting from 3 to 6 weeks. Building a training process based on mesocycles is necessary to ensure the preparation for this period, the dynamics of the load in training, the purposeful use of tools and methods, as a result of which the athlete is given a pedagogical impact, combined with the process of restoring the body. It is aimed at developing physical qualities and abilities.

5.2.1. Types of training mesocycles.

Often there are stretching, basic training, control, pre-competition and competition mesocycles.

Stretching mesocycles - the main task of which is to gradually introduce the athlete to more effective performance of special training tasks. By using exercises, the development of various types of endurance, which determine the level of systems and mechanisms aimed at the end of the possibilities, is possible, and the rapid improvement of the qualities of strength and flexibility. Ultimately, it is about the formation of motor skills and abilities aimed at the end of the work.

Basic mesocycles - improve the functional capabilities of the main systems of the body, develop physical qualities, technical-tactical, and psychological preparation.

The training program is compiled using high loads from intense training of various types,

Training control - in mesocycles, the athlete's capabilities achieved in previous mesocycles are synthesized or integrated training is carried out. During the training process, competition and special training exercises are often maximally brought closer to competition conditions.

Pre-competition mesocycles - are aimed at eliminating errors in the athlete's training process, improving their technical capabilities. In these mesocycles, the main place is occupied by purposeful psychological and tactical preparation. Mesocycles are structured with and with a decrease in load, which leads to a more effective implementation of the adaptation process in a timely manner, resistance to fatigue.

The number and structure of competitive mesocycles are determined by the type of sport, the nature of the sports calendar, the athlete's qualifications and level of training. In cyclical sports, the main competitions often last from 1 to 2 months, with one or two competitions being used as mesocycles, in sports games the main competitions last 6-10 months. During this time, 5-6 competitions can be held, alternating mesocycles with other mesocycles.

Combining microcycles and mesocycles - depending on the task

set for the mesocycle, it includes microcycles, which include:

– some aspects of training:

– implementation of integral training:

– creation of conditions for the restoration of the adaptation process after heavy loads.

As we have seen, within microcycles, the restoration of the functional capabilities of the organism can last up to several days. For him, the next microcycle may also be aimed at restoring the body to the level of fatigue from the previous load. The intense period of training of qualified athletes today is characterized by the increase in fatigue from one microcycle to the second microcycle, due to the expectation of separate microcycles of load.

This places high demands on the functional system of the organism and the strength of the technique. The total amount of the load in microcycles depends on the multi-year training period. In multi-year training, the total amount of the load of weekly microcycles within the basic microcycles is combined.

Different types of microcycles are determined by many features of their total amount of load, and the type of mesocycle is also used for the training of high-class athletes (Platonova V.N.)

§ 5.3. Methodology for structuring the training process in macrocycles

General structure and types of macrocycles.

The methodology for constructing training macrocycles depends primarily on the main task set in the training, which is carried out during the training process. The structure of training macrocycles at the first stage of multi-year training (the main task of this stage is to build technical and functional (skills and qualifications) for more effective training on the basis of comprehensive hormonal physical development) is fundamentally different from macrocycles that are built at the stage of maximum realization of the athlete's individual capabilities. At stages 1-2 of multi-year training, the training process is built on the basis of annual macrocycles. In this case, all aspects of the athlete's training are developed in parallel. Only in some

cases (when it is necessary to pay attention to improving a certain aspect of training, correcting obvious shortcomings) are the tasks of the athlete's technical, tactical, physical and psychological training solved.

Later, when athletes are tasked with maximizing their individual capabilities in order to achieve high sports performance and participate well in competitions, the macrostructures of training become more complex (specifically defined in each case).

The duration and structure of microcycles are determined by many factors. Among these factors, first of all, it is worth mentioning the specific characteristics of the sport and the basic laws that form sports skills: the need for an athlete to prepare for specific competitions (for example, European, world Olympic championships): the athlete's individual adaptation capabilities, the structure of training, the content of the training.

Various macrocycles are distinguished in the macrostructure of training. These macrocycles (wave-like) can sometimes decrease and sometimes increase and last from several months to 4 years.

4-year macrocycles are designed to organize a planned approach to the preparation for the Olympic Games. In this case, the content and tasks of each annual stage of the macrocycle are aimed at the fulfillment of tasks.

The constant expansion of the calendar of sports competitions has led to the emergence of 3-4 macrocycles. This competition calendar includes many decisive competitions, the time of their holding is indicated. The increasing number of sports competitions has led to an improvement in the material base for sports training.

The emergence of maneges, cycle tracks, winter stadiums, and the construction of many water bodies has allowed many sports to be held only at a certain time of the year - in the season. Thus, 2-year macrocycles have appeared in cycling (track), athletics, and 2-3-year macrocycles in swimming.

At the same time, in order to achieve high performance, it is necessary to maintain a 1-year macrocycle in sports that require long and intense competition activities and a long preparation time (road cycling, marathon). In some sports, 2-year cycles can be planned. This is due to the mastery of new and intermediate programs (in

figure skating, in artistic gymnastics, skating), but at different stages of such cycles, athletes can participate in competitions according to the old program. (N. Ozolin, 1984).

In sports, the specific features of the calendar determine how training should be conducted throughout the year; along with annual microcycles (in football, hockey), there are also semi-annual training macrocycles (in basketball, water polo).

The organization of training based on annual macrocycles is characteristic of such sports as skiing, biathlon, alpine skiing, bobsleigh, sailing, rowing.

If annual training is based on 1 macrocycle, it is called 1-cycle training, if it is based on 2 macrocycles, it is called 2-cycle training, and if it is based on 3 macrocycles, it is called 3-cycle training. Each macrocycle is divided into three: preparation, competition, and transition periods.

The so-called "double" and "triple" variants of the 2- and 3-cycle training process are more often used. In such cases, 1 and 2; The transition period between macrocycles 2 and 3 is not planned. The competition period of the previous macrocycle is immediately transferred to the preparatory period of the next macrocycle. (V.N.Plotonov 1986)

If 2 or more macrocycles are planned in a year, they are distinguished from each other in terms of content and duration by the option of structuring the training process throughout the year.

For example: when planning 3 cycles of training for high-class athletes, microcycle 1 is of a base-forming nature, that is, it assumes that the athletes will be fully prepared and will participate in competitions lower than the main competitions. In microcycle 2, the training process will be more specialized and aimed at participating in the main competitions of the year. In microcycle 3, the goal is to achieve the highest performance. Training competition loads are brought to the maximum.

During the preparatory period, a solid functional base is built for good participation in major competitions, various aspects of preparation are developed, and the period is divided into two stages: general preparation and special preparation stages.

During the competition period - various aspects of preparation

are further developed and integrated preparation is provided. During this period, competitions are held and with the help of these competitions, preparation for the next major competitions is carried out,

The transition period - after the loads during the training and competition period, is aimed at restoring physical and mental potential in preparation for the next macrocycle.

The duration and content of the stages and periods of preparation are determined by many factors in a separate macrocycle (mobile).

One of these factors is associated with the specificity of the sport;

- with the structure of the training of athletes, which requires a competitive system for this sport;
- with the laws of the development of various qualities over many years of preparation;
- with the calendar of sports competitions, the tasks set for athletes before the competition;
- with the individual, morphological and functional characteristics of athletes, training characteristics, with the individual sports calendar: the organization of training (centralized) or in certain places, climatic conditions, technical level, etc.

The diversity of these factors determines the structure of the training process into macrocycles, periods, stages and their sub-components.

N.G. Ozolin writes: the content of the training process is determined by the periods of training. It helps to effectively organize the training process into periods and stages, to plan the training process by task and time,

The many factors that determine the structure of macrocycles and their role in achieving the final indicator make the structure of the training process in macrocycles extremely complicated.

For example; the desire to structure the training process based on the laws of adaptations gives sufficient results only when the specific tasks of the sports training are solved. Such an approach to the general laws of sports training based on the structure of training macrocycles is a methodological error that can negatively affect the training process in many sports. It is necessary to ensure that the training loads are in one direction not only in some trainings and

macrocycles, but also throughout almost all stages of training.

Such instructions can be used in sports with relatively low physical fitness, while limiting the technical and tactical arsenal of movements and psychological tasks, but are not appropriate for use in cyclical games, individual competitions, and complex coordination sports.

Depending on the contingent of participants in a sport, the duration of various periods and stages in the macrocycle can vary over a wide range. For example, in swimming, track and field and other sports of a cyclical nature, the duration of the competition period (or two or three planned periods of cycles) may be 1.5, 2.5 times less than the competition period in sports games. Sports that are held only at certain times of the year differ from sports that are held throughout the year in that the preparation period is long and the competition period is short. The initial stage of multi-year training, as well as the preparation period preceding the base stage, is distinguished by its long duration. The competition period is quite short and specific, in unspecified high-class athletes, the opposite is true, the preparation period is shortened, and the competition period occupies a significant part of the year (V.N. Platonov) 1986.

CHAPTER VI. CHARACTERISTICS OF TRAINING PERIODS IN PARA-SPORTS

§ 6.1. The spatiality of the development of sports form is the natural basis for training cycles

Sports form. Sports form is multifaceted. It is possible to generalize specific data and indicate a complex of signs characteristic of it.

From a physiological point of view, sports form is characterized by the following:

- the ability to perform specific muscular work at a high functional level, which is impossible when not in sports form, that is, during the period of sports form, the organism has the highest functional level;

- saving of functions, that is, when performing standard work (including energy consumption) that has not reached its final level, all work processes are better coordinated and a number of physiological changes are reduced due to higher functional capabilities of the organism;

High stability and at the same time the variability of dynamic stereotypes of sports movement skills (ability to adapt to changing conditions);

High mobility, that is, the ability of the organism to enter the process of movement activity faster and switch from one task to another faster, faster recovery processes, more efficient work during the period of sports form, as well as faster recovery of working capacity after fatigue.

Psychological concepts of sports form are not yet complete and sufficiently specific. However, the following signs can be indicated.

Improvement of special perceptual abilities related to the conditions of selected sports activities (swimmers "feeling water", etc.);

Increased opportunities for conscious control of movements (based on purposeful automation of movement skills) and creative manifestation of sports tactical thinking;

Expansion of the range of willpower (both the expansion of the

possibilities of using willpower for as long as possible, and the increase in the absolute level of these possibilities);

A special emotional mood aimed at competition and achievement, a period when the greatest courage can be shown, based on a firm belief in one's athletic form - strength - power.

From a pedagogical point of view, sports form is a harmonious unity of all aspects of an athlete's optimal readiness to achieve success - psychological, physical, sports - technical and tactical readiness.

Only if all these components are present is an athlete considered to be in shape. No matter how highly developed the athlete's physical qualities are, no matter how perfect his technique and tactics are, if he is not psychologically prepared for serious competition, if he does not have perseverance or other will qualities aimed at this goal, he will never be able to show high results. The same applies to all other aspects of sports form. At the same time, the unity of physical qualities and movement skills, that is, the mutual harmony of these qualities and skills, should be such that the athlete is able to maximally demonstrate his physical qualities in the form of these technical and tactical skills in the chosen sport.

All of the above should be applied depending on each specific situation. Because the concept of optimal training is relative. It is true only for a specific cycle of development of sports form. As you reach maturity in sports, the optimum (best) level changes - sports form at each stage of sports development is different both qualitatively and quantitatively.

Various methods are used to assess sports form. The main ones can be conditionally divided into pedagogical and medical-physiological methods.

Pedagogical methods determine the level of preparation of an athlete based on a generalized assessment of his qualities, skills and abilities. In this case, the most general criterion is the results of sports competitions, that is, in real sports conditions, which should be taken into account when assessing sports form. Such a result clearly reflects all aspects of the athlete's level of preparation, as if seen in a mirror. If an athlete shows a result higher than or close to his previous personal record, even if only approximately, then he is

considered to be in shape.

However, the sports result does not allow for selective control of some aspects of readiness. In addition, in some types of sports there are currently no sufficiently objective quantitative measures of sports results (gymnastics, individual wrestling, etc.). All this requires the presence of additional specific criteria.

For this purpose, control exercises are used for physical, technical and tactical preparation. Also, in the conditions of competitions and responsible competitions, it is widely used to observe the athlete's technique, tactical actions and behavior in general. In order to make the assessment even more accurate, complete movements or even some of their elements are also taken into account using special devices (videotape, cyclography, dynamometry, speedography, etc.).

Medical-physiological methods of assessing sports form are aimed at determining the working capacity of the most important systems of the body that carry out and provide motor activity. For this, functional tests with standard and maximum specific loads are used, among other things (see the course of sports medicine and sports physiology).

Only with the integrated use of both pedagogical and medical-physiological data can a full description of sports form be given. In this case, medical-physiological data is especially important. However, the decisive word in determining sports form undoubtedly remains with the coach.

Studies show that the process of developing sports form has a phased nature. This process consists of three phases - getting into shape, maintaining it, and temporarily losing the sports form.

The phase of getting into sports form consists of the formation and development of the necessary conditions for sports form and the direct formation of sports form.

This is primarily about significantly increasing the overall level of the functional capabilities of the organism, the comprehensive development of the athlete's physical and volitional qualities, the formation of various motor skills and abilities, including new elements of the technique and tactics of the chosen sport. All this together forms the foundation of sports form. The level of sports form, and therefore the level of sports results in this cycle of training,

depends on the quality of this foundation.

However, at this time not everything is ready for success, the most important functional changes in the organism continue to occur.

There may be a negative interaction between some physical qualities, as well as motor skills. At a time when these elements of sports form are just emerging, they have not yet "glued" to each other and merged into a single whole. In the second half of this phase, when the sports form is directly formed, the adaptation processes become more specialized and more mobile. The development of qualities corresponding to the type of sport chosen for specialization, as well as the deep improvement of the corresponding sports techniques and tactics, becomes the leading direction of all changes. Some components that ensure readiness to win in sports combine to create a completely chaotic system - sports form - at the GOAL level.

The phase of sports form is characterized by maintaining optimal (for this cycle) readiness for sports performance. At this time, the level of biological changes associated with sports training should decrease by itself (at least in adult athletes), since at this time high-level sports performance is relatively stable.

During the period of sports form, radical changes cannot be allowed, as they would lead to a loss of sports form. However, this does not mean that the opportunities acquired in the previous constructive phase are only exploited here. Against the background of maintaining sports form, the further development of everything that is directly related to the achievement of sports achievements continues. Therefore, results will increase, but this increase will not go beyond the level of this sports form.

Depending on the characteristics of the training structure, the types of annual dynamics of sports results, which reflect different methods of maintaining sports form, are different. These include: "single peak", "double peak", with long, short declines of up to 4-5 weeks between "peaks". These are only the main, most common options that do not cover all the most diverse cases. In addition, for some sports (for example, weightlifting), the dynamics of "double peak", with a decline interval of more than 3 months, is typical.

It is quite difficult to determine the exact duration of maintaining sports form. Based on statistical analysis of the dynamics of sports

results in certain types of sports, it can be said that in highly qualified athletes this period is usually about 2-3 months in the "single peak" dynamics, and in the "double peak" - 4-4.5 months in total. It is probably correct to include relatively long, short-term declines between peaks as separate intermediate moments in the period of maintaining sports form. At this time, the main components of sports form are not lost; only specific functional mood may slightly decrease. The indicated periods are also partially confirmed by medical and physiological data (S.P. Letunov and others). It is still difficult to say which option for maintaining sports form is better. Much, undoubtedly, depends on the characteristics of the sports. It is also known that the "double peak" options allow for the possibility of extending the competition period of training. These options, in fact, arose out of this very necessity.

In the phase of temporary loss of sports form, certain aspects of training and training are readapted, the connections that unite certain elements of sports form fade away, and the body switches to working at a different level.

Loss of sports form is not a depression of the vital functions of the body. With a rational organization of the general regime and training, normal life activity is preserved and even improved - this has been confirmed by special studies (V.P. Filin, L.P. Matveev, E.V. Kukolevskaya, E.E. Nemova). At this time, some positive changes continue to occur in the body as a result of previous loads and daily training. Apparently, at this time the longest, most persistent changes due to previous loads are completed, some assimilation moments in the processes of plastic exchange are intensified.

1. Sports - training is aimed at achieving perfection in a continuous manner. The sports form achieved at one or another stage of sports development is an optimal state for that stage (and only for that stage). However, the state that is optimal for one stage of sports skills cannot be optimal for the next, even higher stage. Therefore, the desire to always maintain the sports form once achieved is tantamount to the desire to remain in one place. In order to move forward, it is necessary to "throw away" the old form and enter a new one. To enter a new form, it is necessary to make significant changes, ensure a significant and comprehensive development of

physical qualities, acquire new, more advanced skills and abilities, in short, to change and improve all aspects of sports readiness much more than was possible during the period of maintaining the form, when its foundations are relatively stable.

2. Training - Loads have not only a short-term effect, but also a cumulative effect, which is associated with the accumulation of the effects of long-term applied loads. Due to the accumulation of the effect of the load associated with the introduction and maintenance of sports form, sooner or later (depending on the absolute amount of loads and other circumstances) a protective reaction should occur in the body against excessive strain of adaptive mechanisms. If conditions are not created for removing the load, switching to another state, and active rest, then the loads can become stressors that lead to overtraining and exhaustion.

3. Maintaining a complex dynamic balance between various biological functions and processes, which underlies sports form, is itself very difficult for the athlete's system. This task is further complicated by the fact that it has to be solved against the background of a constantly changing external and internal environment of the organism and in conditions of extremely delicate relationships between various adaptive processes.

Thus, maintaining a sports form is fraught with many external and internal difficulties. If one tries to maintain a sports form for too long, they can become excessive and lead to unpleasant consequences. However, in fact, there is no need to do this. On the contrary, not changing the form once it has been entered would have prevented the development of a new form, that is, would have acted as a brake on the further process. Therefore, the phase of temporary loss of sports form is a separate phase in the process of sports improvement.

Thus, in the process of practicing sports, an athlete cannot always be in shape. He periodically enters a sports form, maintains it more or less, and then temporarily loses it. Under certain conditions, these phases alternate repeatedly, gradually increasing, and in principle, regularly. The coach and the athlete, if they want the work to be successful, cannot "undo" the above-mentioned phases. However, having learned the objective laws of developing sports form, this

process can be controlled.

The formation, maintenance and temporary loss of sports form are extremely specific and occur as a result of the effects of training. Their nature varies depending on the phase of development of sports form. Accordingly, the training process is divided into three periods:

1) the period when the necessary reasons and conditions are created for entering sports form (fundamental period);

2) the period when sports form is maintained and transformed into sports achievements (period of individual competitions);

3) the period when, due to necessity, the athlete is allowed to actively rest. This period prevents the cumulative effect of training from becoming too intense and at the same time ensures continuity between the two stages of sports improvement (transition period).

These periods arise not only because the athlete cannot always be in sports form for biological reasons, but also because regular changes in the structure and content of training are a necessary objective condition for achieving perfection in sports. While emphasizing the strong connection between training periods and the phases of development of sports form, they should not be equated with each other. The phases of the development of sports form are successive moments (stages) of a **biologically** based process; they are stages of physiological, biochemical and morphological changes that occur in the athlete's body under the influence of training and other factors. Training periods, in their essence, are successive stages of the **pedagogical** process; they are characterized by the effective use of certain tools and methods that have a purposeful effect on the athlete's growth. Therefore, training periods are successive stages of the process of managing the development of sports form.

The number and duration of periods in the training cycle should actually correspond to the number and duration of phases of developing sports form. However, this is not always the case. This may be due to secondary factors. There may also be other phenomena. For example, let's consider a "double" training cycle consisting of five training periods, which includes two cycles of developing sports form. In this case, against the background of one of the periods, the phase of developing sports form can be shortened or lengthened by changing the components of sports

training, including the volume and intensity of loads. However, there should be no arbitrariness in this. These phases cannot be extended indefinitely or shortened indefinitely, since their duration is largely determined by the internal laws of the development of the organism and depends on a number of specific conditions (the athlete's level of prior preparation, the characteristics of the sport, etc.). The fundamental period cannot be shorter than the time required in these specific conditions to enter sports form. The competition period cannot be longer than the possibilities of maintaining sports form without interfering with further progress. The duration of the transition period depends primarily on the cumulative amount of previous loads and the duration of the recovery process. The total length of the training cycle is often determined by the calendar year. Experience and special studies show that in most cases this period is quite sufficient to ensure the growth of sports results. At the same time, it has been established that in some types of sports (weightlifting, speed and strength types of track and field athletics, swimming, sprint distances and, apparently, other types of sports of a similar nature) it is possible to renew sports form not only in a year, but even in half a year. For such types of sports, it is advisable to use annual and semi-annual (or "double") training cycles, alternating them in a certain order.

In all respects, cycles of less than half a year cannot be a permanent basis for updating sports form. More than one year; fixed-term cycles are more preferable in some cases, and may even be.

For qualified athletes, the following approximate durations of the periods can be determined:

Fundamental period from 3.5-4 months (this is characteristic of half-yearly and "double" training cycles) to 5-7 months (in one-year cycles);

Competition period - from 1.5-2 months (in half-yearly and "double" cycles) to 4-5 months (in one-year cycles); transitional period from 3-4 weeks (in half-yearly cycles) to 6 weeks (in one-year and "double" cycles). It seems that for many sports, the rational durations of the periods can be within these limits. In this case, the full range of periods indicated for the same types of sports is valid, and for other types only some of them are valid.

The length of training periods does not remain constant over many years of practicing sports. Therefore, the above figures are not equally true for everyone. They mainly apply to relatively well-trained, well-formed, and growing athletes. The less intense the training and the lower the level of loads used in training, the greater the difference in periods.

§ 6.2. The second (special preparation) stage of the preparatory period

A change in the direct focus of training. In the second stage of the preparatory period, the structure and content of training changes to create conditions for direct entry into sports form. Training begins to be more focused on a specific goal than on all its parts (therefore, it is also called the stage of special training).

In physical training, the focus is on developing physical abilities that meet the specific requirements of the selected sport, that is, special physical training. Now general physical training mainly ensures the maintenance of general training and enhances its components that are most closely related to training with special training.

Similar changes occur in other sections. Sports-technical training is aimed at a deeper mastering of the technique of competition movements in the same form as it was during the competition period of this training cycle. The central task in this is the formation of a dynamic stereotype of stable and at the same time adaptive movements. In parallel, serious special tactical training is also expanded.

Finally, as we approach the second stage, the role of special volitional training for competitions in the selected sport increases.

All this creates conditions for improving training with special training and harmoniously combining all components of sports form. In the second stage, physical, technical, tactical and volitional training are separate from each other - they even merge (merge).

In the first stage, the transition to the second stage occurs gradually. In this case, the structure of the training process changes

more than the content - the ratio of various means and methods, the weight of general and special training, the ratio of the volume and intensity of the loads, etc.

§ 6.3. Structure of the competition period

The structure of the competition period can be simple and complex. In the first case, it consists of one main type of microcycle - competition and weightlifting microcycles. In the second case, it consists of two (sometimes more) competition periods, separated by a special intermediate stage of 4-6 weeks.

The use of one or another structure depends on the characteristics of the sport, the calendar of competitions adopted in this sport and other conditions, in which, all other things being equal, the length of the period plays a decisive role: a simple structure corresponds to a relatively short period (up to 2-3 months), and a complex structure to a long period (about 4-5 months).

§ 6.4. Transition period

The transition period is a very special link in the continuous training system. In this case, the main training takes on the character of active rest. At the same time, it is not a training pause, that is, a break in the training process. Training continues, but its forms and content change significantly. This period is introduced to prevent the cumulative effect of training from turning into overtraining, to ensure a sufficiently long transition to a regime without increased demands on the functional and adaptive capabilities of the organism. At the same time, it is necessary to create conditions for maintaining a certain level of training and endurance, and thus ensure a connection between the two cycles of developing sports form. Of course, it is impossible to maintain maximum fitness with exercise in conditions of active rest, but it is possible and necessary to maintain fitness with exercise that allows you to start a new cycle of training in a much higher starting position than before.

Physical training during the transition period ensures the consolidation of previously achieved functional and morphological changes, partially improves some physical qualities, and helps restore adaptive capabilities. All this creates the conditions for continuing training with increased loads. The transition period is also used to eliminate some shortcomings in technical and tactical readiness. It is also possible to master some new forms of movement (in auxiliary exercises). However, all this is correct only if it does not interfere with the main task of this period - active rest. During the transition period, it is necessary to set tasks aimed at deepening the understanding and further improvement of the experience gained through participation in training and competitions. Finally, in the area of mental willpower training, it is extremely important to ensure that the athlete has the right attitude towards achievements and possible defeats, to create a positive emotional state for active rest and further plans.

The nature of training in the transition period depends primarily on the laws of long-term recovery processes after cumulative loads given in previous periods, as well as on the laws of maintaining training and fitness under relatively light loads.

Some experts argue against the transition period, arguing that its functions can be easily achieved by continuously alternating load and rest in training microcycles, as well as by changing the nature of the exercises with the magnitude of the loads during other periods. However, firstly, training loads not only leave the immediate "trace", but also have a so-called cumulative effect, which under certain conditions turns into overtraining. Secondly, in the process of training, it is necessary not only to restore working capacity, but also to restore the adaptive capabilities of the organism. This is impossible if training is organized only as in the preparatory and competition periods.

It would also be wrong to consider the transition period as a specific necessity that necessarily slows down the pace of development of training endurance. Because the temporary loss of sports form within the framework of the transition period is one of the main conditions for further growth. We should also pay attention to another phenomenon, which is still poorly studied,

but extremely interesting, namely, the acceleration of the pace of development of training endurance after a relative load. Such facts have been observed both in laboratory studies (B.S. Voronin) and in pedagogical experimental conditions (V.P. Filin, L.P. Matveev, etc.). All this indicates the necessary regularity of the transition period as an integral stage in the full training cycle.

§ 6.5. Characteristics of load dynamics.

The general trend of the loads in the second stage is a decrease in the total volume and a gradual increase in intensity.

During the stage, the volume of loads can decrease significantly (in some cases by more than half) in a number of indicators. This is explained, firstly, by the need to create conditions for a significant increase in intensity, which is the leading factor for further development of training. Secondly, it is necessary to facilitate the passage of long-term changes in the body according to the mechanism of "delayed transformation" as a result of the large volume of preparatory work carried out in the first stage. Only by reducing the total volume of loads for a sufficiently long period and increasing the intensity accordingly can the result of previous work be transformed into a very rapid increase in sports performance. The degree of volume reduction, of course, depends on its size in the previous stage. Because the larger the volume, the longer the "delayed transformation" periods will be.

The decrease in the volume of loads is initially due to general training exercises. The volume of most special training exercises continues to grow or stabilizes for some time. Then this component of the total volume of loads also gradually decreases. The exception is competitive training and special training exercises close to them. Their total volume per month increases.

At the second stage, the intensity increases mainly in the field of special training. Along with the increase in the absolute intensity of exercises - speed, pace, power and other parameters, the relative intensity of the training also increases. However, this does not apply to a significant part of general physical training. Apparently, only

some parameters of general training exercises that directly "benefit" the effect of training to the chosen sport should increase here.

As a result of the increase in training intensity and decrease in volume, the average "waves" of the dynamics of the loads in the second stage are usually shortened to 3-4 weeks. The "load-unload" differences also decrease. This is due, on the one hand, to the decrease in the volume of the loads as the training intensity increases, and, on the other hand, to the faster recovery processes.

The dynamics of the loads in microcycles change in accordance with the general trend and changes in the entire structure of the microcycles. The structure, in turn, is reorganized in accordance with the conditions of the upcoming most important competitions and participation in them, and in this way it becomes more similar to the competition microcycles.

CONTENT

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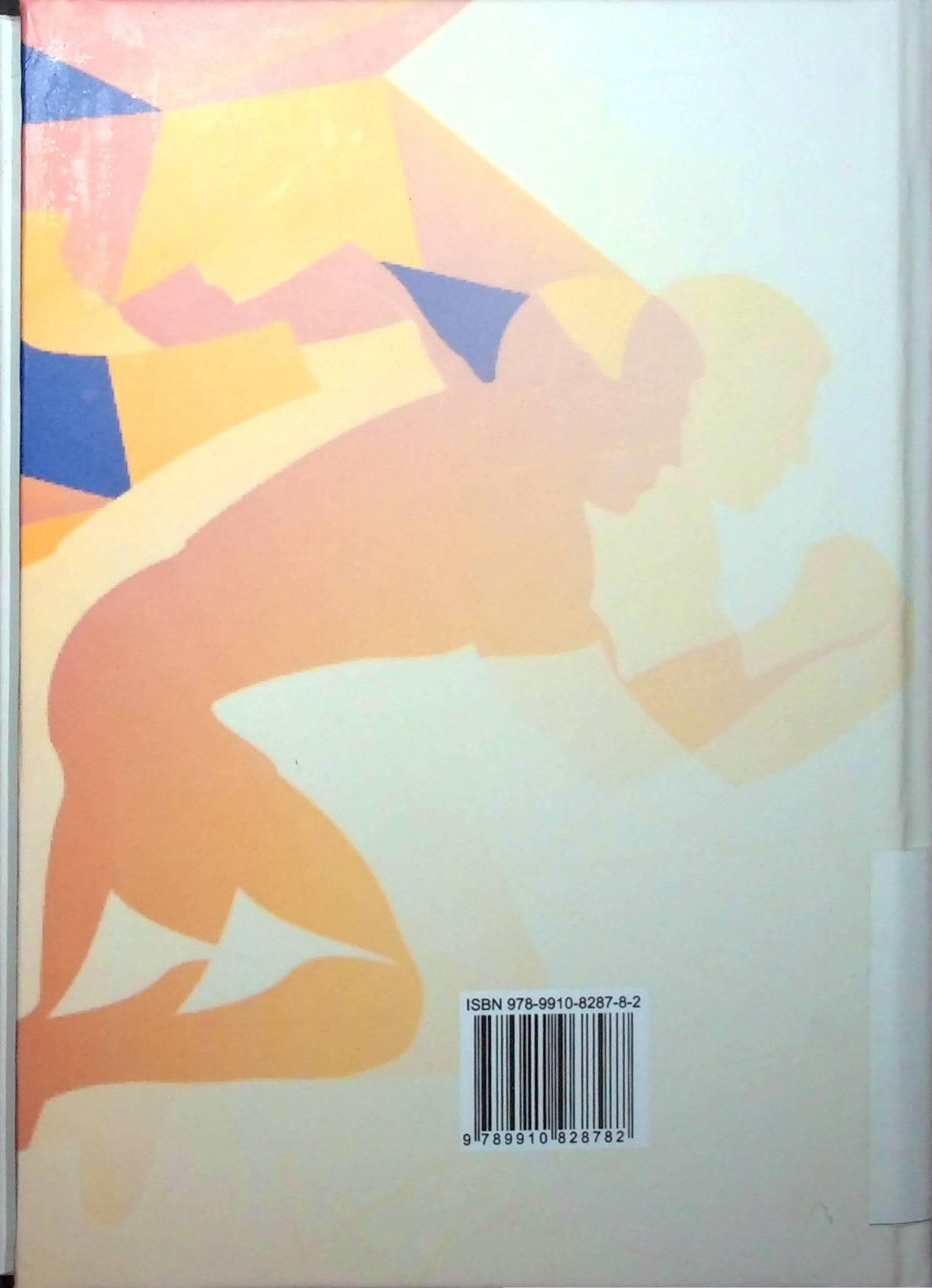

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