SCIENTIFIC-BASED METHODOLOGY FOR STRENGTHENING LOAD PARAMETERS - VOLUME AND INTENSITY IN BAYDARKA AND CANOE ENGAGEMENTS.

Khodjiyev Azizjon Rashidovich
Deputy Director for Academic Affairs of the Institute of Physical Education and Sports Research
Uzbekistan, Chirchik city
E-mail: xodjiyevazizjon@gmail.com

ПАРАМЕТРЫ НАГРУЗКИ У ЗАНИМАЮЩИХСЯ БАЙДАРКОЙ И КАНОЭ - МЕТОДИКА НАУЧНОГО УСИЛЕНИЯ ОБЪЕМА И ИНТЕНСИВНОСТИ

Ходжиев Азизжон Рашидович
Заместитель директора по учебной работе Института научных исследований физической акультуры и спорта
Узбекистан, город Чирчик
E-mail: xodjiyevazizjon@gmail.com

BAYDARKA VA KANOE BILAN SHUG‘ULLANUVCHILARDA YUKLAMA PARAMETRLARI – HAJM VA SHIDDATNI ILMIY ASOSDA KUCHAYTIRISH METODIKASI

Xodjiyev Azizjon Rashid o‘g‘li
Jismoniy tarbiya va sport ilmiy tadqiqotlar instituti o‘quv ishlari bo‘yicha direktor o‘rinbosari
O‘zbekiston, Chirchiq shahri.
E-mail: xodjiyevazizjon@gmail.com

Keywords: training load, physical training, special physical training, scientifically based methodology, functional capabilities.
Ключевие слова: тренировочная нагрузка, физическая подготовка, специальная физическая подготовка, научно обоснованная методика, функциональные возможности.
Kalit so’zlar: mashg‘ulot yuklamasi, jismoniy tayyorgarlik, maxsus jismoniy tayyorgarlik, ilmiy asoslangan metodika, funktsional imkoniyatlar.

Relevance. One of the key factors determining the quality level of athletes’ training nowadays is the proper planning of training loads, particularly the volume and intensity adjusted to the specific requirements of each sport. In canoe and kayak sports especially, achieving high performance is directly related to the athlete’s functional capabilities, endurance level, and muscular strength. The development of these indicators primarily depends on the appropriate approach to managing the volume and intensity components of training loads. In canoeing and kayaking, training volume is defined by the duration and frequency of general and specific physical training sessions, while intensity is characterized by the execution speed, shortened rest intervals, and the degree of cardiovascular strain. For athletes in these disciplines, using a scientifically grounded, gradual load-increasing methodology plays a vital role in maintaining consistent athletic performance.
According to the theory of I.N. Maslova, the biological principles underlying the training process in canoe and kayak rowing play a crucial role in optimizing athletes' physical and functional capabilities.

In her research, the author extensively studied the physiological characteristics of athletes, including aerobic and anaerobic capacities, muscle composition, cardiovascular system adaptation, and energy exchange processes. The study places particular emphasis on the biological foundations of training, especially the body's adaptive mechanisms in the development of endurance, strength, and speed. Maslova's approach underscores the need to develop individualized training programs based on athletes' genetic potential, anthropometric characteristics, and biochemical indicators. Her work also addresses the importance of planning biological cycles to prevent overtraining, optimize recovery processes, and peak during competition periods. For instance, the author suggests monitoring lactate levels and managing muscle glycogen reserves as ways to enhance training effectiveness. Additionally, the study analyzes physiological differences between male and female athletes and their implications for the training process.

N.J. Bulgakova, in her work, highlights that the developmental trajectories of morpho-functional indicators serve as important criteria for identifying talent in competitive swimming. Her research analyzes changes over time in young athletes' body composition, muscle structure, cardiovascular functional state, and aerobic capacity. Special attention is given to the correlation of these indicators with success in swimming and the importance of early identification. Bulgakova's approach focuses on identifying potentially gifted athletes and designing individualized training programs by studying the growth dynamics of morpho-functional parameters. The study also examines the influence of genetic factors, environmental conditions, and training on these indicators. For example, the author notes that tall body structure, a high percentage of muscle mass, and efficient oxygen transport capacity are crucial for success in swimming. She also stresses the need to consider individual developmental differences in young athletes and organize the selection process accordingly. This work has made a significant contribution to developing scientifically grounded approaches for identifying and nurturing talent in swimming.

According to S.V. Verlin, constructing an annual training cycle is of great importance for highly qualified sprint kayakers. The author's extensive work discusses periodization of the training process, planning of training loads, and strategies for achieving peak performance during the competition phase. The study examines the main stages of the annual cycle—preparatory, competitive, and transitional periods. Verlin's approach considers the specific demands of sprint kayaking, particularly preparation for high-intensity short-distance races. The research presents specialized training programs aimed at developing endurance, speed, and technical skills, along with issues related to recovery and psychological preparedness. For instance, the author emphasizes the importance of interval training, anaerobic capacity development exercises, and simulating competition conditions. The study also highlights the necessity of tailoring training cycles to individual athlete characteristics and implementing monitoring systems.

Z.N. Azimov's research shows that innovative training methodologies for 10–11-year-old beginner kayakers are of vital importance during the initial stages of their development. His research comprehensively explores modern approaches aimed at developing young athletes' physical, technical, and psychological readiness. Particular attention is given to the physiological characteristics of younger age groups, such as muscle development level, coordination abilities, and aerobic capacity. Azimov's methodology emphasizes increasing engagement and forming technical skills through the use of game elements, specialized simulators, and balance exercises. The study

highlights the importance of integrating dryland training—such as balance boards and rhythmic drills—with early water-based practice. Additionally, the author stresses the need for an individualized approach to protect young athletes from overtraining and to ensure their psychological stability. The study offers recommendations on training programs tailored to each child's physical capabilities and systems for monitoring their progress.

According to A.A. Pomerantsev's observations, aerodynamic and hydrodynamic factors significantly influence competition results in sprint kayaking. His research provides a broad analysis of boat movement in water, the hydrodynamic characteristics of the paddle, and the aerodynamic effect of the athlete's body position. The study places emphasis on hydrodynamic elements such as water resistance of the boat, paddle-water interaction, and stroke phase efficiency. Simultaneously, aerodynamic factors—including the athlete's body posture, wind resistance, and the shape of the kayak—are also identified as critical performance determinants. Pomerantsev's approach is aimed at enhancing sprint performance by optimizing these elements. His study provides concrete recommendations for improving kayak design, refining paddle shape, and adjusting athlete body posture to maximize aerodynamic efficiency. The author also highlights the importance of using modern simulation technologies and hydrodynamic testing to analyze these factors. Furthermore, the research explores the interrelationship between aerodynamic and hydrodynamic elements and the athlete's physical conditioning and technical skills. This work demonstrates how incorporating technological and scientific approaches in sprint kayaking can significantly improve performance outcomes.

In our view, the following integrated strategies are recommended to synthesize insights from these studies. Combine Mambetnazarov's ergometer analyses with Pomerantsev's hydrodynamic optimization techniques to enhance technical and equipment efficiency. Integrate the physiological monitoring methods of Maslova and Dyachenko with Azimov's training methodology for young athletes to develop personalized and age-appropriate training programs.

Merge Bulgakova's talent identification strategies with Verlin's cyclical planning techniques to create a continuous development pathway from young athletes to elite rowers. Utilize modern technologies (e.g., motion capture systems and simulation software) to analyze all collected data in real time. This integrated approach forms the basis for a scientifically grounded, personalized, and technologically advanced training system in competitive rowing.

CONCLUSION.

One of the key factors leading canoe and kayak athletes to high-level sports performance is the gradual and scientifically grounded increase in training load volume and intensity. Proper planning of training loads plays a crucial role in effectively developing the athlete's functional capacities, endurance, and muscular strength. Therefore, the parameters of training loads must be clearly defined for each type of session and improved through an individualized approach.

LIST OF REFERENCES AND SOURCES.

1. Ширковец, Е.А. К вопросу о моделировании процесса управления состоянием спортсмена / Е.А. Ширковец, Б.Н. Шустин // Научные труды ВНИИФК 1997 г.; под ред. С.Д. Неверковича и др. – М., 1998. – С. 321-324.

2. Baker, J. A Three dimensional analysis of male and female elite sprint kayak paddlers / J. Baker, D. Roth, R. Sanders, B. Kelly // International symposium on biomechanics in sports. – 1999.

– P. 53-56.

3. Hay, J.G. Stroke length, stroke rate and boat speed in flatwater sprint kayaking and canoeing / J.G. Hay, M. Kaya // Report to U. S. Olympic Committee and U. S. canoe and kayak team. – University of Iowa, IA. – 1998. – Pp. 153-162.

4. Kersting, U.G. Three-dimensional assessment of on water rowing technique: a methodological study / U.G. Kersting, N. Kurpiers, B.J.S. Darlow, V.W. Nolte. // 26 international conference on biomechanics in sports. – Seoul, Korea, 2008. – Pp. 72.