**REVIEW**

According to the Rector's order RD 38 - 165/11. 04. 2023

Pursuant to Art. 4, para. 2 of the Law on the Development of the Academic Staff in the Republic of Bulgaria (ZRASR), art. 40 of PPZRASRB, art. 27 of the Regulations for obtaining the scientific degree "**Doctor of Sciences**" and occupying an academic position in the Department of Sports, Section "Individual Sports and Sports Games" at the Technical University, Sofia.

Concerning the conduct of a procedure for the defense of a dissertation work on the topic: "**Innovative adaptation models for specialized running endurance in the educational - sports process**", for awarding the scientific degree "**Doctor of Sciences" in professional direction 1.3. Pedagogy of training in Methodology of training in physical education and sports**.

**With candidate:** Associate Professor Maya Borisova Chipeva, Ph.D

**Reviewer:** Prof. Kiril Atanasov Aladjov, Dr. Sc.

Associate Professor Maya Borisova Chipeva, PhD was born on 01.05.1978 in the city of Sofia. She completed his secondary education in 1997 at a sports school in Mladost, Sofia.

In 2001, she graduated from the National Sports Academy "Vasil Levski", OCS "Bachelor", majoring in Physical Education Teacher and Athletics Coach.

In the period 2000-2002, she worked as a track and field coach in the city of Chemnitz, Germany.

In 2006, Vasil Levski graduated from the Master's program in Sports Journalism at the National Academy of Sciences.

In the period 2011-2012, she worked at the Technical University as a part-time teacher.

Since 2012, she has been working at the Technical University as a full-time teacher. In 2014, she was a Senior Lecturer.

In 2016, at Veliko Tarnovo University "St. St. Cyril and Methodius" successfully defended a dissertation on the topic: "Methodology for the development of the physical capacity of 11-16-year-old students through endurance running exercises".

Since 2019, she is "Associate Professor, Doctor" in the Department of Physical Education and Sports, Section of Individual Sports and Sports Games of the Technical University.

At the Technical University, at various times she also worked as a coach of the representative team in athletics (from 2014 to the present); coach of the representative team in aerobics (from 2015 to the present); of the representative team in Cheerleading disciplines (from 2018 to the present).

She was a track and field athlete for CSKA.

Associate Professor Maya Chipeva's total work experience is 21 years, 12 of which at the Technical University.

Based on an in-depth literature review, as well as on the basis of her personal practical experience, Assoc. Prof. Maya Chipeva, Ph.D. found that the research regarding the changes in the adaptation processes under the influence of running loads related to the building of specialized endurance are aimed primarily in the field of high sportsmanship. Almost no such studies targeting intermediate-skilled middle-distance runners can be found.

The dissertation submitted for review on the topic: "Innovative adaptation models for specialized running endurance in the educational-sports process" is written in a volume of 288 computer pages. The content of the dissertation includes 6 (six) interrelated sections:

I. Theoretical foundations of adaptation in sports reflected in 45 computer pages;

II. Theoretical foundations of endurance - workability - on 89 pages;

III. Purpose, tasks and methods of the study, placed on 8 computer pages;

IV. Models of adaptive development, reflected in 80 pages;

V. Adaptive changes in aerobic capacity following the application of running loads in football players - on 28 pages;

VI. Conclusions, recommendations and contributions of the dissertation, placed on 10 pages.

The visualization of the dissertation work was carried out by means of 32 tables and 21 figures.

The literary sources that Assoc. Prof. Maya Chipeva, PhD, used in the development of her dissertation work, include a total of 198 books, of which 148 are in Cyrillic and 50 are in Latin. Additionally, 3 Internet sources were used. This section is spread across 24 pages.

**The literature review, which essentially combines the I and II sections** of the dissertation work, is reflected in 134 computer pages. The theoretical foundations of adaptation and endurance in sports are analyzed and reflected in detail. Assoc. Chipeva, PhD examines the main problems related to the subject of the dissertation. In this section, the opinions of a number of Bulgarian and foreign specialists have been studied and quoted. Among other opinions, the general opinion of a number of authors impresses, "that the development of training models should be carried out on the basis of the functional and physical condition of the athlete, as well as a certain system for building the training process in the annual cycle, according to the type of sport or specific discipline'.

At the end of this section, based on the analysis of a significant number of literary sources and research by other authors, Prof. Maya Chipeva, Ph.D. formulates her working hypothesis. I believe that in this form, the working hypothesis correctly reflects what is to be studied and researched in the current dissertation work and what real results and contributions can be expected from this activity. Here it is appropriate to mention that in the preliminary review presented by me, one of the remarks made was regarding the formulation of the working hypothesis and its excessive volume, which the author complied with and reduced the text and its volume!

The **third section** includes: **Aim, tasks and methods of the research**.

The purpose of the research is stated briefly and gives a concrete idea of what lies ahead in the development of the dissertation work: "To develop innovative adaptation models for specialized running endurance, applicable in the educational-sports process".

To realize the main goal, Assoc. Prof. Maya Chipeva, PhD, has set herself 5 (five) main tasks to solve. The specified tasks are professionally and competently formulated and really direct the author to the upcoming research activity. In my opinion, the tasks derived in this way fully meet the set main goal of the dissertation work.

– The subject and object of the research are formulated briefly and clearly. Prof. Chipeva, Ph.D., has focused her attention on researching the processes of adaptation, the educational and training process of the researched persons and the related changes in their adaptation capabilities.

- The contingent of the examined persons are 87 athletes, medium-qualified track and field athletes, middle-distance runners - student track and field athletes from "Athletic Club" CSKA, in the period 2017 - 2020, football players from PFC "Beroe", from the city of Stara Zagora as well as football players of PFC "Eter" from the city of Veliko Tarnovo, in the period 2020-2021.

The organization of the study includes:

• Sports-pedagogical tests, conducted by specialists in athletics and football, under the leadership of Prof. Maya Chipeva, PhD;

• Laboratory samples from specialized teams in Plovdiv and Veliko Tarnovo;

• Field measurements, with the assistance of medical specialists, by means of portable test devices of the type Lactate Plus sport Analyzer.

METHODS USED IN THE RESEARCH PROCESS:

The methods that the author used during the research are the following:

• Sports-pedagogical testing and tracking of running loads in the micro and macro structures of the training process. Smooth running from 100 to 2000 meters;

• Vertical rebound with explosiveness coefficient;

• Triple jump from standing;

• Long jump from place;

• Running 10 sections over 20 m at an interval of 20 seconds (for football players);

• Running 3200 m with consideration of the average speed for football players;

• Running with measurement of stride length and frequency. Q: Does this run have a specific length and does the pace count - steady, fast, sprint?

• The cardiorespiratory test. Through this test, (PWC(170), the author of which is the prominent Bulgarian physiologist Prof. Krastyo Krastev, the power of the physical load, which is necessary to increase the pulse frequency to the level of 170 beats per minute, is determined.

The obtained results from the conducted research were processed and analyzed using the following mathematical and statistical methods:

Variational, correlational, regression and factorial analysis.

MATLAB methodology was used for this purpose. This method has a proven application and is highly effective in conducting sports-pedagogical research.

I believe that the methods indicated and used in this way are highly informative and in practice have helped both in the research process and in analyzing the results obtained from it.

In this section, Assoc. Prof. Maya Chipeva, PhD has comprehensively indicated how the methods chosen by her were used in order for the research activity to proceed successfully.

In the Fourth part of the dissertation submitted for review, Prof. Maya Chipeva, PhD, based on the conducted research, has placed and analyzed "Innovative adaptation models for specialized running endurance of running loads". The nested models, presented as a series of figures, consider the various factors that influence adaptive development.

The author points out that in the construction of models of this type, two main forms are used:

• Principle, which shows the dynamics of the athlete's condition and the most important parameters of the contained elements of the training process;

• Quantitative, reflecting the quantitative values for the composition and organization in the programming of the training process.

In this way, a model was developed for the distribution of the volume and intensity of the applied running loads and their dynamics in the annual load cycle. Included in the model's content are the dynamics of general and special endurance and "running power" work. I should note here that in the final version of her review, Assoc. Chipeva complied with my recommendation and changed the term "running strength" to the generally accepted term "Speed-Strength Work or Training". The model developed by the author is formed in two directions: one-cycle and two-cycle organization of preparation.

In the series of figures, the author reflected the dynamics of the load in aerobic, mixed and anaerobic mode, during two-cycle training. The characteristics are presented in terms of volume, intensity, speed strength work, as well as the dynamics of aerobic regimes in one-cycle planning, which was applied to some of the studied persons for student athletes, according to the peculiarities of their sports calendar.

In this part of the dissertation, Assoc. Prof. Maya Chipeva, PhD, has included a series of tables that further illustrate the textual material and contribute to a more correct analysis of the results obtained from the conducted research.

"A model for determining the critical speed and transforming it into a zonal range in endurance work in track and field athletes - runners at the distances of 800 and 1500 meters" is reflected in tabular form.

In principle, the specified method is known and applied in sports practice. In this case, Assoc. Prof. Maya Chipeva, PhD, offers a "zone range for load and qualification model for running work in the range of heart rate zones" developed by her. I believe that this approach has a contributing nature to practice and gives a good opportunity to sports educators, making it easier for them to calculate the critical speed through "test" sections, which, according to the specifics of the running discipline, can be with a distance of 600 up to 1500 meters.

In addition to the detailed analysis, this section is richly illustrated with a large number of figures and tables, which gives additional factual insight into the quality of the conducted scientific experiment.

Associate Professor Maya Chipeva, PhD, presented 5 publications related to her participation in the announced competition for the acquisition of the scientific degree "Doctor of Sciences". All publications were written independently in the period 2021-2022. A good impression is made by the methodical consistency and purposefulness in the development and coverage of these publications.

Prof. Maya Chipeva, PhD is the author of 3 monographs, 2 books, 29 publications from scientific conferences and magazines. Her scientific interests are in the field of sports teaching methodology, mainly in athletics and the impact of motor activity on health.

The scientific contributions derived from the developed dissertation work are indisputable, and they directly correspond with the conclusions drawn. The specified scientific and applied contributions correctly reflect the line of consistency of the overall teaching and sports-pedagogical activity of Prof. Maya Chipeva, Ph.D. I will highlight some of them:

Associate Professor Maya Chipeva, PhD, states that the contributions of the dissertation work can be reduced to several main points.

• Models have been developed to predict current running potential based on the relationship between speed and duration of running effort;

• On the basis of the correlation-factor structure of the specific working capacity, evaluations of the current adaptation potential in track and field athletes, runners and football players have been developed;

• Models have been developed to predict and evaluate the potential of running loads in different oxygen regimes.

Quite logically, 10 conclusions and 8 recommendations are drawn at the end of the dissertation.

The conclusions and recommendations made sound convincing and, in my opinion, they will be useful for sports-pedagogical personnel working in the field of specialized running endurance in track and field runners and in the training process of football players for targeted training programming.

The data presented by the candidate for the scientometric reference are appropriately systematized according to the specific indicators. In detail and correctly, the scientific output is reflected and described, including the necessary, according to national requirements, articles and publications, as well as the point asset determined for this.

The abstract is formatted according to the necessary requirements. In it, the author, in a synthesized form, correctly reflected the research she had done and the resulting conclusions, recommendations and scientific contributions.

Analyzing the available documentation in detail, for the preparation of the review of the announced competition, I believe that the quantitative and qualitative indicators, as well as the necessary criteria for the acquisition of the scientific degree "Doctor of Sciences", have been met.

I would like to point out that the materials submitted for review, in the announced competition, for the acquisition of the scientific degree "Doctor of Sciences", were formed according to the requirements and I emphasize extremely precisely, which facilitated my work in analyzing them.

In conclusion, I would like to point out that, having familiarized myself with the dissertation submitted for review, the related conclusions, recommendations and scientific contributions, I did not find the presence of plagiarism, as well as the illegal use of scientific materials by the candidate for the scientific degree "Doctor of the sciences".

I would like to make a recommendation to Prof. Maya Chipeva, Ph.D. On the basis of the comprehensive, in terms of volume and content, dissertation work and the conclusions and recommendations obtained from it, to prepare and issue a synthesized methodological manual, which will be of great benefit to sports educators!

Based on my familiarity with the dissertation submitted for review and the related documents of Associate Professor Maya Borisova Chipeva, Ph.D., I find it reasonable to propose to the Honorable Scientific Jury to award her the scientific degree "Doctor of Sciences" in a professional direction 1.3. Pedagogy of training in... (Methodology of training in physical education and sports).

06. 05. 2023, Sofia

Prepared the review: ……………………………….

Prof. Kiril Atanasov Aladjov, Dr. Sc.