

REVIEW

of a dissertation,

for the awarding of an educational and scientific degree "doctor" in the field of higher education
7. Health care and sports, professional direction 7.6 Sport.

Author: Todor Minkov Todorov

Subject:

"METHODOLOGY FOR PHYSICAL TRAINING OF WORKERS THROUGH ROPE ACCESS"

Reviewer: Prof. Valentin Garkov, Ph.D

Todor Todorov was born on October 7, 1962 in Pernik. Throughout his conscious life, he was directly connected to sports and, in particular, to mountaineering and climbing. He has remarkable achievements as an actively practicing mountaineer - climbed an eight-thousander, crossing some of the most difficult climbing routes in Bulgaria and Europe. During the time he worked as an assistant in the Department of TAO, Todorov handled his duties extremely professionally. He is actively involved in the department's events, and this is especially evident in the conducted TAO courses. A natural extension of his interests in mountaineering are his scientific interests.

The dissertation submitted to me for review is 140 pages long, illustrated with 28 figures, 33 tables and author's photographs.

The used literature contains 36 sources, of which 18 in Cyrillic, 7 in Latin and 11 internet sites.

Structurally, the dissertation includes an Introduction and four chapters - CHAPTER ONE - STATEMENT OF THE PROBLEM contains 11 subchapters. CHAPTER TWO - OBJECTIVE, TASKS, ORGANIZATION OF THE RESEARCH AND METHODOLOGY FOR PHYSICAL TRAINING contains 7 sub-chapters. CHAPTER THREE – RESULTS AND ANALYSIS has seven sub-chapters. CHAPTER FOUR - CONCLUSIONS AND RECOMMENDATIONS.

The paper also contains three appendices - No. 1, Questionnaire card, No. 2, Table for the study of the motor qualities of rope access workers and No. 3, Description of the exercises from the specialized methodology for physical training of rope access workers.

The urgency of the problem, the clearly defined goal and the specific tasks, as well as the correct research methodology form the prerequisites and merits of the scientific work of colleague Todor Todorov.

CHAPTER ONE the dissertation begins by saying, "It is important to know the history of labor activities and to see where and how it all began." Following this paradigm he takes us through time, starting from about 400 BC, to the present day, when the idea of "...minimum requirements for the safety and health of workers when using work equipment in the workplace

and regulating rope access work" was postulated and channeled and when the Industrial Rope Access Trade Association (IRATA) was established and Association of Alpine Method Workers (ARAS).

Consistently, in 11 sub-chapters, the author traces the main stages in the emergence of the need to work at height with relevant safety rules. A successful attempt was made for "Occupational characteristics of occupations using rope access technology" (1.3), where the main areas of work with rope access are listed.

In subsection 1.4. entitled "The general and specific physical training of height technicians - a leading factor for professional realization", an attempt is made to bring out the basic physical qualities for practicing work by rope access. The author relies on two of the main physical qualities - strength (in various manifestations), endurance (general and special) and agility, as a complex motor quality.

In the following subchapter 1.5, the dissertation examines body movements during work at height from an anatomical point of view (descriptive, without illustration).

Subchapters 1.7, 1.8 and 1.9 analyze the types of training in the sector and the organizations conducting such training in our country - Training under the ARAS system and Training under the IRATA system. Individual qualification levels and training programs are tracked. The specific requirements for the training of rope access workers and the procedures for assessment and conducting exams at the various levels are determined.

In 1.10, a successful attempt is made to bring out the main problems in the training of personnel to work with rope access.

In subchapter 1.11, a Working Hypothesis is derived. In its entirety, it corresponds to the logical equation "If/It" and reflects the main idea of the dissertation.

CHAPTER TWO - has been reformulated after the internal defense and is now entitled: METHODOLOGY, METHODOLOGY AND ORGANIZATION OF THE RESEARCH.

In this chapter, there is a discrepancy in the numbering of the subchapters in the table of contents and in the text. "Methodological concept of the study - aim, tasks, area, subject and object" in the table of contents is marked with Roman 2, and in the text it is as sub-chapter 2.1. I take this as an oversight on the part of the dissertationer (author).

Subchapter 2.1.1. is entitled "The methodological basis of the study". As with internal defense, I'm not sure now that this subheading should exist at all. By default, any dissertation should be written on the basis of the philosophy of knowledge, or as it is bracketed, general scientific knowledge. The indicated approaches to solving specific research tasks, as well as to the "inspection" (whatever that means) of various concepts have already been specified and partly clarified. The last sentence again ends with "etc", implying that other approaches were used which were not mentioned or in the dissertation's opinion were not important!?

The objective (2.1.2.) of the dissertation is correctly defined and is in line with the title. After editing, a tautology was obtained (I quote: The purpose of research is research...) In my opinion, the word "verification" (Establishment, verification of the truth) should have been dropped from the purpose defined in this way. In education, verification is understood as the application of exams, control tasks, course assignments, surveys, inspections, etc.). Perhaps the term "approve" would be much more appropriate!

The 4 tasks derived in the most general sense satisfy the essence of the dissertation work and help to realize the goal.

In subsection 2.1.4. Field, subject, object and subject of study, again the term "psycho-physiological requirements" appears as part of the postulated "Area of Study". In the dissertation we do not find anything regarding the psychological touch in terms of analysis, purpose or tasks. If the dissertation student wishes, he can explain why?

In fig. 5, the distribution of the examined persons (58 male persons) into two groups - Experimental and Control - is presented.

Subchapter 2.2. The methodology (instrumentary) of the study includes a complex methodology formed by the following methods:

◇ Theoretical-logical methods;

◇ Sociological methods;

◇ Sport-pedagogical methods;

◇ Mathematical and statistical methods.

The new subchapters included in the dissertation are 2.2.3. Functional-anatomical analysis (to help solve the third task) and 2.2.4. Sports-pedagogical observation and assessment, are the result of the remarks on the internal defense and I find it appropriate.

In sub-chapter 2. 3., the methods of research of motor qualities are presented separately. The description of each of the methods used is sufficiently (if not very) detailed and professionally done. This most fully refers to the methods of studying motor qualities, where I also find one of the most serious contributions of the dissertation.

The used statistical-mathematical methods of analysis of the results in 2.4. are more than sufficient. They are used competently and help to correctly interpret the results of the study.

In 2.5., the organization of the research in the period 2019-2021 is described.

In 2.6., the main limitations and problems in the doctoral student's research work are pointed out.

Subchapter 2.7. describes the applied methodology for physical training of rope access workers. Three phases (periods) are performed, within 4 months after the end of the active working

season. The training program (exercises, number of repetitions, series, methodological instructions, etc.) for each of the periods is described in detail.

CHAPTER THREE – RESULTS AND ANALYSIS

The analysis of the results begins with the survey (3.1), the purpose of which is to establish the attitudes and opinions of rope access workers regarding the necessary motor qualities at work and the need for good physical training. It was conducted with 58 men working with rope access. The persons studied undoubtedly define endurance, strength and agility as the most necessary motor qualities in working at height. The conducted survey clearly shows the need for a targeted methodology for physical training for those working with rope access.

The analysis of the results of the motor tests included in the study (from 3.2 to 3.7) show unequivocally that after the classes conducted according to the presented innovative methodology, the experimental group has a significantly higher growth compared to the control group. This is also confirmed by the statistically processed data. Without going into an unnecessary and detailed comment, here I find confirmation of the correctness of the means and methods of influence included in the methodology.

CHAPTER FOUR - CONCLUSIONS AND RECOMMENDATIONS. Based on the presented information and the obtained results, 4 conclusions were made and 3 recommendations were made. The conclusions derive from the main idea of the dissertation work and are based on the completed tasks (perhaps without the second task). The main positive effects of the applied methodology on the qualities that determine the optimization of the work process for height technicians are deduced.

The three recommendations are logical and are correctly addressed to the three parties in the preparation and realization of the personnel in the work through rope access - the workers (trainees), the trainers and the employers.

Of the three applications, the most important in my opinion is APPENDIX 3. Description of the exercises from the specialized methodology for physical training of rope access workers. Here I discover the essence of the proposed innovative methodology, where 27 exercises for impact are presented with a description and appropriate photo material.

The author's abstract of doctoral student Todor Todorov has been prepared in accordance with the requirements imposed in scientific practice. Briefly presents all components of the dissertation work and reflects the essence of the development. The documentation presented to me for review proves that there are no violations in the defense procedure. No unacceptable limits of plagiarism have been established. I have a note about the cited bibliography and citation in the paper as well. Most sources are cited correctly, but there are some that I did not find in the text (internet sites), and the source (Zhelyazkov Tsv., D. Dasheva, 2017) is cited repeatedly (20, 21, 22 pages) in the text, but is missing in the bibliography. I believe that these errors are of a formal nature and do not significantly affect the quality of the dissertation work.

REVIEWER'S FINAL OPINION

In conclusion, regardless of the critical remarks made and the indicated weaknesses, I believe that the proposed dissertation for the acquisition of the ONS "doctor" in professional direction 7.6. sport, meets the requirements of the Law on the Development of the Academic Staff in the Republic of Bulgaria. The dissertation contains scientific and applied scientific results that represent an original innovative and confirmatory contribution to science. In addition, the dissertation demonstrates that the candidate has sufficient in-depth knowledge of the specialty and the ability to conduct independent research. For these reasons, I will vote to award doctoral student Todor Minkov Todorov the Educational and Scientific Degree "Doctor".

November 16, 2022

Reviewer:

/ Prof. Valentin Gharkov /