

REVIEW

of a dissertation thesis: "**The effect of extracurricular activities on the physical fitness of 15-16 year old students**", for the award of an educational and scientific degree "PhD (doctoral degree)" in professional field-1.3. Pedagogy of training in (Methodology of training in physical education and sports)

Doctoral student: Martin Yordanov Yordanov

Research supervisor: Prof. Georgi Vladimirov Ignatov, PhD

Reviewer: Prof. Ivan Yotov Yotov PhD

1. General presentation of the procedure.

The analysis of the documents in the procedure shows that the doctoral student Martin Yordanov Yordanov has submitted a complete set of documents in digital format that are in accordance with the Law on Higher Education, the Law on the Development of the Academic Staff of the Republic of Bulgaria. Art. 24, para. 8 and para. 9 of the Regulations on the terms and conditions for acquiring scientific degrees and holding academic positions at the Sofia University "St. Kliment Ohridski", decision of the meeting of the Council of the Department of Sports from 11.01.22. (protocol 9) and report of the director of the Department of Sports with entry No. 70-19-11/12. 01. 2022, as well as all accompanying documents, which fully fulfills the administrative requirements related to the procedure.

2. Relevance of the topic, structure and comprehension of the problem.

The selected and developed topic of the dissertation has a complex orientation and is of significant importance for the affirmation of physical education and sports in extracurricular forms of educational and training activities, with a view to improving the physical fitness of students.

The well-established model and structure generally accepted for this type of scientific work follows. The dissertation work is developed on 175 pages, includes 43 figures, 32 tables and 17 appendices. A total of 137 bibliographic sources are cited, of which 108 are in Cyrillic, 22 are in Latin and 7 are from Internet sites.

The introduction introduces the problem of the importance of physical education and sports as a social phenomenon for improving physical activity, health and educational qualifications in the field of sports.

Chapter one "Status and statement of the problem according to bibliographic sources" is in a volume of 60 pages and includes 6 sections and 5 subsections directly related to the topic of the dissertation. In the first section "I.1. State and problems of physical education and sports in secondary education in the Republic of Bulgaria", a large number of sufficiently informative publications are summarized. The first large-scale European initiative for sport with strategic guidance on the educational and health benefits (including participation in sports activities and the impact of Covid-19) of physical exercise in its various forms is competently and thoroughly presented.

The goal of physical education is presented as a dynamic process, based on tasks of an educational, rehabilitative and educational nature. Strategies and programs for the development of physical education and sports in a long period from 1997 till present days in our country have been analyzed. I appreciate the critical attitude of the author regarding the lack of good material base, tools for controversial activity and ineffective control, facts that influence on the motivation of students and teachers.

In section I.2. the place and role of physical education and sports in extracurricular forms of work are considered, emphasizing the use of some approaches for their optimization. In this regard, in I.4. the doctoral student analyzes in theoretical and applied terms the concept of physical

fitness, as an immanent property that is determined by a person's genetic abilities and is influenced by a number of phenotypic factors.

The integrated scientific and factual information about the essence of sports training reveals the in-depth knowledge of Martin Yordanov about the development of physical qualities in an age aspect, sensitive periods and the application of new methodologies for their application in practice. The formulated "**Working Hypothesis**" is reasonably derived and based on arguments, gives grounds for the assumption that through the implementation of the developed program for additional motor activity, the physical fitness of 15-16 year old students will improve.

3. Aim, tasks and research methodology.

The goal is in accordance with the topic and working hypothesis and builds the guidelines of the research activity of the work - by implementing a developed program for additional motor activity, aimed at improving the physical fitness of 15-16 year old students.

Seven research tasks are clearly and precisely formulated, which successfully decompose the implementation of the set goal, while maintaining a balance between scientific and methodological-organizational research activities. The object, the subject areas and the researched persons are circumstantially characterized. The selection of subjects was non-purposive. The contingent of the research is 60 students from 9th grade (boys), divided into two groups - experimental and control. Data are appropriately integrated into unified tables.

The applied research methods are informative, sufficient in terms of methodological diversity and are adequate to fulfill the set goals and objectives. 14 main tests are summarized and measured in accordance with the experimental activity. Supplements of the obtained results are placed in "Appendices".

4. Results and Analysis.

The third chapter "**Analysis of results**" is developed in 54 pages. It presents the results of the author's realized research activity on a previously developed program for additional motor activity with 15-16 year old students. I appreciate the surveys conducted with 9th grade students, as well as with teachers of subjects other than physical education. The attached test battery is adequate to the conducted experimental activity.

The results of mathematical processing through variation and correlation analyses, values of the As and Ex coefficients, the Kolmogorov-Smirnov indicator distribution coefficient, as well as the Student's t-test for dependent and independent samples, are presented. An original analysis of the survey of students and teachers is presented, which reveals the positive attitude of students - 58% towards extracurricular activities, a fact that confirms the working hypothesis of the doctoral student. On the opposite site is the opinion of teachers in subjects other than physical education - 54% of whom believe that it is not necessary to conduct additional physical education classes, while 43% are of the opinion that additional hours will improve the health status of students.

Features and comparative analyzes of the structure and content of the applied experimental model of training activities in extracurricular forms of work are included. The comparative analyzes of the individual indicators are presented in detail. It is noteworthy that in most of the obtained results there are statistically significant differences in favor of the experimental group. Correlation analysis reveals the degree of interrelationship between motor qualities, which is a good guide for teachers when choosing exercises.

The performed comparative analyzes of the effect of the applied program for extracurricular work in physical education give us reason to state that the proven credible differences are relevant and realizable in the specific model for sports practice.

5. Conclusions and recommendations.

The conclusions and recommendations derived from the obtained and analyzed results correspond to and provide answers to the set goal and research tasks.

Taken together, they cover vast subject areas of research and are both original and confirmatory in nature.

To the first group I include the results obtained from the survey conducted with 15-16 year old students, which show some interesting trends regarding the implementation of the subject "Physical Education" in the Bulgarian school, as well as extracurricular activities with sports.

In the second group, with the corresponding statistical significance, the doctoral student proves the effectiveness of the program for additional motor activity developed and implemented in practice, which improves the physical fitness of the students from the experimental group.

In a confirmatory way, I evaluate the conclusions and recommendations reached as a result of the applied scientifically-based approach in the implementation of the program with the experimental group.

6. Nature of scientific contributions.

The analyses, conclusions and recommendations also contain a number of partial and scientific-applied contributions, which the doctoral student integrates in three main areas:

- The results of the survey of 15-16 year old students and non-specialist physical education teachers have been established.
- The experimental activity is characterized in the results of a conducted pedagogical experiment.
- The developed program is up-to-date, has an original nature and is subject to implementation in practice.

7. Evaluation of the abstract and publications.

The abstract is structured and reflects the content of the dissertation in a summarized way. The separate main parts of the work - research - working hypothesis, purpose, tasks and research methods are presented, to the essence, namely: obtained results and analyses, formulated conclusions, recommendations and scientific contributions.

The doctoral student has fulfilled the requirement for publicity of the work before the official thesis defense by presenting four publications, of which two are independent and two are co-authored. They reflect parts of the results, analyzes and conclusions of the dissertation work, which allows to build an objective initial idea of the process of its creation.

8. Critical Notes.

None

9. Conclusion.

Martin Yordanov's dissertation is a complex theoretical-experimental work that contains original scientific and scientific-applied results, revealing the essence of educational and training activities in extracurricular forms of work in school physical education.

By means of a retrospective analysis of a large volume of data and a pedagogical experiment, supported by a survey method to reveal the attitude of students and non-specialist physical education teachers to extracurricular forms of physical education activities, a new approach has been established through the application of an experimental methodology to increase of the physical fitness of 15-16 year old students.

I vote with a positive vote **YES** and I propose to the honorable scientific jury to award the educational-scientific degree "doctor" to Martin Yordanov Yordanov in the field of higher education, in the professional direction - 1.3. Pedagogy of training in (Methodology of training in physical education and sports).

6. 03. 2023

Reviewer:

Prof. Ivan Yotov, PhD