

# PHYSICAL EDUCATION AND SPORTS

 DOI 10.51582/interconf.19-20.11.2024.052

## Professional and applied physical training as a component of physical education for students

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### **Abstract.**

In the field of physical education, an essential principle has always been the idea of its connection with professional activity. This principle is most concretely embodied in professional and applied physical training. The purpose of this study is to analyze the results of research by experts who have studied the issue of professional and applied physical training for students in higher education institutions. It was established that in the theory of physical education, professional and applied physical training is considered a pedagogically directed process aimed at developing specialized physical readiness for future professional activities. The positive impact of professional and applied physical training is believed to be based on the mechanism of enhancing those functional capabilities of the human body that are essential for adaptation to specific working conditions. The most thoroughly developed area of research in this field focuses on issues related to professional and applied physical training for students in specific specialties.

### **Keywords:**

*physical education*  
*professional and applied physical training*  
*physical education tools*  
*professional activity*

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An important component of student training in higher education institutions is professional and applied physical training, which contributes to the development of physical qualities and the formation of motor skills necessary for future professions.

In the theory of physical education, it is viewed as a pedagogically directed process to develop specialized physical readiness for future professional activities. The positive impact of professional and applied physical training is based on a mechanism that enhances those functional capabilities of the human body essential for adaptation to specific working conditions. This involves transferring the benefits of training from the field of physical education to the professional sphere. This phenomenon is observed both in the formation of motor skills and in the development of physical qualities.

In the field of physical education, the concept of "professional and applied physical training" has been known for a long time. A large number of studies have been published that examine various aspects related to this topic. For instance, L. P. Pylypei [1] developed a general concept and provided a theoretical and methodological foundation for the basics of professional and applied physical training for students. Issues related to the professional and applied physical training of students in specific specialties have been studied by R. T. Raievskiy [2], O. I. Podlesnyi [3], Yu. O. Ostapenko [4], Yu. O. Dotsenko [5], N. V. Petrenko [6], O. M. Olkhoviy [7], Ye. O. Karabanov [8], T. V. Lyudovik [9], I. O. Asauliuk [10], and others. All studies confirm the effectiveness of professional and applied physical training as a means of preparation for professional activities. Researchers emphasize the need to improve the content of the course "Physical Education," highlighting the necessity to significantly enhance its professional focus. This involves reallocating instructional hours in favor of professional and applied physical training. At the same time, specialists note that there is no direct correlation between an increase in physical fitness, on the one hand, and productivity, on the other. Physical fitness serves as a prerequisite for successful professional performance and manifests indirectly.

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A direct relationship between these indicators is observed when there is a targeted development of both physical and professional qualities.

The main means of professional and applied physical training for professional activities are physical exercises. Various approaches to the classification of professional and applied physical training tools are found in the scientific literature. V. I. Ilyinich proposed grouping all professional and applied physical training tools as follows: a) applied physical exercises and individual elements of various sports; b) applied types of sports; c) natural health factors and hygienic factors; d) auxiliary means that ensure the quality of the educational process in the area of professional and applied physical training (such as training devices and specialized technical equipment).

Yu. O. Suvorov and V. O. Platonova identify traditional physical exercises in physical culture, as well as exercises modified to suit the specifics of particular professional activities, as the main tools of professional and applied physical training. They caution against absolutizing exercises that are similar in form to professional labor movements as means of professional and applied physical training. These authors also highlight professional and applied gymnastics and sports as tools for professional and applied physical training. At the same time, Yu. O. Suvorov and V. O. Platonova emphasize the significant role of general physical training methods in professional and applied physical training. They also include hardening, special hygienic measures, and other means to enhance the level of adaptive capacities of the body and resistance to adverse influences of specific professional conditions (such as training in thermal chambers and barometric chambers, artificial ultraviolet irradiation, specialized nutrition), as well as means for intellectual education, moral upbringing, and specialized psychological training.

Yu. O. Ostapenko [4], in his work dedicated to the study of professional and applied physical training for students in information and logic specialties, proposed the following means of professional and applied physical training for this group of students: (a) models of physical exercises for the

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development of general physical fitness; (b) models of physical exercises for the development of specific physical and psychophysiological attributes; (c) models of physical exercises that contribute to the prevention of occupational diseases and the optimization of students' psychophysiological state. These means have been used to develop both professionally significant physical qualities (general and static endurance, hand and finger movement speed, strength characteristics) and psychophysiological qualities (visual acuity, visual and auditory-motor reaction, attention concentration, attention shifting, and attention stability).

T. V. Liudovyk [9] developed an authorial program for professional and applied physical training, which is focused on addressing the following key tasks: a) the development of specific professional skills and physical qualities; b) the enhancement of the functional capabilities of the body, which manifest during productive activity; c) the increase of the body's resistance to negative factors associated with productive activity; d) the expansion of the repertoire of movements similar in structure to production operations; e) the cultivation of volitional qualities that are expressed in productive activity; f) the formation of knowledge about the patterns of changes in work capacity under specific working conditions; g) the development of skills in using physical exercises for recovery after productive activity.

To address the stated tasks, T. V. Liudovyk utilized the following means of physical education: a) general preparatory exercises (exercises aimed at improving underdeveloped physical abilities and exercises for the development of other physical qualities); b) auxiliary exercises (which, in structure or content, corresponded to competitive exercises); c) specially preparatory exercises (selected to ensure that their content closely resembled the professional movements of specialists in the field of "micro and nanoelectronics"); d) competitive exercises from sports such as karate, swimming, and badminton (which involved performing a set of movements that were part of the sports specialization).

A thorough study of professional and applied physical training for students in higher education institutions was conducted by L. P. Pylypei [1]. He emphasizes that the issue

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of professional and applied physical training has been developed for specific specialties, and a significant number of studies have been conducted. The researcher raises the question of the necessity of classifying specialties to justify and systematize the directions of training and specialization in accordance with the requirements of the professional and applied physical training system for students in higher education institutions. To address this issue, L. P. Pylypei developed and experimentally tested his own concept for designing and structuring the professional and applied physical training of students in Ukrainian higher education institutions based on their professional orientation. Taking the theory of functional asymmetry of the brain, the cyclicity, and the peculiarities of the rhythms of human brain processes as a criterion, the author of the concept grouped various directions of specialist training into six groups of specialties: information-logic, communicative, creative-imaginative, extreme, technical, and natural-agrarian. For all six groups of specialties, L. P. Pylypei developed models of means for professional and applied physical training.

The main conclusions of the research are as follows:

1. Physical education has a significantly positive impact on the level of preparation of students for their future professional activities.

2. Professional and applied physical training is one of the most important components of the physical education of students.

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