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CURRENT ASPECTS OF PROFESSIONAL AND APPLIED PHYSICAL TRAINING OF STUDENT MUSICIANS

The article considers the theoretical, methodological and applied aspects of building the process of vocational and applied physical training of students of higher educational institutions. One of the foundations of state policy in the field of physical culture and sports is the provision of conditions for supporting the areas of physical culture and sports. The formation and implementation of state policy in the field provides a list of indicators of the state of development of physical culture and sports, namely indicators of the level of: physical health of different population groups. The areas of training of specialists in higher education institutions in accordance with the requirements for psychophysiological features of professional activity, as well as programs, models of means of developing psychophysiological qualities and the algorithm of their use in the educational process are considered. To reveal the basics of designing programs of professional and applied physical training of students. Peculiarities of programming, modeling, management of the system of vocational and applied physical training of students in the system of higher education were studied. The obtained data indicate that physical fitness contributes to ensuring the training of the students' body and thereby creates the basis of the professional performance of student musicians.

Key words: professional-applied physical training, musicians, muscle fatigue, physical fitness, motor activity, harmonization, adaptation, psychophysiological state, somatic human health.

Introduction. Students, as future specialists who actively influence the future of the state, must not only have a high level of professional training, but also be physically hardy, able to work and healthy [1; 6]. The large volume of their daily and weekly workload leads to a systematic accumulation of fatigue, a decrease in the amount of motor activity, and, accordingly, there is a tendency to the deterioration of the health of students who study in various educational institutions, in particular musical educational institutions.

Work experience and a significant number of publications show that 50–60% of young professionals after graduating from a higher educational institution do not have a sufficient level of development of general and professional-applied physical abilities. They lack motivation and understanding of the values of physical culture as an important resource for maintaining health, which leads to a decrease in work capacity [3; 4]. This indicates that the organization of professional and applied physical training does not yet meet the modern requirements and quality standards of professional education and is implemented, as a rule, at a typological level according to traditional approaches that do not sufficiently take into account the specifics of the target orientation of production activity [1; 3].

Analysis of special scientific and methodical literature shows that the vast majority of students have absolutely no desire for classes. The main reason is the lack of a differentiated approach to the typical exercises and loads offered to the student, the necessary stimulation for classes. Talks that physical education is good for health are abstract in nature due to the lack of specific (objective) criteria used in classes and the theoretical unpreparedness of students. The system of physical education does not

have not only a specific goal set expressed by objective criteria, but also information about the extent to which each specific result can be useful for achieving the final goal [3; 4].

The aim and task is to determine and substantiate the peculiarities of the selection of means of professional and applied physical training of students of music majors.

Research methods: analysis and generalization of data from literary sources.

Research results. Studying at a university for a modern young person is one of the most important periods of his life, personal growth and becoming a specialist with a higher education. Finding ways to successfully adapt to changed social conditions and new activities is an urgent problem for everyone who has crossed the threshold of a university. The learning process of first-year students at higher education institutions is characterized by the great dynamism of their mental processes, which is caused by the novelty of student status, the absence of a reference group, and a tense and rigid study regime. All this in a certain way affects the mental state of students and as a result can lead to the emergence of stressful conditions in them, accompanied by internal tension. The main type of student activity is professional training, which is becoming more complex in terms of form and content, the demands on the part of the teaching staff are increasing, the volume of independent work and self-responsibility is increasing, which in some cases causes first-year students to experience adaptation stress, which significantly disrupts personal professional development of future specialists. The ability of first-year students to adapt, overcome difficulties and constant workloads, counteract the influence of stressful factors, find their place in the life space of a university is a decisive factor in the successful development of a young person and his professional growth in the conditions of a higher school.

The ever-increasing intensity and tension of the modern life of a first-year student at a university manifests itself at the psychological level in an increase in the frequency of negative emotional experiences and stress reactions, which, accumulating, cause the formation of pronounced and long-lasting stress states and reduce the ability of students to their professional self-realization.

Adaptation of the future teacher-musician to study at the university is a process of adaptation and restructuring of energy, information, operational and other personal structures and systems of the subject of activity for his effective self-regulation, self-expression and self-realization at individual stages of professional development. Psychological adaptation is characterized by an emotionally stable attitude to negative factors of activity, to professional successes and failures. Social adaptation is reflected in the processes of assimilation of behavioral norms that are characteristic of a certain social group. Among the mechanisms of adaptation, self-esteem occupies an important place: an inflated one provokes the setting of goals that exceed the possibilities, an underestimated one – passivity and fear of responsibility. Therefore, successful adaptation involves, firstly, the acquisition of knowledge, abilities and skills, the formation of competence and mastery; secondly, a change in the mental organization of a person – cognitive (sensory, perceptive, mnemonic) and personal processes (motivation, goal-setting, emotions).

It is known that the large amount of daily and weekly workload of students leads to systematic accumulation of fatigue, decrease in the amount of motor activity, and accordingly, there is a tendency to the deterioration of the health of students who study in various educational institutions, in particular, music education institutions. Every year, as practice shows, the number of those working in special medical groups increases. It was established that the number of preparatory and special medical groups increases from 5.36% in the first year to 14.46% in the fourth. Accordingly, there is a decrease in the number of students of the main groups: from 84.0% to 70.2%. Almost 90% of young musicians have deviations in their state of health, and more than 50% have unsatisfactory physical fitness [1; 4; 5].

Despite a wide range of research, scientists are united in the fact that in order to improve the physical condition of students, it is necessary to increase their motor activity. However, analyzing the state of physical education of student musicians, one can see that most of them usually do not have the need to take care of their own health. Therefore, the issue of introducing physical culture and sports into the daily life of student musicians is acute [1; 4].

Pedagogical foundations of PFP as a component system and physical education are based on the regularities of adaptation processes that take place in the systems of the body, as a result

of which the human body as a whole system acquires new qualities, which are manifested by the formation of motor skills and skills, functional possibilities of their improvement. There is a mobility of reactions that adapts to changing environmental conditions. Thus, in the process of adaptation of the human muscular system during physical exercises, various adaptation processes occur depending on the structure of muscle tissue, slow-twitch fibers, or fast-twitch muscle fibers. This causes specific adaptations in the neuromuscular system, and the degree of adaptation depends on the training programs. The composition of muscle fibers and motor units are genetically determined. All types of muscle fibers have characteristics that change during training and aging. So, the content of slow and fast twitch fibers in all muscles of the body is not the same.

Prolonged stay in conditions of static nervous tension leads to hypodynamia. When explaining the impact of hypodynamia on the human body, science proceeds from the postulate of a close relationship between motor and vegetative functions. Long-term reduction of motor activity, which is accompanied by excessive restriction of the functioning of the motor analyzer – the main internal analyzer in the cortex of the cerebral hemispheres [4, p. 138], leads to a sharp decrease in proprioceptive stimulation of the body, the activity of its internal organs and systems. This causes significant suppression of the functions of the nervous system, endocrine glands, and internal organs. With excessive and long-term effects of hypodynamia, morphological disorders appear in the activity of the nervous, muscular, cardiovascular, respiratory and other systems of the body, in the mental and muscular activity of a person. Excessive restriction of motor activity is one of the factors causing a state of emotional overstrain, i.e. stress [3, p. 165], which is characterized by the course of three stages (phases):

- 1) anxiety reaction;
- 2) increased resistance (adaptability);
- 3) reduced resistance or general exhaustion of the body.

One of the effective means of maintaining the physical and mental health of female students is fitness with the most popular programs of types of aerobics, such as step aerobics, aqua aerobics, aerobics on balls (fitball), Pilates, etc., which are aimed at correcting body weight and removal of the fatty layer. Regular vigorous exercise in combination with proper nutrition can support the necessary balance of hormones, preserve muscle tissue and improve blood circulation, that is, create conditions that prevent the accumulation of excess fat [2; 4; 5].

As shown by the research of such authors as A. Osiptsov, T. Prystlenska, A. Tradadyuk [5, p. 181], the existing system of physical education in universities is built on principles and programs borrowed from sports practice and various types of sports, which are not sufficiently adapted to the processes the formation of tasks of physical culture, professional training, and the conditions in which educational institutions are located. The result of such borrowing is the regulatory requirements for skills and abilities in certain sports, such as gymnastics (exercises on projectiles), athletics (jumping and throwing techniques), which are late to start learning, can only be improved according to the age and psychophysiological characteristics of students, development physical qualities and study of technique in various sports among young men and women aged 18–23 [5].

The use of various types of physical activity in the educational process of musicians will contribute to the prevention of diseases, increase work capacity, increase life expectancy, organize full-time leisure, fight against bad habits, create conditions for learning about one's own capabilities and ensure optimal amounts of motor activity.

Physical education in musical educational institutions is an extremely important process, which should be aimed not only at the development of physical, but also mental qualities of a musician, as well as at the formation of motor skills and skills that are characteristic of representatives of a particular musical profession [1; 3; 4].

The educational and professional activity of students of music universities has a number of features that are related to the specifics of the profession, which requires a differentiated approach to solving pedagogical tasks.

The process of physical training of future specialists with a musical education should combine general and special (professional-applied) physical training, that is, be versatile and comprehensive. These two types of training should go parallel throughout the training period [1; 3].

General physical training creates prerequisites for successful professional activity and indirectly appears in it through such factors as health status, degree of physical training, adaptation to working conditions. That is, the general physical training of students should be aimed at strengthening their health, increasing the level of comprehensive physical training and developing basic physical qualities.

Professional and applied physical training as an important component of the process of physical education of young musicians is designed to increase the body's resistance to adverse, specific conditions of professional activity, to develop willpower and other psychological qualities needed in the chosen profession, to form motor skills and skills used in this type of activity. That is, its main purpose is the development and maintenance at an optimal level of those leading mental and physical qualities of a person, which are required by musical activity [2; 4].

Musicians' PPE programs, first of all, should take into account the physiological characteristics of those factors that determine the specifics of musicians' work, i.e.: the specifics of working posture and movement acts, the workplace, as well as the position of the body, legs, arms, and head [2].

Special classes on PPE of musicians can be implemented in the form of individual tasks with the inclusion of special exercises in the complex of independent gymnastics, as well as the performance of special exercises in the training process of a certain type of sport [3; 4].

Purposeful use of recreational activities in the mode of the school day, mass physical education and recreational work is of great importance for the effectiveness of solving the tasks of PPE. The organization of these events should be related to the solution of the main tasks of training students, taking into account the stage of study. When choosing a sport, it is necessary to take into account its influence on the development of the necessary professional physical and mental qualities of musicians, as well as take into account their individual morphofunctional and personal qualities, inclinations, interests and desires [2; 4].

When choosing special physical exercises, you should take into account the features that are inherent in this or that musical profession. Thus, the professional activities of pianists and string players, as performing musicians, have common features. However, each of them has its own specific features. When playing the piano, violin, cello, viola, double bass, accordion, folk stringed instruments, the movements of the hand and fingers play an important role [1; 4].

Playing the piano and stringed instruments requires speed, dexterity, coordination and precision of shoulder, forearm, and especially hand and finger movements. Therefore, exercises for the development of fine motor skills, which can be performed without anything, or using various objects and devices, are important for this category of musicians. Do not abuse strength exercises that can lead to a decrease in amplitude and mobility in these joints [1; 3].

The high speed of the motor reaction is one of the professional features of the motility of musicians, especially pianists, which is due to the peculiarities of the technique of playing musical instruments. So, for example, those who play the piano have a shorter latent motor reaction period than those who do not play the instrument.

A characteristic feature of the work of musicians is that all their work takes place in premises that sometimes even lack proper sanitary and hygienic conditions. In addition, the time of practicing the instrument is often irregular, especially for those musicians who have "virtuoso performance", that is, whose dexterity is manifested in highly coordinated movements and in the ability to switch from one motor action to another [2].

Professional musical activity is associated with a steady decrease in physical exertion (hypokinesia), a long stay in a forced standing or sitting position. In musicians, the disproportion between psycho-emotional activity, which is constantly increasing, and physical activity, which is becoming less and less mandatory, is increasing [4].

So, for example, a sitting position is typical for pianists, in which they stay for hours (4–6 hours every day). Deficiency of muscle loads, reduction of physical muscle efforts and their replacement by

static ones in such naturally mobile parts of the body as the lumbar region and neck, leads to detraining of the spinal "muscle corset", weakening of the spring function of the muscles. The forced working position while sitting with the head constantly tilted and the arms extended in front of the body usually leads to significant overloads of the cervical and thoracic spine. Against this background, the axial load on the spine increases, the intradisc pressure in a sitting position with a straight back is about 140 kg, which creates conditions for its micro-traumatization and overload. These overloads contribute to the functioning of the muscles in a tonic mode, that is, their spasm occurs and, as a result, stagnation in the tissues [3; 4; 6].

This indicates the need to develop the ability to maintain high performance in conditions of hypokinesia, the need to develop the static endurance of muscles that are exposed to great stress during sedentary work.

Thus, the musical profession makes certain demands on the strength of the trunk muscles. Insufficient development of the muscular corset leads to premature fatigue and functional changes in the musculoskeletal system: posture disorders, development of scoliotic disease [2; 4].

The professional activity of musicians-performers is associated with a large neuropsychological load. High emotionality can provoke the occurrence of both general and local fatigue and even nervous tension and sleep disturbances. Since it has been proven that systematic physical exercises increase neuropsychological resistance to emotional stress, support mental capacity – they are an important factor for successful musical activity [1; 4].

Conclusions. To activate the training process in a higher educational institution, it is necessary to confirm the applied value of physical exercises, justify motivated positive information, advertising with specific examples of the real usefulness of special physical exercises for students. The problem of harmonizing the system of motivational orientations of students and teachers with the strategy of PPFП is very urgent.

Thus, it is necessary to create favorable conditions for better adaptation of first-year students. Professional-applied physical training is the main means of achieving a person's psychophysical readiness for successful professional activity, and sets its own specific tasks, the development of physical qualities leading to musicians, the formation and improvement of applied movement skills, increasing the body's resistance to adverse conditions of professional activity and prevention professional diseases of musicians, education of specific moral and willful and other mental qualities of musicians.

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АКТУАЛЬНІ АСПЕКТИ ПРОФЕСІЙНО-ПРИКЛАДНОЇ ФІЗИЧНОЇ ПІДГОТОВКИ СТУДЕНТІВ-МУЗИКАНТІВ

У статті розглядаються теоретико-методичні та прикладні аспекти побудови процесу професійно-прикладної фізичної підготовки студентів закладів вищої освіти. Однією із засад державної політики у сфері фізичної культури і спорту є забезпечення умов для підтримки напрямів фізичної культури та спорту. Формування та реалізацію державної політики у сфері забезпечує перелік показників стану розвитку фізичної культури та спорту, а саме показники рівня фізичного здоров'я різних груп населення. Розглянуто напрямки підготовки спеціалістів у ЗВО згідно з вимогами до психофізіологічних особливостей професійної діяльності, а також програми, моделі засобів розвитку психофізіологічних якостей і алгоритм їх використання у навчальному процесі. Розкрито основи проектування програм професійно-прикладної фізичної підготовки студентів. Досліджено особливості програмування, моделювання, управління системою професійно-прикладної фізичної підготовки студентів у системі вищої освіти. Отримані дані свідчать про те, що фізична підготовленість сприяє забезпеченню тренування організму студентів і тим самим створює основу професійної працездатності студентів-музикантів.

Ключові слова: професійно-прикладна фізична підготовка, музиканти, втома м'язів, фізична підготовленість, рухова активність, гармонізація, адаптація, психофізіологічний стан, соматичне здоров'я людини.