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Features of Physical Fitness of Students in Higher Education Institution

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Abstract: In the process of studying at a higher educational institution, students go through many difficulties: a sedentary lifestyle, constant mental activity, lack of time for physical activity, fatigue, burnout, bad habits. A real helper in such a situation is Physical Culture and Sports, which are taught in higher educational institutions on a mandatory basis. Why sports are necessary for students and how they affect mental activity is the subject of this work.

Keywords: physical load, mental load, physical culture, working capacity, exercises, student.

The relevance of the work lies in the fact that many students do not fully understand why they need physical education, not only within the framework, but in general.

Purpose of the work: to investigate the influence of physical activity on the quality of mental activity of students of higher educational institutions.

To achieve the goal, the following tasks were set:

1. The study of the theoretical aspects of physical culture;
2. Analysis of available research in this area;
3. Study of the influence of physical activity on mental processes;

Scientific relevance and uniqueness: an analysis of the problem of the formation of physical culture of the personality of students was carried out in the context of the lack of a sufficient level of knowledge about the impact of sports activities on brain activity among students.

Studying is inextricably linked with the assimilation of complex and not always clear material, it requires a lot of effort on the part of the student, including perseverance, patience and the desire to acquire new knowledge. It is known that the educational activity of a student is about 36 academic hours, with the exception of physical education classes, all this time students spend mainly in a sitting position at their desks in classrooms or in laboratories. In addition, the educational process includes mandatory independent work with additional literature to consolidate the knowledge gained during the entire school day. All this contributes to a sedentary lifestyle of young people, and to the fact that the motor mode of students is limited only to physical education classes. And this adversely affects not only the physical, but also the psychological state of the body, in addition to this, the intellectual abilities of a person are reduced. After all, everyone has repeatedly faced the fact that during the day, with each new couple, it is more and more difficult to learn new material. This is due to the enormous load on the body and gradual fatigue.

It is known that intellectual activity requires much more energy than physical activity, although at first glance one might think quite differently. Consequently, doing mental work, the human body comes to a state of fatigue much faster. Fatigue is a common consequence of prolonged mental work. It occurs when quite a long work is carried out with insufficient recovery processes. Fatigue is a warning sign of possible overexertion. The systematic performance of work in a state of fatigue

eventually leads to chronic fatigue, which in turn affects the occurrence of overwork. Mental fatigue is the most harmful to the body and has a long recovery period. This is due to the fact that the human brain can continue to work even in an overloaded state, without letting you know about fatigue. Ultimately, this leads to a state of overwork. Together with numerous stressful situations, all this early decreases not only the cognitive functions of a person, but also his intellectual abilities. In this regard, a reasonable combination of labor and mental activity, together with the normalization of nutrition, good sleep, as well as periodic walks in the fresh air, is of great importance for maintaining the optimal physical and intellectual state of a person.

Modern science has established that physical activity affects the central nervous system continuously and in many ways. The systematic involvement of the muscular system in motor activity has a huge impact on the entire body. They do not have a selective, but a holistic effect on the body of the practitioner. In addition, physical activity stimulates the intellectual activity of a person, increases the productivity of mental labor. It turns out that optimal fitness is the key to successful human performance. It was found that the development of human intelligence is directly related to physical activity. Physical exercises can directly affect the human brain, thereby activating its individual parts. Combined training improves memory and concentration. Moderate, non-destructive, physical activity leads to stimulation not only of many organs and tissues of the body, but also to stimulation of the brain nerve cells, to accelerate the development and branching of neural processes (dendrites). Moreover, it was initially assumed that this effect extends to the areas of the brain responsible only for motor functions. But over time, in the course of scientific research, it turned out that this effect of the development of neural networks extends to other areas of the brain, including this has a great impact on the ability to learn, thinking and human memory. That is, during physical activity, branches of our nerve cells begin to intensively form and grow. Namely, their growth and development determine all intellectual processes in the human body. The implementation of brain functions is carried out through neural connections. It was previously believed that complex human neural networks are static. But a number of studies have shown that they are subject to change throughout life through mental and physical activity. This property is called "neuroplasticity". Physical activities tend to have a positive effect on the brain, we can say that they "change" it. That is, due to physical activity, you can improve your own mental abilities. In addition, few people know that with age, the number of nerve cells gradually decreases, but with sufficient physical processes, recovery processes are triggered, due to which new nerve cells are formed, which significantly improves the moral and physical condition of a person. Numerous scientific and practical studies have shown that even in the absence of training, simply walking, swimming or cycling lead to an increase in cognitive performance in various aspects of memory and perception. With such a slight change in lifestyle, you can achieve great success in improving the state of your intellectual abilities.

Physical activity of different directions and duration can have different effects. In general, they can be divided into three categories: light loads at the beginning of the school day, loads of medium intensity and loads of greater intensity. All of them differ in the degree of impact on increasing efficiency during the day and on the state of mental abilities during the day. Minor loads at the beginning of the school day contribute to an increase in the level of working capacity by 1.5-2 hours and maintaining it at an elevated level for the next 4-6 hours. Then, about 18-20 hours, there is a gradual return to the original state. The positive effect during the week is insignificant. Loads of medium intensity have the most beneficial effect on the human body. Thanks to this, the level of efficiency increases and is maintained at this level during the day, up to the time of self-preparation at home. In addition, a positive effect is observed for 2-3 days: performance is also higher than usual. Physical activity of greater intensity within an hour slightly increases the level of working capacity, but negative manifestations are observed during the week. Based on the above, we can make an unambiguous conclusion that systematic and balanced physical activity of a suitable level in conditions of increased tension definitely has a positive effect on the mental abilities of students. In addition, there is a beneficial effect on the state of the nervous system as a whole, improving mood and physical well-being. But despite this, the majority of young people and university students do not consider it necessary to monitor their physical health. Most likely this is due to insufficient awareness of the impact of physical activity on the intellect and the general condition and well-being

of a person. Therefore, one of the tasks of a higher educational institution is to familiarize students with the relationship of physical education and working capacity during the day. Summing up, I would like to note that physical culture has a wide range of effects on the general condition of students. Contrary to the generally accepted idea, physical activity has a positive effect not only on the growth and development of the muscular system, but also on the psychological state, working capacity and mental abilities. This positive effect can be especially strong during the session, when, in addition to intermittent sleep and irregular meals, the student spends most of the day sitting. All this together reduces working capacity, and at the same time has an adverse effect on the intellectual capabilities of a person, which cannot but affect the student's progress and the speed of his preparation for important tests and exams, and, consequently, getting positive grades. A long stay in a stressful state leads to overwork, which has an extremely negative effect on the functioning of the brain and other important organs of the human body. Properly selected complex training helps to cope with all this, which can increase the level of performance of young people, and they can also contribute to the development of intellectual abilities. Together with proper nutrition, good sleep, an organized daily routine and walks in the fresh air, learning for a student will be much easier than in the absence of the above factors. And in the absence of problems from the psychological side, this can help to successfully pass the required disciplines.

In modern times, in the context of continuous globalization and informatization of society, intellectual activity is becoming one of the priority processes carried out within numerous segments, including education. However, the widespread dissemination of information technology has caused a significant decrease in the level of physical activity among representatives of modern society, especially students, who are integral users in this area. This, in turn, provoked a relatively significant deterioration in their mental abilities, as evidenced by the data on the difficulty of teaching students. In this regard, there is a need to identify the impact of physical activity on the mental abilities of students.

As you know, study refers to a pronounced type of mental labor. Mental activity of a student usually takes place in conditions of low or insufficient physical activity. This leads to increased fatigue, decreased performance, and deterioration in overall well-being. Hence, the intellectual activity of students, inextricably linked with mental stress, makes quite serious demands on the physical condition of the organism. The physical education specialist must know and take into account a number of points relating to the main function of the student of his studies, especially the issues of activation of mental performance and the dynamics of its change.

Higher educational institutions are faced with the task of preparing highly qualified specialists who are ready to intellectually and physically develop themselves in a rapidly changing environment of professional relations, able to quickly navigate the features of their specialized activities and adapt optimally to it.

This problem is relatively young, but the study of the relationship between physical activity and intellectual activity has already begun to be carried out in the 19th century. Thus, the Russian biologist P.F. Lesgaft established the importance of a complete correspondence between intellectual and physical work. And thanks to the physiological examination of outdoor activities, which was conducted by the Russian scientist I.M. Sechenov, important principles for the organization of recreation during mental activity, which are associated with active physical labor, were formed.

To date, various studies continue to be carried out on this issue and more and more new facts are being discovered that show the effectiveness of physical activity in relation to its role in the development of mental abilities. It has been proven that the effective activity of the brain requires that it constantly receive impulses from various body systems, almost half of which consist of muscle tissue, thanks to which many nerve impulses enter the brain. These impulses enrich the brain and keep it in working condition.

Initially, scientists assumed that physical activity stimulates certain areas of the brain, namely those responsible for motor functions. But gradually, experts came to the conclusion that during physical activity, the development of neural connections occurs in other parts of the brain. And first of all, as

it turned out, these areas include those that are responsible for the processes of learning, thinking, memory and concentration. Indeed, these processes are the basis in the formation of mental abilities of students. Thus, under the influence of physical exercises, the amount of memory increases, the stability of attention increases, the solution of elementary intellectual tasks accelerates, visual-motor reactions accelerate, which contribute to more efficient processing of information by students.

Mental abilities of students are directly dependent on the mental state of students. With moderate physical exertion, adrenaline and endorphins are released into the blood, which has a positive effect on the emotional component of students' life, contributing to the optimization of all processes of their activity. Also, one should not forget about purely psychological factors, such as the adaptation of students to a new environment. Interaction with fellow students should not cause discomfort and depressed morale, since for maximum productivity a person needs to feel at least comfortable in the environment in which he spends most of his time. Group sports allow you to build relationships with a new circle of friends and improve morale. Such activities include various sports games, dancing, martial arts and other sports activities. In addition, sports games can help students relax and take a breath after strenuous activities, cheer up, and also develop endurance and strength qualities.

The educational activity of students is a vivid example of mental performance, which includes the types of work associated with the reception and processing of information. A feature of educational activity is that during the educational process, students have a strong excitation of the brain in a relatively small area of nerve centers, which causes them to quickly fatigue. Prolonged work in such conditions causes inhibition processes, and nervous excitation gradually arises in many muscles, which subsequently can lead to excessive muscle tension, which also affects the psyche of students. It is physical exercises that can save the student's body from such muscle tension and mental fatigue, which has a positive effect on the further formation of his mental abilities.

If it were possible to achieve a clear understanding by most people that physical activity and sports, for example, for students, are a necessary condition for the normal development of their mind and body, that the vast majority of physical and mental diseases are somehow associated with immobility and obesity, that physical activity relieves stressful conditions, increases working capacity, reduces the level of aggressiveness and, by this, it would be possible not only to stop the physical degradation of people, but also to significantly raise their level of health.

The content of classes with students of our university is based on the wide use of knowledge and skills in applying the means of physical culture, using sports and professionally applied physical training to acquire individual and collective experience in physical culture and sports activities. On them, students learn to regulate their motor activity, maintain the necessary level of physical and functional fitness during the training period, gain experience in improving and correcting individual physical development, learn to use the means of physical culture to organize active recreation, prevent general and occupational diseases, and prevent injuries.

The physical culture of students is formed due to very important areas, one way or another connected with the intellect, namely: the motivational sphere of the personality, the breadth and depth of theoretical and practical knowledge, skills and various skills in the field of physical culture. All this further develops the field of knowledge of students, forms a new knowledge base and valuable experience. And in general, sports activities contribute to the development of hard work, confidence, stress resistance, the will to win and determination in young people. Such character traits have a positive effect on the cognitive ability of students, and, consequently, on their mental abilities.

Recently, in practice, attention has been paid to such a form of physical activity as a physical culture break. It has a positive effect on the intellectual performance of students and their mental abilities. Numerous studies in this area show that the mental performance of students begins to decline by the middle of the school day. Considering the dynamics of students' working capacity during the school day, experts recommend taking a physical culture break after four hours of intensive intellectual activity. The duration of the physical culture pause should be at least 10 minutes. Some studies show that daily short-term gymnastics, athletics or physical education breaks, especially if the activities are held in the fresh air, improve mental performance and have a positive effect on student achievement.

Conclusion

The relevance of physical culture is caused by an increase and a change in the nature of the load on the body due to the complication of social life, an increase in the risks of a man-made, environmental, political and military nature, provoking negative changes in the state of health.

Summarizing the above, it should be noted that moderate physical activity and a properly selected set of physical exercises cause positive dynamics in the mental performance of students throughout the entire educational process and have a serious impact on the effectiveness of the development of mental abilities. At the same time, it should be understood that today more attention should be paid to the introduction of various methods to increase the share of physical activity in the educational activities of students.

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