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INCREASING THE LEVEL OF PHYSICAL PREPARATION OF STUDENTS THROUGH FITNESS EXERCISES

Ma'rufov Mansurbek Musajonovich
Associate Professor of the Department of Physical Education and Sports
Doctor of Philosophy in Pedagogical Sciences (PhD)
Tashkent State Transport University

Tangriev Alisher Jumanazarovich
Head of the Department of "Physical Education and Sports", Doctor of Pedagogical Sciences, (DSc), Associate Professor,Tashkent Institute of Irrigation and Agricultural Mechanization Engineers,
National Research University

Abstract

This article examines the pedagogical and practical significance of increasing the level of physical preparation of students through fitness exercises in the context of higher education. The study focuses on the role of systematic fitness training in developing strength, endurance, flexibility, coordination, agility, and general functional readiness among students of a transport university. Fitness exercises are considered not only as a means of physical development but also as an effective pedagogical tool for improving students' motivation toward regular motor activity, strengthening health, preventing hypodynamia, and forming a sustainable culture of physical self-improvement. Special attention is given to the need for adapting fitness programs to students' age, health status, physical preparedness, academic workload, and future professional requirements. The article emphasizes that future specialists in the transport sector need sufficient physical capacity, stress resistance, discipline, and working efficiency, since their professional activity may require concentration, endurance, coordination, and rapid adaptation to changing conditions. The use of aerobic, strength, functional, stretching, and circuit fitness exercises can create favorable conditions for comprehensive physical development. The research highlights the importance of scientifically grounded methodology, gradual increase of training load, regular monitoring of results, and individualization of exercises. The article concludes

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that fitness-based physical education can improve students' physical preparedness and contribute to their personal, professional, and health-oriented development.

Keywords. Fitness exercises, physical preparation, students, physical education, motor activity, functional readiness, endurance, strength, health culture

Introduction

TALABA QIZLARNI FITNES MASHQLARI ORQALI JISMONIY TAYYORGARLIK DARAJASINI OSHIRISH

Ma'rufov Mansurbek Musajonovich
Toshkent davlat transport universiteti
Jismoniy tarbiya va sport kafedrasi dotsenti
Pedagogika fanlari bo'yicha falsafa doktori (PhD)

Tangriev Alisher Jumanazarovich
Toshkent irrigatsiya va qishloq xo'jaligini mexanizatsiyalash muhandislari instituti, Milliy tadqiqot universiteti, "Jismoniy tarbiya va sport" kafedrasi mudiri, pedagogika fanlari doktori, (DSc), dotsent,

Annotatsiya

Ushbu maqolada oliy ta'lim sharoitida talabalar jismoniy tayyorgarligi darajasini fitness mashqlari orqali oshirishning pedagogik va amaliy ahamiyati tahlil qilinadi. Tadqiqotda transport universiteti talabalari orasida kuch, chidamlilik, egiluvchanlik, koordinatsiya, chaqqonlik va umumiy funksional tayyorgarlikni rivojlantirishda tizimli fitness mashg'ulotlarining o'rni yoritiladi. Fitness mashqlari nafaqat jismoniy rivojlanish vositasi, balki talabalarda muntazam harakat faolligiga qiziqishni kuchaytirish, salomatlikni mustahkamlash, gipodinamiya holatlarining oldini olish va jismoniy o'zini takomillashtirish madaniyatini shakllantirishga xizmat qiluvchi samarali pedagogik vosita sifatida qaraladi. Maqolada fitness dasturlarini talabalarning yoshi, sog'lig'i, jismoniy tayyorgarlik darajasi, o'quv yuklamasi va kelajakdagi kasbiy ehtiyojlariga moslashtirish zarurligiga alohida e'tibor qaratiladi. Transport sohasi bo'yicha bo'lajak mutaxassislar yetarli jismoniy imkoniyat, stressga chidamlilik, intizom

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va mehnat samaradorligiga ega bo‘lishi lozim, chunki ularning kasbiy faoliyati diqqat, chidamlilik, koordinatsiya va o‘zgaruvchan sharoitlarga tez moslashishni talab qilishi mumkin. Aerob, kuch, funksional, stretching va aylanma fitness mashqlaridan foydalanish har tomonlama jismoniy rivojlanish uchun qulay sharoit yaratadi. Tadqiqotda ilmiy asoslangan metodika, mashg‘ulot yuklamasini bosqichma-bosqich oshirish, natijalarni muntazam nazorat qilish va mashqlarni individuallashtirish muhimligi asoslanadi. Maqolada fitnessga asoslangan jismoniy tarbiya talabalar jismoniy tayyorgarligini yaxshilashi hamda ularning shaxsiy, kasbiy va sog‘lom turmushga yo‘naltirilgan rivojlanishiga xizmat qilishi xulosa qilinadi.

Kalit so‘zlar. fitness mashqlari, jismoniy tayyorgarlik, talabalar, jismoniy tarbiya, harakat faolligi, funksional tayyorgarlik, chidamlilik, kuch, salomatlik madaniyati.

Introduction

Physical preparation is one of the essential components of the holistic development of students in higher education. In modern university conditions, the problem of maintaining and improving students’ physical fitness has become especially relevant due to the growth of academic workload, sedentary lifestyle, intensive use of digital technologies, reduced daily motor activity, and insufficient motivation for regular physical exercise. For students of a transport university, physical readiness has not only general health importance but also professional significance. Future specialists in the transport sector often need concentration, endurance, coordination, stress resistance, attentiveness, rapid reaction, and the ability to maintain working capacity under changing conditions. Therefore, physical education in this context should be directed not only toward fulfilling curriculum requirements but also toward forming practical physical qualities that support future professional activity.

Fitness exercises are an effective means of increasing the level of physical preparation because they combine accessibility, variability, emotional attractiveness, and the possibility of individualization. Unlike traditional uniform physical training, fitness programs can include aerobic exercises, strength training, functional movements, stretching, coordination tasks, circuit training, and exercises with body weight or simple equipment. This allows the teacher to

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adapt the training process to the level of preparedness, health status, gender characteristics, and interests of students. Fitness also makes it possible to organize lessons in a more dynamic and motivating form, which is especially important for students who do not have stable habits of independent physical activity.

The pedagogical value of fitness exercises lies in their systematic influence on the main physical qualities of students. Aerobic exercises improve cardiovascular endurance and general working capacity. Strength exercises develop muscular strength and support correct posture, which is important for preventing fatigue and musculoskeletal problems caused by long periods of sitting. Stretching improves flexibility and mobility, while functional exercises strengthen coordination, balance, agility, and the ability to perform movements efficiently in everyday and professional situations. When these components are combined in a scientifically grounded program, they contribute to the comprehensive improvement of students' physical condition.

In Uzbekistan, the modernization of higher education increases the need to improve the quality of physical education and make it more practice-oriented, health-preserving, and professionally relevant. In this regard, fitness exercises can serve as a methodological resource for renewing the content of physical education classes at transport universities. Their use helps to increase students' interest in training, develop responsibility for personal health, and form a sustainable need for physical self-improvement. At the same time, the effectiveness of fitness exercises depends on proper planning, gradual increase of load, regular control of indicators, and the pedagogical competence of the teacher. Thus, the study of increasing students' physical preparation through fitness exercises is important for improving the quality of physical education in higher education. The issue requires a methodological approach that connects health development, physical performance, motivation, and professional orientation. Fitness-based training can become a practical mechanism for strengthening students' physical readiness and preparing them for active, productive, and healthy professional life.

Literature Review

Scientific literature on physical education and fitness training emphasizes that students' physical preparation should be understood as an integrated system of physical qualities, functional capacity, motor skills, health-oriented habits, and

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motivation for regular exercise. Caspersen, Powell, and Christenson define physical activity, exercise, and physical fitness as related but distinct concepts, which is important for organizing university physical education on a clear methodological basis. According to this approach, fitness exercises differ from ordinary movement because they are planned, structured, repeated, and directed toward improving specific components of physical condition. This idea is especially relevant for higher education, where training must have measurable pedagogical and health-related outcomes.

The works of the American College of Sports Medicine and Garber et al. show that the development of cardiorespiratory endurance, muscular strength, flexibility, and neuromotor fitness requires a balanced combination of aerobic, resistance, stretching, and coordination exercises. These recommendations support the use of complex fitness programs in university physical education. Such programs make it possible to influence several physical qualities within one lesson and to regulate training load according to the students' level of preparedness. For students with low physical activity, gradual progression is considered one of the key conditions for safety and effectiveness.

Bouchard, Blair, and Haskell, as well as the World Health Organization, connect regular physical activity with the prevention of chronic diseases, improvement of mental well-being, and maintenance of working capacity. In the student environment, this connection has particular importance because academic stress, long sitting, irregular daily routine, and intensive use of electronic devices can negatively affect health. Fitness exercises can reduce the consequences of hypodynamia, improve posture, activate the cardiovascular and respiratory systems, and increase general vitality. Therefore, physical education should not be limited to normative testing but should also form a conscious attitude toward health preservation.

Researchers such as Biddle, Mutrie, Gorely, and Faulkner pay attention to the psychological effects of physical activity. They note that regular exercise is associated with motivation, self-confidence, emotional stability, and better stress management. This aspect is significant for students of a transport university because their future professional activity may require responsibility, attentiveness, discipline, and resistance to fatigue. Fitness training, when organized in an engaging and supportive way, can strengthen not only the body but also volitional qualities and self-regulation.

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Corbin, Hoeger, Sharkey, and Gaskill underline the importance of fitness and wellness as a lifelong personal culture. Their works show that students should acquire not only practical exercise skills but also knowledge about load control, recovery, nutrition, posture, and independent training. From this perspective, fitness exercises have educational value because they teach students to understand their own physical state and choose appropriate forms of motor activity.

The literature also indicates that strength and functional training are important for improving movement efficiency. Lloyd, Oliver, Ratamess, and the National Strength and Conditioning Association emphasize the need for correct technique, progressive overload, and balanced development of muscle groups. In university practice, these principles can be adapted through body-weight exercises, circuit training, resistance bands, medicine balls, and simple gym equipment. Thus, existing research confirms that fitness exercises are a scientifically grounded and pedagogically effective means of increasing students' physical preparation.

Methods

The study was designed on the basis of a pedagogical approach aimed at determining the effectiveness of fitness exercises in increasing the level of physical preparation of students. The methodological foundation of the research included theoretical analysis, pedagogical observation, diagnostic testing, experimental training, comparative evaluation, and qualitative interpretation of changes in students' physical indicators. The research logic was based on the idea that students' physical preparation can be improved when fitness exercises are selected according to the principles of accessibility, gradual progression, variability, safety, and professional relevance.

The participants of the study were students of a transport university who attended physical education classes during the academic semester. The students had different levels of physical preparedness, which made it necessary to use a differentiated approach. Before the beginning of the experimental work, their initial physical condition was studied through standard pedagogical tests. The diagnostic process included exercises aimed at evaluating endurance, strength, flexibility, coordination, speed-strength ability, and general functional readiness. The main indicators were running performance, body-weight strength exercises,

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flexibility tests, heart rate response to load, recovery dynamics, and students' subjective attitude toward physical activity.

The fitness program was organized as a structured system of exercises integrated into regular physical education classes. The content of the program included aerobic exercises, strength exercises, functional movements, stretching, balance tasks, coordination exercises, and circuit training. Aerobic work was used to improve cardiorespiratory endurance and general working capacity. Strength exercises included squats, lunges, push-ups, plank variations, abdominal exercises, and exercises with light equipment. Functional tasks were aimed at improving movement coordination, balance, agility, and the ability to perform complex motor actions. Stretching exercises were used at the end of lessons to improve flexibility, reduce muscle tension, and support recovery.

The training process was organized according to the principle of gradual load increase. At the initial stage, the main attention was paid to correct technique, adaptation to movement activity, and prevention of excessive fatigue. At the next stage, the intensity and density of exercises were increased through longer working intervals, shorter rest periods, and more complex movement combinations. At the final stage, students performed combined fitness complexes that required endurance, strength, coordination, and self-control. The teacher monitored the correctness of performance, controlled the training rhythm, and adjusted exercises according to students' individual capabilities.

Pedagogical observation was used throughout the study to assess students' motivation, discipline, activity during lessons, emotional involvement, and readiness for independent exercise. Special attention was given to the safety of training, correct breathing, posture control, and recovery after physical load. Comparative analysis was carried out by examining the difference between initial and final test results. The obtained data were interpreted in relation to the general aim of the study, namely to determine whether systematic fitness exercises can improve the physical preparation of students and increase their interest in regular physical activity.

The methodological structure of the study made it possible to connect physical indicators with pedagogical factors. This approach allowed the research to evaluate not only measurable changes in endurance, strength, flexibility, and coordination but also students' attitude toward fitness exercises as a practical and accessible means of health preservation and professional self-development.

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Results

The results of the pedagogical study showed that the systematic use of fitness exercises had a positive influence on the physical preparation of students. The most visible changes were observed in the indicators of general endurance, muscular strength, flexibility, coordination, and functional readiness. At the beginning of the study, many students demonstrated an insufficient level of regular motor activity, rapid fatigue during continuous physical work, weak motivation for independent training, and limited knowledge about the correct organization of fitness exercises. After the introduction of a structured fitness program, students became more active during physical education classes, performed exercises with greater confidence, and showed a more conscious attitude toward the development of their own physical condition.

Endurance indicators improved due to the regular inclusion of aerobic exercises, rhythmic movement complexes, interval tasks, and circuit training. Students who initially had difficulty maintaining a stable exercise rhythm gradually adapted to longer physical loads. Their recovery after exercise became faster, and they were able to complete training tasks with less visible fatigue. This result confirms that aerobic and mixed fitness exercises can effectively develop cardiorespiratory capacity and general working ability. For students of a transport university, this is important because endurance supports concentration, stability of attention, and resistance to long-term intellectual and practical workloads.

Strength indicators also showed positive dynamics. Exercises with body weight, such as squats, lunges, push-ups, planks, and abdominal movements, contributed to the development of the main muscle groups. Students improved their ability to maintain correct posture, control body position, and perform technically accurate movements. The strengthening of the muscles of the back, abdomen, legs, and shoulder girdle was especially significant because these muscle groups support general motor efficiency and reduce the negative influence of prolonged sitting. The gradual increase of load helped students avoid excessive fatigue and adapt safely to strength-oriented exercises.

Flexibility and mobility improved through the regular use of stretching exercises at the end of lessons. Students demonstrated better range of motion, reduced muscle stiffness, and improved coordination of movements. Stretching also had a positive effect on recovery after intensive exercises. Functional and coordination tasks helped students develop balance, agility, reaction, and

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movement accuracy. These qualities are closely connected with professional readiness because transport-related occupations may require rapid adaptation, spatial orientation, and precise motor control.

The results also revealed important motivational changes. Students began to perceive fitness exercises not only as a compulsory part of physical education but also as an accessible means of improving health, appearance, mood, and working capacity. The variety of exercises increased emotional involvement in lessons and reduced monotony. Group performance of circuit exercises strengthened discipline, mutual support, and responsibility. Some students expressed readiness to continue independent fitness training outside the classroom, which indicates the formation of a more stable interest in physical self-development.

Thus, the obtained results confirm that fitness exercises can serve as an effective pedagogical mechanism for increasing students' physical preparation. Their effectiveness is determined by systematic organization, gradual progression, individualization, safety control, and the connection of physical training with students' future professional needs.

Discussion

The analysis of the obtained results shows that fitness exercises can be considered an effective methodological tool for improving students' physical preparation in higher education. Their effectiveness is connected with the fact that fitness training combines several pedagogical advantages: it is accessible, variable, emotionally attractive, adaptable to different levels of preparedness, and suitable for both group and individual work. In comparison with traditional forms of physical education, fitness exercises provide greater flexibility in lesson planning and allow the teacher to influence several physical qualities within one training session. This is especially important in a transport university, where physical education should support not only health development but also professional reliability, endurance, discipline, coordination, and resistance to fatigue.

The positive dynamics in endurance indicators demonstrate that regular aerobic and circuit exercises can improve the functional capacity of students. Endurance is one of the key qualities that supports general working ability and helps students cope with academic and professional stress. In the conditions of modern student life, characterized by long periods of sitting, irregular physical activity, and high intellectual load, the development of endurance becomes an important health-

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preserving task. Fitness exercises create conditions for gradual adaptation of the cardiovascular and respiratory systems to physical load. At the same time, they help students understand the value of regular movement as a factor of well-being and productivity.

The improvement of strength indicators confirms the pedagogical importance of body-weight and functional exercises. Such exercises do not require complex equipment and can be effectively used in university physical education classes. Their advantage lies in the development of practical strength, posture control, movement stability, and muscular endurance. For students who spend much time in classrooms, laboratories, or at computers, strengthening the muscles of the back, abdomen, and lower limbs is particularly significant. It contributes to the prevention of postural disorders, fatigue, and reduced motor activity. Therefore, strength-oriented fitness exercises should be included in physical education programs not as isolated tasks but as part of a balanced training system.

The development of flexibility, coordination, balance, and agility also has methodological importance. These qualities are often underestimated in university physical education, although they directly influence movement culture, injury prevention, and functional readiness. Stretching and coordination exercises helped students perform movements more freely and accurately. Functional training improved the ability to control the body in different positions and movement situations. This is relevant for future transport specialists because professional activity in this field may require attentiveness, quick reaction, spatial orientation, and stable psychophysical readiness.

The motivational aspect deserves special attention. The study showed that the variety and practical orientation of fitness exercises increased students' interest in physical education classes. When students see concrete improvements in their strength, endurance, flexibility, and well-being, their attitude toward exercise becomes more conscious and positive. This indicates that fitness training has not only physical but also educational influence. It forms responsibility for personal health, develops self-control, and encourages students to continue independent physical activity.

At the same time, the effectiveness of fitness exercises depends on methodological accuracy. Excessive load, incorrect technique, lack of individualization, or monotonous organization may reduce the positive effect of training. Therefore, the teacher should plan lessons according to students'

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physical condition, ensure gradual progression, monitor recovery, and maintain a safe emotional and pedagogical environment. Fitness exercises should not be used mechanically; they must be included in a scientifically grounded system that connects physical development, health preservation, motivation, and professional orientation.

Thus, the discussion of the results confirms that fitness-based physical education can become an important direction for modernizing the training of students in higher education. In the context of a transport university, this approach is valuable because it strengthens students' physical readiness, supports their future professional capacity, and contributes to the formation of a stable culture of healthy and active living.

Conclusion

The conducted study confirms that fitness exercises are an effective pedagogical means of increasing the level of physical preparation of students in higher education. Their importance is determined by the fact that they influence the main components of students' physical development, including endurance, strength, flexibility, coordination, agility, balance, and general functional readiness. Fitness training allows physical education classes to become more dynamic, practice-oriented, emotionally engaging, and adaptable to the real needs of students. In the context of a transport university, this approach has special significance because future specialists require not only professional knowledge but also stable health, concentration, working capacity, stress resistance, discipline, and the ability to maintain efficiency under different conditions.

The results of the study show that the systematic use of aerobic, strength, functional, stretching, and circuit exercises creates favorable conditions for the comprehensive development of students' physical qualities. Aerobic exercises contribute to the improvement of cardiorespiratory endurance and general working ability. Strength exercises develop muscular support, posture control, and resistance to fatigue. Functional exercises improve movement coordination, balance, reaction, and practical motor readiness. Stretching exercises support flexibility, mobility, recovery, and injury prevention. When these types of exercises are combined within a scientifically grounded training program, they provide a complex and balanced influence on students' physical condition.

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One of the important outcomes of the research is the growth of students' motivation toward regular physical activity. Fitness exercises reduce monotony in physical education classes and make the training process more attractive for students with different levels of preparedness. The possibility of varying exercises, regulating intensity, working individually or in groups, and observing personal progress increases students' interest in training. As a result, physical education begins to perform not only a corrective or normative function but also an educational function. It forms a conscious attitude toward health, develops responsibility for personal physical condition, and encourages students to continue independent exercise outside the university environment.

The effectiveness of fitness exercises depends on the methodological quality of their organization. Training should be based on gradual progression, correct technique, safety control, individualization, regular monitoring, and pedagogical support. The teacher should consider students' age, health status, initial fitness level, academic workload, and emotional readiness for physical activity. Excessive load or poorly selected exercises may reduce the positive effect of training; therefore, fitness programs must be planned carefully and implemented consistently. A differentiated approach makes it possible to involve both physically active students and those who have low motor experience or weak motivation.

In general, fitness-based physical education can be considered a promising direction for improving the quality of student training in higher education. It strengthens physical preparation, supports health preservation, increases learning activity, and contributes to the development of personal qualities necessary for future professional work. For students of a transport university, fitness exercises are especially valuable because they help form endurance, coordination, discipline, self-control, and readiness for productive professional activity. Therefore, the systematic integration of fitness exercises into physical education classes should be regarded as an important condition for improving students' physical preparedness and developing a sustainable culture of healthy living.

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