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Innovative Technologies For Involving Students In Physical Education And Sports

Nurmatov Eldor Ziyat o‘g‘li

Teacher, Jizzakh State Pedagogical University, Uzbekistan

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Abstract: This article examines the methodology for using innovative technologies to attract students of higher educational institutions to physical education and sports. In the current conditions of rapid development of science and technology, the issue of promoting a healthy lifestyle among students has become even more urgent. The conditions for the formation of motivations that encourage students to independently engage in active physical education and sports are scientifically analyzed.

Keywords: Physical education, sports, mass sports, physical culture, innovation, healthy lifestyle, fitness technologies.

Introduction: Scientific research is being conducted in leading world research centers (Federal Institute of Sport Sciences in Bonn, South African Institute of Sport Sciences in Newlands, Loughborough University) to identify effective methods and means of developing students' physical education. In this regard, special attention is paid to this activity abroad in order to improve the health of humanity and create a future through a healthy lifestyle.

In our country, the problem of increasing the interest of young people in physical education and sports is the most urgent due to the social need to raise a healthy generation. The Resolution of the President of the Republic of Uzbekistan No. PQ-201 dated April 11, 2022 “On measures to bring youth to a new level of mass sports in neighborhoods” specifically addresses the issues of promoting a healthy lifestyle and bringing their mass sports involvement to a new level through the systematic organization of mass sports competitions among young people in neighborhoods.

LITERATURE REVIEW

A large number of studies devoted to the problems of

developing physical culture in higher educational institutions indicate the need to search for new technologies that will help form the desire of students to have a high level of health. This depends on the development of personal motivation, special knowledge and behavior, and is also the result of the joint activity of the teacher and the student. Improving the health of students is important, since the future graduate must be a specialist with higher education with an appropriate level of physical training.

Today, the requirements for a person's intellectual and adaptive abilities are also increasing. However, the influence of subjective factors such as personal significance, satisfaction, and spiritual enrichment on the formation of motives that encourage students to independently engage in physical exercises, sports and active physical education and sports activities is decreasing.

A person's certain knowledge in the field of physical fitness and a healthy lifestyle, his attitude to life, motivation, physical and mental health indicate his readiness to serve the state and society adequately. S.N. Chernyakova noted that it is necessary to scientifically study social factors affecting the physical fitness of young people, problems that are harmful to health and slow down their physical development, and that educational activities organized in educational institutions often have an effective impact on the formation of physical fitness, health and physical stability skills of students. For this, young people adapt in the first year of their stay in an educational institution, change their lifestyle, and a number of aggravating factors include: the fact that the stages of introducing young people to education in higher education institutions are not based on psychological adaptation (adaptation) factors; antipathy towards education and the educational institution associated with assimilation that occurs in educational institutions; Lack of systematic work in educational institutions to encourage, promote, and make physical exercise and a healthy lifestyle a habit.

Countries with the world's strongest athletes are investing significant financial and human resources in the development of scientific research to identify and nurture sports talents. The main component of the programs used in all these countries is the formation of national sports institutes and sports training centers, where all aspects of the theory and practice of sports training are studied, as well as scientific and methodological support for training for highly qualified athletes. In these centers, athletes regularly undergo modern pedagogical, biomechanical, physiological tests and medical examinations, which allow obtaining new scientific knowledge, timely correction and improvement of training programs [4].

METHODOLOGY

The theoretical and methodological basis of the methodology developed during the study is a model that expresses the essence of the process of forming physical culture of students in the educational system of a pedagogical higher educational institution. The model reflects a unique system of organizing the organizational process of involving students in physical education and sports, the central link of which is the principles, methodological approaches and author's methodology, which ensure the gradual formation of their physical culture from a low to a high level.

The target component of the model is the formation of the student's physical culture and involvement in sports on the basis of innovative technologies. The methodological components of the model include the process of forming physical culture by identifying a system of theoretical aspects of physical culture; medical-biological, psychological, pedagogical, philosophical, sociological, professional-integrative principles; cultural, systemic-activity, innovative-technological, competency-based and personality-oriented methods of implementing methodological approaches to research; self-formation of students based on resolving internal contradictions of the individual, individualization of physical education activities, integrative content, development of creativity. physical education competence, intensive self-improvement using mobile devices; a complex of pedagogical influences consisting of a system of interrelated organizational, pedagogical, methodological, technological and individual specific conditions for the effective formation of students' physical culture. As a structural component of the model, the foundations of professional training were outlined by integrating the content of such classes as "Attraction to Physical Education and Sports", "Analysis of Chronobiological Processes". The indicators of the formation of student physical culture were expressed in low, medium, high levels based on motivational, activity, cognitive criteria.

The social order of training graduates with a high level of physical culture - the methodology determines the methodological support of the process of forming students' physical culture. A special site providing web content information developed during the research is integrated with the platform of Jizzakh State Pedagogical University www.main.jdpu.uz and is presented 24/7 - in the section "Clubs and circles" on the page of the online sports club "Physical education and mass sports". In this case, the methodology for forming students' physical culture using the "Post"

content is implemented on the basis of mobile educational ideas, which represent the algorithm of interaction between the teacher and the student via the Internet and mobile devices, and also introduces the national-regional component of the training content, various health programs and non-traditional systems of physical exercises. The web content "Physical education and healthy lifestyle" consists of blocks of theoretical-methodological and practical stages, which consist of exercises and media information developed in accordance with the gender of students.

In the practical stage block, the skills of future teachers to perform physical exercises were formed using the Coaching method, taking into account the professional activity of future teachers. In the study, at the first stage of using mobile technologies in cognitive activity, the student learns to use mobile content and chooses an individual way of engaging in it for himself. The relevance of developing the content of physical education classes, focusing on the important professional qualities of students in various specialties, is determined by improving their health, increasing their level of preparation for creative and future work activities, and increasing their motivation for a healthy lifestyle.

In developing a mechanism for involving students of pedagogical higher educational institutions in physical education and mass sports, the analysis of the specific features of various specialties made it possible to meaningfully enrich the curriculum with various sports and non-traditional types of physical exercises. The justification for including various elements in the content of physical education is carried out according to two criteria: the physiological characteristics of students based on the results of a medical examination and functional diagnostics; the selection of elements of the content of physical education for professional orientation.

For future teachers studying in the specialties of Philology (Uzbek language, Russian language and literature, Foreign languages), Mathematics, Physics, Informatics, History, the psychophysiological component of their professional activity was identified as a priority feature, that is, active labor activity that requires little physical energy. Future teachers studying in these specialties often have a sitting position, minimal physical movements, low amplitude and low tension of the finger muscles. In turn, for students of the "History" and "Cultural Studies" directions, it is a priority to work in harmony with tourism and archaeological activities. Students of the Philology (Uzbek language, Russian language and literature, Foreign languages) specialties have the following professionally important physical and mental qualities: self-confidence, emotional stability, tolerance, memory, imagination.

Based on these characteristics, we recommend the following:

-traditional sports and physical exercises (athletics, sports and movement games, badminton, swimming);

-non-traditional and innovative systems of physical exercises (water aerobics, yoga, shaping, cheerleading, bodybuilding, fitness).

Professionally important physical and mental qualities in students studying in the specialties of "Mathematics", "Physics", "Informatics": memory, thinking, emotional stability, logical thinking, have been carefully identified. Based on these characteristics, we recommend the following:

-traditional sports and physical exercises (weightlifting, athletics, arm wrestling, chess, checkers, sports and movement games, athletics);

-non-traditional and innovative systems of physical exercises (strong extreme, powerlifting, streetball, lapta, bodybuilding, fitness, snowboarding).

Professionally important physical and mental qualities of students studying in the "History" specialty: initiative, organizational skills, operational thinking. Based on these characteristics, we recommend the following:

-traditional sports and physical exercises (tourism, sports and outdoor games, shooting);

-unconventional and innovative systems of physical exercises (historical fencing, darts, parkour, streetball, lightning, snowboarding).

Future teachers studying in the "Educational Management" and "Pedagogy and Psychology" specialties identified a priority feature of the psychophysiological component of professional activity - increased neuro-emotional stress. Specific features of their future activities were identified - mobile activities requiring moderate physical exertion, work with low-income families and adolescents. Professionally important physical and mental qualities such as general endurance, attention, initiative, organizational skills, emotional stability were identified.

Based on these characteristics, we recommend:

-traditional sports and physical exercises (sports and movement games, hand-to-hand combat, swimming, aerobics, skiing);

-unconventional and innovative systems of physical exercises (oriental martial arts, yoga, parkour, stretching, cycling, lapta, skateboarding, turnstile, Nordic walking).

The predominant feature of the psychophysiological activity of students studying in the specialty "Primary Education" is increased neuro-emotional stress. Specific features of future professional activity are noted - mobile activity requiring moderate physical and mental energy expenditure. Professionally important physical and mental qualities are identified: initiative, organizational skills, endurance, emotional stability, tolerance. Based on these characteristics, we recommend:

-traditional sports and physical exercises (gymnastics, outdoor and sports games, table tennis, badminton, chess, Russian checkers, swimming, skiing);

-non-traditional and innovative systems of physical exercises (straightball, bar, lapta, shaping, fitness, flash mob, skateboarding, Nordic walking).

Future teachers studying in the specialty "Music" identified such a priority feature of psychophysiological activity as increased neuro-emotional stress. The specificity of their future professional activity is a combined activity that requires moderate physical and mental energy expenditure. The following professionally important physical and mental qualities were identified: imagination, courage and determination, emotional stability. Based on these features, we recommend:

-traditional sports and physical exercises (sports and active games, badminton, swimming);

-non-traditional and innovative systems of physical exercises (bodyflex, callanetics, Pilates, cycling, shaping, body ballet, cheerleading, flash mob, Nordic walking).

The following features of psychophysiological activity are considered priority for students studying in the "Technology" specialty: significant physical activity, increased neuro-emotional stress.

The specific features of future professional activity are noted - combined activities requiring moderate physical and mental energy expenditure. The following professionally important physical and mental qualities are identified: emotional stability, operational thinking, tolerance, perseverance. Based on these characteristics, we recommend:

- traditional sports and physical exercises (sports and action games, weightlifting, track and field athletics, tourism);

- non-traditional and innovative systems of physical exercises (powerlifting, cycling, flash mob, fitness, martial arts, skateboarding, snowboarding).

Future teachers studying in the specialty "Physical Education" identified the following priority features of psychophysiological activity: significant physical activity, increased neuro-emotional stress. The specificity of their future professional activity is noted - mobile activity requiring high physical and mental energy expenditure. The following professionally important physical and mental qualities were identified: initiative, emotional stability, organizational skills, perseverance, tolerance. Based on these features, we recommend:

- traditional sports and physical exercises (gymnastics, skiing, active and sports games, table tennis, badminton, tourism, athletics);

- non-traditional and innovative systems of physical exercises (bodyflex, callanetics, Pilates, cycling, shaping, lapta, cheerleading, tourniquet, powerlifting, martial arts, flash mob, rollerblading).

In the second stage of the study, the student understands the need and role of using mobile technologies in the process of developing physical culture. For these purposes, the content includes questions for self-testing, the purpose of which is to check the student's level of perception and assimilation of the independently studied material. The result of this monitoring is the level of use of mobile content.

The Samsung Health mobile application used in our study serves to monitor various aspects of everyday life that contribute to health, such as physical activity, diet and sleep. The Samsung Health application contains more than 120 programs, the development of which can be monitored using smart devices. Samsung Health or “Health” is a mobile application designed to improve your health. It constantly runs in the background, can count steps, has various workouts with a video instructor, track your nutrition, compete in activity, etc. In addition, there are various functions here even without connecting a smartwatch or other smart gadgets.

At the third stage, the formation of appropriate skills in working with mobile content requires not only individual, but also group activities in its use. At the fourth stage, the monitoring and testing process is carried out, which allows you to quickly obtain information about the demand for mobile content and its content. The result of this period is the development of conclusions about the effectiveness of the content.

Thus, it can be concluded that the experimental programs identified above constitute the content of the author's methodology for the formation of physical culture of students of a higher pedagogical educational institution. Based on the identification of stages, their purposeful implementation and determination of the result, the content of the methodology for the formation of physical culture of students was developed.

RESULTS

The technology for implementing a specific approach to physical education and sports during the study consisted of the following sequential stages:

Stage 1 (the first stage of the formation of physical education and sports culture) - September-December (1st semester), during which the student's need for physical education and sports, its physiological and psychological aspects were identified;

Stage 2 (generalizing stage) - February-May (2nd semester) generalizing specific goals and objectives based on the preliminary formation of students' physical education and sports culture, that is, strengthening their health by engaging in the chosen sport;

Stage 3 (independence stage) - in the second year of study at a higher educational institution, students independently develop physical education and sports culture, regularly engage in sports.

The level of formation of the motivational component in students was determined using the following diagnostic methods:

1. Author's methodology for determining the worldview of physical culture through Google forms questionnaires;

Author's methodology for selecting a group of motivations for physical education and sports;

Methodology for assessing the emotional-emotional state.

SFK (Health, activity, mood) test.

Differential measurement of emotions according to the K. Izard method.

For the experiment, students were divided into two groups regardless of gender: the experimental group (80 students) and the control group (81 students). Each of the respondents in both groups was diagnosed using the methods described above, with the exception of monitoring for operational and reflexive-evaluative indicators.

To organize the experimental study, the method of mathematical statistics used in the quantitative analysis of experimental data was used. In the context of mathematical and statistical processing of the results of pedagogical research, we used X^2 (Xi squared) to compare the distribution of subjects in the experimental (TG) and control (NG) groups. It allows you to transfer the points obtained as a result of the diagnostics of the formation of physical culture to levels (high, medium, low) by components and indicators, to draw up tables of distribution of points to determine the number of students at this level, and also to prove that the number of students at one of the levels is really more or less.

The chi-square value is calculated according to the following formula:

$$X^2 = \frac{1}{n_t * n_n} \sum_{i=1}^{c} \frac{(n_t * T_i - n_n * T_i)}{T_i + N_i}$$

Pedagogy During the training sessions before the experiment (initial part) and after the experiment (control section) in higher educational institutions, students' motivational (physical culture-oriented worldview, motivational-value attitude to physical culture, emotional indicator); activity (mental, physical and health); The levels of formation of components and indicators of physical culture formation, such as cognitive (operational, reflective-evaluative and behavioral), were determined (high, medium, low).

In the 2023/24 and 2024/25 academic years, during the physical training process in pedagogical higher educational institutions, the respondents of the experimental group implemented the methodology for the formation of physical culture of students and the pedagogical conditions identified in the study. For students in the control group, the educational process was carried out according to traditional professional training within the specified time period.

The following data were determined for the experimental (TG) and control (NG) groups on the formation of components and indicators of physical culture of students in the initial and control sections (Table 1).

Results of respondents before and after the experiment on the components and indicators of physical culture

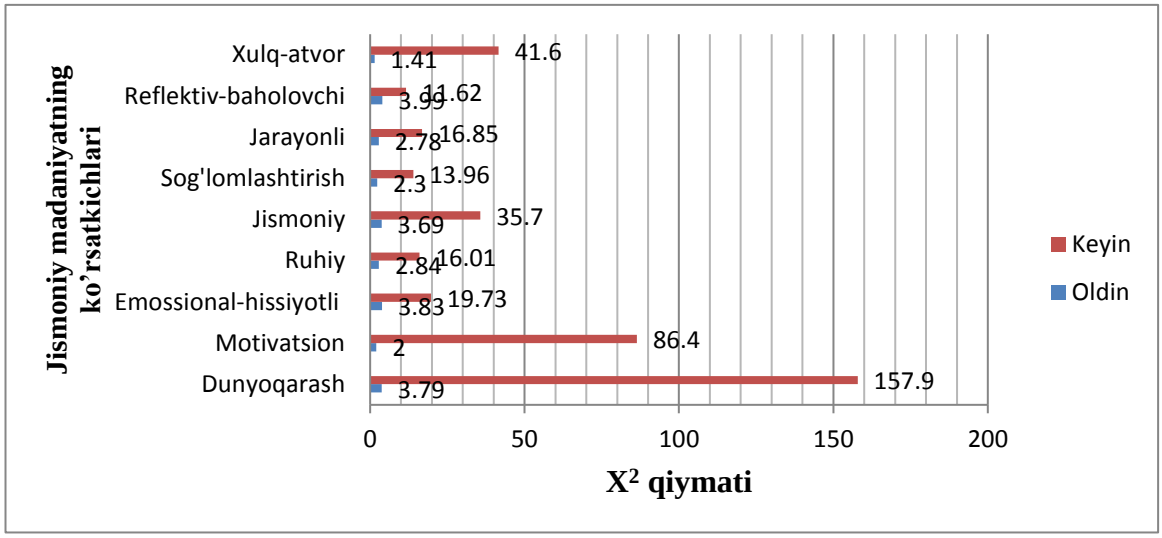
Components of physical cultu	Indicators of physical culture	Analysis type	Number of respondents						Mathematical statistical analysis	
			High level		Medium level		Lower level			
			TG	NG	TG	NG	TG	NG	X^2	R

re										
Motivational	Worldview	Before	4.	5.	54.	57.	22.	19.	3.79	> 0.05
		Then	31.	19.	39.	32.	10.	30.	157.9	< 0.05
	Motivational	Before	2.	2.	61.	60.	17.	19.	2.	> 0.05
		Then	14.	7.	60.	56.	5.	18.	86.4	< 0.05
	Emotional-hHotHorse	Before	10.	9.	43.	43.	28.	29.	3.83	> 0.05
		Then	17.	11.	50.	49.	13.	21.	19.73	< 0.05
Active	Spiritual	Before	10.	13.	41.	40.	29.	28.	2.84	> 0.05
		Then	19.	14.	42.	41.	19.	26.	16.01	< 0.05
	Physical	Before	6.	5.	35.	41.	39.	36.	3.69	> 0.05
		Then	11.	6.	47.	43.	22.	32.	35.7	< 0.05
	Health	Before	2.	2.	37.	36.	41.	43.	2.3	> 0.05
		Then	7.	4.	50.	47.	23.	30.	13.96	< 0.05
Cognitive	Processed	Before	9.	9.	25.	37.	46.	35.	2.78	> 0.05
		Then	21.	12.	55.	47.	4.	22.	16.85	< 0.05
	Reflective-evaluative	Before	3.	2.	12.	28.	65.	51.	3.99	> 0.05
		Then	9.	4.	38.	22.	33.	55.	11.62	< 0.05
	Performance	Before	11.	9.	42.	48.	26.	24.	1.41	> 0.05
		Then	33.	17.	41.	49.	7.	15.	41.6	< 0.05

Based on the analysis of preliminary and control data on the dynamics of the formation of physical culture in various indicators of motivational, activity, and cognitive components, it was established that all indicators in the experimental groups improved compared to the control groups. After the end of the experiment, an increase in the number of students in the experimental group compared to the control group was noted at the high and medium levels of physical education. A decrease in the number of students in the experimental group compared to the control group was revealed at a low level of physical education. To clearly define the above-mentioned rules, a logarithmic diagram was compiled for all formation indicators, showing the comparative results of mathematical and statistical processing of the research results on X2 of the initial and control sections. (Graph 1)

When summarizing the results of the conducted research work, it was proven that there is effectiveness. The fact that the indicator is 1.14 times, that is, 14% higher, indicates the effectiveness of the experimental work. It should be noted that for the reliability of obtaining comparative results, the selection of respondents was carried out for all indicators of the formation of physical culture, but the reliability analysis revealed significant differences between the data of all respondents and the sample data.

Based on the analysis of the logarithmic diagram (diagram 1), it can be shown that the methodology for the development of students' physical culture based on the research methodology and the identified pedagogical conditions had the most significant influence on their worldview oriented towards physical culture (157.9+/-3.79 units), the motivational-value attitude of young people to physical education (86.4+/-2 units) and their behavioral indicator (41.6+/-1.41). This is explained by the fact that it meets the needs and interests of young people through the introduction of modern innovations.



1-Diagram. Comparative results of the formation of students' physical culture according to various indicators of the initial and control sections according to X2

The experimental method had a less positive effect on the mental indicator (35.7+/-3.69 units), the emotional indicator (19.73+/-3.83 units), and the operational (process) indicator (16.85+/-2.78 units), compared to the above criteria, and the physical indicator (16.01+/-2.84 units).

Among all the indicators of the formation of students' physical culture identified in the study, the implementation of the experimental methodology had the least positive impact on the indicators of wellness (13.96+/- 2.3 units) and reflexivity (11.62+/- 3.99 units). The formation of students' physical culture in the context of this health component is largely explained by the fact that it depends on the health infrastructure of the higher educational institution and the individual characteristics and living conditions of each student.

CONCLUSION

Based on the results of the conducted research on innovative mechanisms for involving students in physical culture and sports, it can be concluded that it is necessary to provide education based on a new approach to regular physical education and sports, the development of students' attitude towards a healthy lifestyle, the formation of a comprehensively developed personality, and the improvement of health. In the development of a system for the development of physical abilities and involvement in sports in educational practice, the improvement of the methodology for adapting students to innovative activity is of great importance. Taking into account the specialty and professional activity of students in the formation of physical culture, targeted measures for their psychological support for the development of regular physical education and sports, individual psychophysical readiness for future professional activity and the level of health according to the results of diagnostics recommendations should be developed.

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