

THE USE OF INFORMATION TECHNOLOGIES IN PHYSICAL EDUCATION OF STUDENT YOUTH

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Abstract. *The article reveals topical issues of applying information technology for the increase of motivation to maintain a healthy lifestyle and form the concept among the representatives of modern student youth. As informative and effective tool for expanding the information space of students here is justified and proposed a number of information technologies for practical implementation in process of physical training of students of higher educational institutions. The detailed characteristics of data of network and communication resources is presented, their working principles and functions of practical application are given.*

Keywords: *information technology, physical education, students, healthy lifestyle, health.*

Statement of the problem and its connection with scientific and practical tasks. Youth health is one of the most accurate indicators of the health of the overall population, one of the most important values that determine the well-being of society [8, 10]. In recent decades there has been a sharp deterioration in the health of student youth. This phenomenon is associated with a number of objective and subjective reasons: low economic level of life of most students; conditions of educational activity, the absence of a mechanism to promote the culture of healthy lifestyle among students; low activity in relation to their own health; the declining interest of students to the harmony of spiritual and physical beginnings in the person [3, 13]. This is largely due to the fact that the existing educational system does not consider the preservation and improvement of the health status of students as one of the priority directions of its activities, and as a result the organization and content of education lead to the deterioration of health of all participants of educational process [2].

Analysis of recent researches and publications. In the formation of human health, the main role belongs to lifestyle. The relationship between

lifestyle and health is most fully expressed in a healthy lifestyle [3, 14].

Today an indisputable fact is that a healthy lifestyle is an important factor ensuring the continuation of active life, social, biological and mental well-being of citizens. It provides enough physical activity, balanced diet, healthy sleep, hygiene rules, reasonable alternation of work and rest, regular medical preventive examinations and consultations, refusal of smoking, drug and alcohol abuse. The concept of "healthy lifestyle" includes elements relating to all aspects of health - physical, mental, social and spiritual [8].

The analysis of scientific publications indicates that important aspects of upgrading the system of physical education in Ukraine should be the innovative approaches aimed at elimination of the main reasons that generate distorted attitude to the universal values of physical culture, in particular the formation of healthy lifestyle of students [10].

Recent studies confirm that one of the causes of this deplorable situation is the lack of sufficient information and knowledge about the importance of a healthy lifestyle in students, the role of physical activity in enhancing physical health and basic skills of self-control of their physical state [10].

In special scientific-methodical literature the issues of optimization of educational process with the use of information computer technologies, the issues of formation and development of information culture of a person are widely discussed. The inclusion of information technologies in the educational process in higher education enables us to provide students with information to form their basic core competencies to integrate basic and additional education, to increase the moti-

vation of students not only to studies but also to the possibility of finding answers to the questions of the ordinary nature. In the result of self-educational activities among students there is the process of acquiring, structuring and consolidation of knowledge, provides them with the ability to reflect upon professional goals for finding their optimal solutions [1, 2, 5].

The formulation of the goals and objectives of the study. Considering all the above, the aim of our survey is to study and develop the use of information technologies in physical education of students of different population groups.

Objectives of the study are:

1. To determine methodological approaches of integrating information technologies into the process of physical education of students.
2. To develop and implement information technologies in the process of physical education of students.

Methods and organization of studies. During the survey there was carried out the analysis of scientific-methodical literature; studied and summarized practical experience of using infor-

mation and communication technologies in pedagogical activities with the aim of identifying approaches to create healthy lifestyle of students, as well as the technique used for developing e-learning resources to enhance theoretical knowledge of students about human health.

The main material of research with the analysis of the obtained scientific results. Analysis of methodical approaches of integration of information technology in physical education process of modern higher educational institutions has shown that the innovative approach to formation of physical culture of personality of students requires a change in the quality of educational information in the direction of increasing its scientific and abstract nature provided the application of different ways of its representation, storage and search: together with the verbal form must be actively used other non-verbal, symbolic, visual form, providing for fundamental changes in the organization of the educational process and ensuring the process of innovation in the teaching of physical education [4, 6, 7].

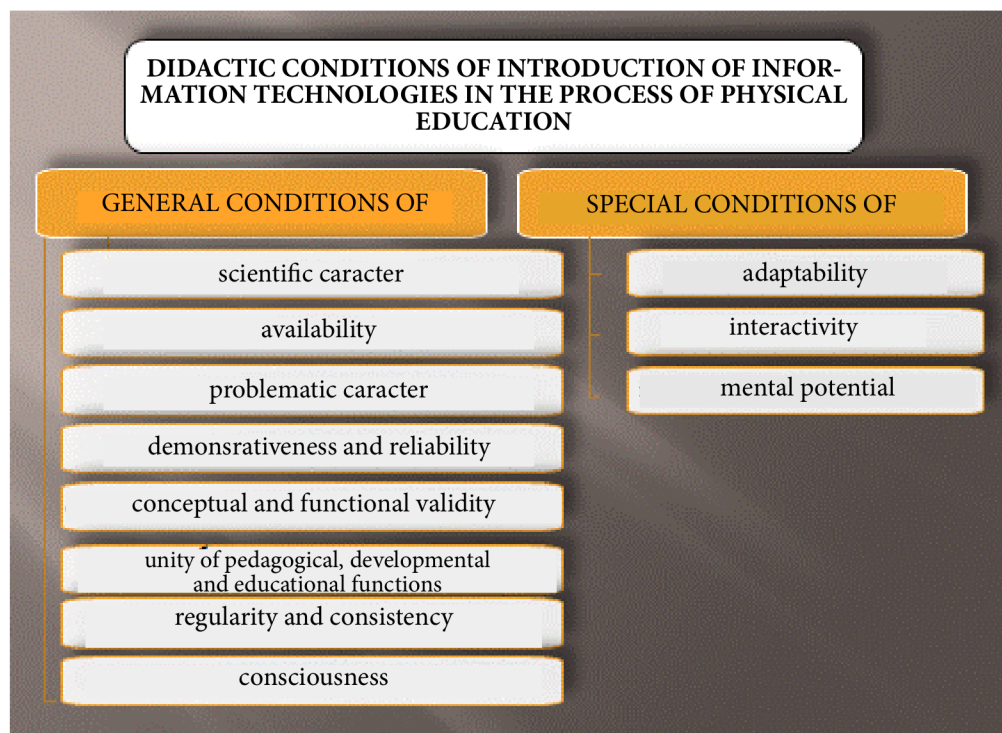


Fig. 1. The system of didactic conditions of introduction of information technologies in the process of physical education

A number of specialists in their studies claim [9] that all, without exception, information technologies, used in process of physical education must meet the didactic requirements of traditional educational publications such as textbooks, educational and methodical manuals (Figure 1).

It should also be noted that in addition to traditional didactic conditions of introduction of information technologies in the process of physical education special educational conditions must be taken into account due to the existing needs of the higher education system and taking advantage of modern information technologies in the establishment and operation of information resources, namely:

- adaptability includes the adaptation of the educational information resources to the individual capabilities of the student, and means adaptation of the educational process with the use of information resources to the level of knowledge and skills of the student;
- interactivity includes the need for bilateral cooperation between the student and educational information resources in the implementation of the educational process;
- intellectual potential of the student when working with information resources that meet the needs of physical education to development of students' thinking styles and skills in information processing (based on the use of data processing systems, information retrieval systems, databases, etc.) [11].

Research of methodological approaches of integration of information technology in physical education process of modern higher educational institutions revealed the following requirements for the structure and content of educational material in the information resources:

- the brevity of presentation, the maximum informativity of texts fragments.
- the use of words, abbreviations, and multimedia objects that are familiar and clear to the student;
- lack of savings and a clear order in everything, careful structuring of multimedia in-

formation, combining separate associated multimedia objects into a holistic perceptual unit;

- a short and "succinct" headlines, marked and numbered lists, tables, diagrams; text and other objects should be easily viewed;
- each position (each idea) should be a separate paragraph of text or multimedia object;
- multimedia objects (graphics, video, sounds, etc.) should complement the text, the dynamics of the relationship of visual and verbal elements and their number are determined by the functional orientation of the educational material, and creative thinking dominates verbal-logical thinking in cases where the transmission of visual messages in the language form is too cumbersome or impossible;
- all verbal information should be carefully checked for spelling, grammatical and stylistic errors [12].

Thus, we can conclude that the emergence of e-learning teaching tools that support the goal of informatization of higher education, namely: accessibility of knowledge, development of intellectual and creative abilities of students on the basis of individualization of training, intensification of educational process necessitated revision of existing learning technologies, the emergence of new requirements to the teacher.

Obtained in the implementation of research activity data have become the basis for development and implementation of information technologies designed to increase the level of theoretical knowledge and practical skills of students of higher educational institutions on issues of human health, methods of influence and characteristics and the need for a healthy lifestyle.

For the solution of the scientific problem were identified and proposed for practical implementation in the process of physical education under the condition of close relationship with interactive teaching methods, the following information technologies: electronic audio-video presentation; technology of web designing and technology of electronic portfolio (Figure 2).

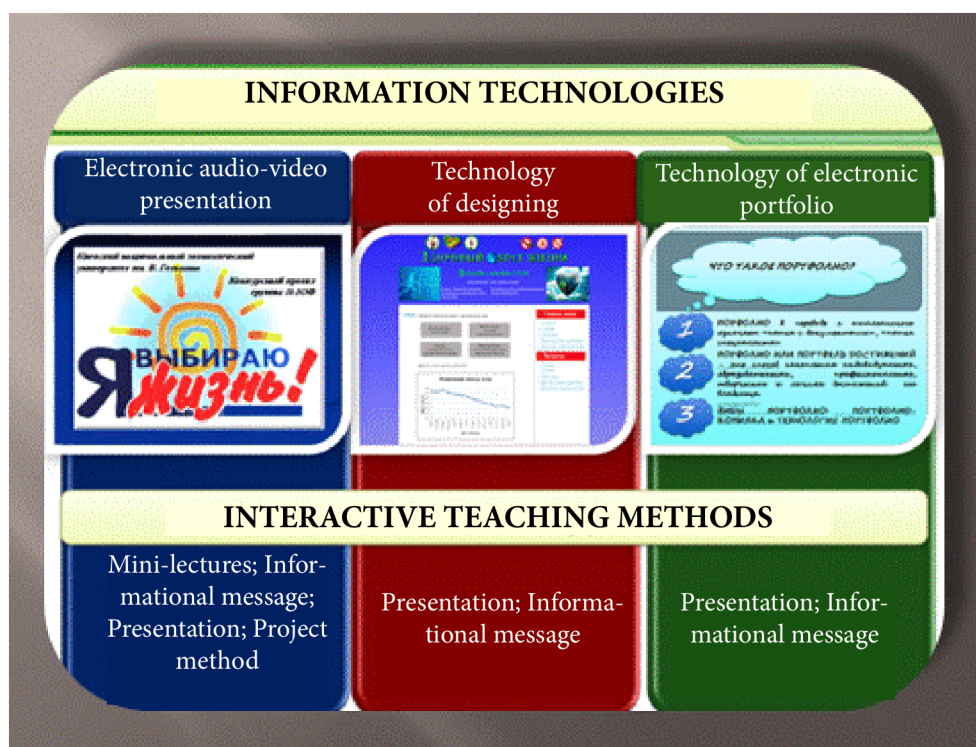


Fig. 2. The integration of information technologies in the process of physical education of students

Technology of electronic audio and video presentations was considered by us to ensure the dynamic of the relationship of visual and verbal elements and was used during mini-lectures, announcements, presentations and project method.

The project method was used in the context of hours of independent work and proposed for the students of the experimental groups as a competition on "Life against drugs" and "The role of physical activity and the natural forces of nature in the life of modern students."

The obtained results of the theoretical review of scientific developments and practical directions for the use of information technologies in the educational process helped us to identify the mechanism of application of technologies of web design to create an external network resource of educational web portal "Healthy lifestyle", which according to their contents included a systematic theoretical information about healthy lifestyle, its benefits, advantages and the motivational component, and also contains the complexes of physical exercises aimed at strengthening health (Figure 3).

The website consists of the following sec-

tions (pages): "Home page"; "Theory", "Practice", "Health diagnosis".

The Home page contained general information on healthy lifestyle, presented in an accessible, conceptually correct and specially formed for students form. In the "Theory" was analyzed and provided the information about the features of the modern approach to formation of the visual image of life and ways of dealing with the negative factors affecting health. "Practice" section contained a set of physical exercises aimed at the rational organization of leisure, recovery after work, the prevention and combating fatigue. Page "Health diagnosis" allowed to automatically assess its own level of health according to the procedures of B. K. Belov, G.L. Apanasenko, G.M. Baevsky, V.P. Voitenko; contained guidelines for the management of the "Diary of self-control"; and included a range of activities to promote and strengthen level of health.

The results of current research indicate that one of the most effective technologies that will contribute to the upgrading of modern teacher education technology is a web portfolio [9].



Fig. 3. Pages of educational web portal "Healthy lifestyle"

An electronic web-portfolio is a network information resource where the documents and samples of work performed is placed, describing the results and achievements of the author. The electronic portfolio is a way of accumulation of individual educational, professional, creative and personal achievements of its owner. We have developed and included in the structure of the web portal "Healthy lifestyle" "Diary of self-control", which contained information about the student (name, group, specialty), his data needed to calculate indicators of the level of health, the results of the monitoring and evaluation of theoretical knowledge about a healthy lifestyle, the history of the diary of self-control, etc.

Portfolio of student "Diary of self-control" enabled: to enter information about one's current health status; automatically calculate health indicators, based on the information provided; to visualize the dynamics of changes of indicators of the level of health, according to different methods; recommendations on improvement of state of health; monitor the results of work held over yourself; print the obtained statistics of their indicators.

Certain sections of personal electronic student's portfolio had internal and external links to his own sections, to the page of educational portal that contains theoretical information on healthy lifestyles, as well as practical recommendations for improving a health status of the student.

The obtained results of our research work and practical research activities allowed concluding that the electronic portfolio is a student's ultimate educational product describing student achievement in the area of knowledge and the formation of a healthy lifestyle. Using "Diary of self-control", the student had the opportunity to conduct an independent accounting of knowledge on the theoretical aspects of organization of a healthy lifestyle. Self-control was carried out via testing on the following topics: the basics of a healthy lifestyle; methods of assessment of physical health and physical preparedness for control and self-control of students; theoretical and methodological foundations of health related training; preparatory and restorative forms of exercise in the mode of academic work of students.

As a result of testing the student was able to gain

a fixed amount of points that could be presented as an evaluation of his theoretical knowledge. After receiving information about the dynamics of changes of his health condition, the student was able to choose in accordance with the obtained results, the most effective set of exercises, suitable lifestyle, improving or strengthening his health.

Conclusions and prospects for further research. Currently, the system of values, motivation, and purposeful behaviour of the individual has become a sort-of implementation of social ideology in the formation of a healthy lifestyle.

One of the fundamental issues is propagation among students the knowledge about the importance of a healthy lifestyle, the uses of technology, correcting and maintaining health through the use of information technology.

Presented in this research work the integration of information technologies in the process of physical education of students of higher edu-

cational institutions towards a healthy lifestyle increased their level of theoretical knowledge and practical skills in the field of healthy lifestyle, which was manifested in optimizing their level of physical activity, avoiding harmful habits and health improvement.

The research gives reason to believe that the developed conceptual foundations of a healthy lifestyle in physical education with the use of information technology justify the priority task of national importance to preserve the gene pool of the nation, protect the interests of the safety of health of the country and the population of Ukraine as the highest social value on the way of integration into the European community.

Prospects of further researches will be focused on study and development, as well as determination of the effectiveness of practical implementation of information technologies in the process of physical education of students.

References:

1. Kashuba V. A. K voprosu ispol'zovanija informacionnyh tehnologij v processe fizicheskogo vospitaniya studentcheskoj molodjozhi (On the question of the use of information technologies in physical education of students) / V. A. Kashuba, S. M. Futorny, N. L. Golovanova // Slobozhans'kij naukovo-sportivnij visnik. Harkiv, 2011. № 4. P. 157-163.
2. Kashuba V. A. Analiz ispol'zovanija zdorov'esberegajushhih tehnologij v processe fizicheskogo vospitaniya studentcheskoj molodezhi (Analysis of the use of health saving technologies in physical education of students) / V. A. Kashuba, S. M. Futorny, E. V. Andreeva // Teorija i metodika fiz. kul'tury. Almaty, 2012. № 1. P. 73-81.
3. Kashuba V. O. Ocinnjuvannja ta analiz skladovih zdorovogo sposobu zhittja studentiv'koï molodi (Evaluation and analysis of the components of a healthy way of life of students) / V. O. Kashuba, S. M. Futorny, O. V. Andreeva // Pedagogika, psihologija ta med.-biol. problemi fiz. vihovannja i sportu. Harkiv, 2012. № 7.
4. Kofanova E. V. Mul'timedijnye tehnologii kak sredstvo povysnenija motivacii i zainteresovannosti studentov-jekologov pri izuchenii disciplin himicheskogo cikla Multimedia technology as a means of enhancing motivation and interest of students-ecologists in the study of chemical disciplines cycle // Professional'noe obrazovanie v Rossii i za rubezhom. Kemerovo, 2013. № 9. P. 76-82.
5. Smolyaninova O. G., Imanova O. A. Ispol'zovanie tehnologij e-portfolio v sisteme podgotovki pedagogicheskikh kadrov (Using of e-portfolio in the system of pedagogical education) // Materialy Mezhdunarodnoj nauchno-prakticheskoi konferencii «Perspektivnye innovacii v nauke, obrazovanii, proizvodstve i transporte». Vyp. 2. V. 12. Odessa, 2012. P. 69-75.
6. Smolyaninova O. G., Bekuzarova N. V. Perspektivy ispol'zovanija tehnologij eportfolio dlja trudoustrojstva (itogi jekspertnogo seminar) (Prospects for the use of technology e-portfolio for employment (results of expert workshop)) // Sovremennye problemy nauki i obrazovanija. 2012. № 6; URL: www.science-education.ru/106-7400
7. Smolyaninova O. G., Imanova O. A. E-portfolio trudoustrojstva vypusnikov vysshego i srednego professional'nogo obrazovanija (E-portfolio of employability of graduates of higher and secondary professional education) // Vestnik vysshej shkoly «Alma Mater». Moscow, 2014. № 3. Pp. 69-75.
8. Strategii i rekomendacii po zdorovomu obrazu zhizni i dvigatel'noj aktivnosti (Strategies and recommendations for healthy lifestyle and physical activity) :: [sb. materialov Vsemir. org. zdnavoohranenija] / E. V. Imas, M. V. Dutchak, S. V. Trachuk. K. : Olimpijskaja literatura, 2013. 528 p.
9. Fedorov A. I. Setevoj jelektronnyj portfolio v sisteme podgotovki specialistov po fizicheskoi kul'ture, sportu i tu-

- rizmu (Network of e-portfolio in the training of specialists in physical culture, sports and tourism) / A. I. Fedorov // «Olimpijskij sport i sport dlja vseh» XVIII Mezhdunarodnyj nauchnyj kongress: materialy kongressa. Almaty: KazAST, 2014. V. 1. P. 345-349.
10. Futorny S. M. Zdorov'esberegajushhie tehnologii v processe fizicheskogo vospitaniya studencheskoj molodezhi: [monografija] (Health saving technologies in physical education of students [monograph]) / S. M. Futorny. K.: Sammit-kniga, 2014. 296 p.
 11. Futorny S., Karavatskaya M. Informacionnye tehnologii i Internet-resursy v formirovanii zdorovogo obraza zhizni studentov v processe fizicheskogo vospitaniya (Information technology and Internet resources in the formation of healthy lifestyle of students in physical education) / S. Futornyj, M. Karavatskaja // Molodezhnyj nauchnyj vesnik Volynskogo nacional'nogo universiteta shimeni Lesi Ukrainki. Fizicheskoe vospitanie i sport: zhurnal. Luts'k, 2013. № 9. P. 68-73.
 12. Futorny S.M. Informatizacija processa fizicheskogo vospitaniya v formirovanii zdorovogo obraza zhizni studentov (Informatization of process of physical education in the formation of healthy lifestyle of students) / S.M. Futorny // Fizicheskoe vospitanie studentov: sb. nauch. rab. / pod. red. Ermakova S.S. Harkov: HDADM (HHPI), 2011. № 6. P. 111-115.
 13. Futorny S.M. Pro neobhidnist' zdorov'jazberigajuchih tehnologij v procesi fizichnogo vihovannja students'koi molodi (On the necessity of healthsaving technology in the process of physical education students)/ S.M. Futornyj // Slobozhans'kij naukovo-sportivnij visnik : nauk.-teoret. zhurn. H. : HDAFK, 2012. № 2 (29). P. 26-30.
 14. Futorny S.M. Sovremennye aspekty razrabotki i vnedrenija zdorov'esberegajushhih tehnologij v processe fizicheskogo vospitaniya studencheskoj molodezhi (Modern aspects of the development and implementation of health saving technologies in physical education of students) / S.M. Futorny // Fiz. kul'tura, sport ta zdorov'ja naciï: zb. nauk. pr. Vin. derzh. ped. un-tu im. M. Kocjubins'kogo. 2014. № 3 (56). P. 312-319.
 15. Futorny S.M. Sovremennye innovacionnye podhody k organizacii fizkul'turno-ozdorovitel'noj raboty po formirovaniju zdorovogo obraza zhizni studentov (Modern innovative approaches to the organization of sports and recreation activities to promote healthy lifestyle of students) / S.M. Futorny // Slobozhanskij nauchno-sportivnyj vesnik: nauch.-teoret. zhurn. H. : HDAFK, 2011. № 4. P. 26-30.