Digital transformation of physical education: the experience of creating an environment in the system of training specialists in physical education and sports

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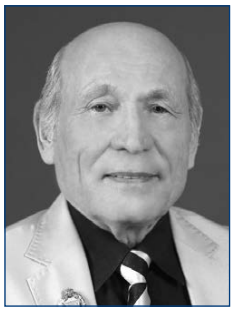

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Abstract

The purpose of the study is to generalize the experience of forming a digital educational environment for training specialists in physical culture and sports in the context of digital transformation of education on the example of Udmurt State University.

Methodology and organization of research. The following methods were used to prepare the article: analysis and generalization of scientific and methodological literature on issues related to the digital transformation of education in general and physical culture education in particular, a retrospective analysis of the formation and formation of the digital educational environment in the system of training specialists in physical culture and sports based on the authors ' experience.

Research results and conclusions. The article reveals the features of the formation of the digital educational environment in the context of the digital transformation of physical culture education, the problems associated with the digital transformation of physical culture education and the formation of the digital educational environment, taking into account the transition to a new system of higher education, the development of new sports, the features of the training direction "Physical Culture", относящегеrelated to practice-orientedму, the need формированиято both students and teachers should develop digital competencies necessary for training personnel for the digital economy. The analysis of the obtained results will make it possible to purposefully improve the digital educational environment in the system of training specialists in physical culture and sports in the areas of organizing the educational process, scientific activities, educational work, in the direction of administrative management and strengthening the material and technical base of the university, taking into account the development of modern digital technologies.

Keywords: *digital educational environment, digital transformation of physicalго culture educationя, training of specialists.*

Introduction. At the present stage, our country is actively implementing initiatives for the digital transformation of key sectors, including the economy, industry, social sphere, education, healthcare, as well as physical culture and sports. The key points in this process were the approval of the national program " Digital Economy "and the adoption of the document"Strategy for the development of the Information Society in the Russian Federation for the period 2017-2030". In the context of the implementation of the latter, the National Project "Education" was formed, an integral part of which was the federal project "Digital Educational Environment" (DSP). This initiative is aimed at creating an innovative and secure digital educational ecosystem that guarantees the availability and high level of educational services of all types and stages. The implementation of this idea implies the creation of an appropriate technological foundation both within the framework of the national educational system and in relation to specific areas of professional training.

The purpose of the study is to generalize the experience of forming a digital educational environment for training specialists in physical culture and sports in the context of digital transformation of education on the example of Udmurt State University.

Methods and structure of the study. In preparing this work, the following research approaches were applied: a comprehensive review and synthesis of scientific and methodological sources covering the problems of digital transformation of the educational sphere in general and physical culture education in

particular. In addition, a detailed retrospective analysis of the processes of the emergence and evolution of the digital educational ecosystem in the context of training professionals in the field of physical culture and sports was conducted, based on many years of practical experience of the authors of the study.

Research results and their discussion. As the analysis of scientific and methodological literature has shown, many researchers have turned to the study of the concepts of "Digital transformation of education" and "Digital educational environment" [6, 10, 13].

In our opinion, the digital transformation of education, including in the field of physical culture, implies a fundamental rethinking of the educational process. This processincludesючает the development and implementation of digital educational resources – a new generation of didactic materials operating within the digital educational environment. This environment covers a wide range of components: 1) technological infrastructure (computers, tablets, mobile devices, Internet connections, video equipment, multimedia projectors, etc.); 2) specialized digital educational resources that take into account the specifics of physical education; 3) integrated management systems that ensure the digitalization of key aspects of the university's activities, including: distribution of teaching load, accounting for scientific publications; financial management of the university's activities; management; electronic documentmanagement; organization of the educational process; coordination of research work; methodological support; automation of the student recruitment process, i.e. the digital educational environment should cover all areas of activity of the educational institution: the educational process, administrativeyu, and managerial,research воспитательную and educational worky. Naturally, the formation of such an environmentdepends to a certain extenton the development of scientific and technological progress, the level of development of informationand communication technologies, including such advanced technologies as artificial intelligence, neural networks, virtual and augmented reality technologies, distributed registry systems, quantum computing, advanced manufacturing technologies, elements of robotics and sensor systems as well as wireless communication technologies, which are called "End-to-end technologies" [6].

It should be noted here that the digital transformation of education and the formation of the digital educational environment of each university has taken place and is currently taking place on the basis of the transition from the beginning of computerization, to the use of information technologies, and already at the present stage to digital transformation. Большое значение для формирования цифровой образовательной of course, access to the global Internet is of great importance for the formation of a digital educational environment,. It is significant that already in 1999, more than a hundred Russian universities began to actively use the Internet in their educational, scientific and methodological activities. Among these advanced educational institutions was Udmurt State University, where the introduction of the Internet significantly accelerated the development of its capabilities to optimize the educational process and research work of university students, including students of the Institute of Physical Culture [13].

Multimedia digital educational resources developed by teachers are of great importance for students of the "Physical Culture" training area: training and monitoring programs, courses for distance learning, mobile applications and other materialsthat act as new learning tools and methods of organizing classes, as pedagogical tools that allow achieving the intended goals [1, 8, 9, 11].

The preparation of teaching materials related to both the creation and use of modern digital educational resources is important in the formation of digital literacy among future professionals in the field of physical culture and teachers, who, in the context of the digital transformation of sports and pedagogical education, need to master the skills of both developing and applying such resources in their professional practice. In this aspect, the creation of the first textbook "Information Technologies in physical culture and sports", which has passed a number of reprints, played a significant role in shaping the digital educational landscape in the field of physical culture and sportse и спорте[4, 7].

Moreover, the accumulated knowledge in the development and implementation of digital educational tools in the training of specialists in the field of physical culture and sports was embodied in pioneering dissertation research (O. B. Dmitriev, PhD thesis, 2003, P. K. Petrov, PhD thesis, 2004). The key conclusions obtained in the research process were: they are summarized in the scientific monograph [12].

The introduction of advanced information technologies in the field of physical culture and sports has served as a catalyst for the development of research activity in this area. An important stage in the methodological support of such research was the publication

of the textbook "Fundamentals of scientific and methodological activities in physical culture and Sports" [2], which systematized approaches to conducting scientific work using digital tools.

Udmurt State University regularly acts as a platform for holding All-Russian and international scientific and practical conferences dedicated to the use of information technologies in the field of physical culture and sports.

The results of research carried out under the auspices of the scientific direction "Digital technologies in the field of physical culture and sports"are a valuable source for the research and teaching staff of the university in the framework of digital modernization of physical culture education. These results, available in an electronic version, are available on the university's website at: http://itsport.school.udsu.ru/.

In recent years, artificial intelligence and neural networks have become widely used in solving various professional tasksнных , which will also solve many problems facing students and teachers, and here, as with many digital information technology tools, it is necessary, first of all, to consider them not as a substitute for a teacher, teacher, trainer,etc. and as assistants that allow you to solve professional tasks more effectively [13].

The analysis of the directions of digital transformation of education and the means of its implementation at Udmurt State University allowed us to identify the main tools that represent the structure of the digital information environment, which can be divided into four blocks: organization of the educational process, organization of research activities, administrative and managerial activities and educational work. All work on the creation and functioning of a digital educational environment, which is an " Integrated Information and Analytical System "(IIAS), is carried out on the basis of technological support: hardware and software. The main source of information in the digital educational environment is the university's website (https://udsu.ru/).

So, for example, the organization of the educational process is linked to such sections as the personal account of the student and teacher, where, depending on whose account, you can use with different information. Students have access to study plans, work programs of disciplines, class schedules, results of tests and exams, portfolios, etc. Teachers can access information about group lists, electronic lists, work programs and assessment funds, teaching load, publications, etc. In the "Learning" section, distance learning courses are available for students and teachers, which teachers develop and use in their own disciplines. An important task in the organization of the educational process is the availability of electronic library systems (EBS) such as EBS"Yurayt", EBS"UdNOEB", EBS"Znanium", EBS"IPR SMART". Educational and scientific laboratories, computer classes, and multimedia classrooms with Internet access are also connected with the organization of educational work. Of great importance in the university's activities is the "Admission" section, which contains all the main documents and technologies for admission of applicants. For the organization of scientific activities, sections of the website "Science" are available, where you can get acquainted with news, organization and holding of scientific and practical conferences and exhibitions, grants and competitions, get acquainted with scientific schools of teachers and scientific publications of the university, youth science, postgraduate and doctoral studies, etc. The "Anti-plagiarism University" system is available for checking the originality of articles and students' research papers. Here it should be emphasized that the role of the scientific block, first of all, is to attract students to research activities. The administrative and management unit is responsible for the activities of institutes and faculties, departments, is engaged in the formation of the academic load of teachers, the activities of educational and methodological management, planning and budget management, the state and development of material and technical support, etc. Educational work, first of all, is carried out in the process of performing educational, scientific, sports and mass cultural work. In addition , such site pages as "Sports Club", "Council of Veterans", etc.

As can be seen from the analysis, it should be noted that the digital educational space comprehensively contributes to the formation of professionals for an innovative economy, and is constantly being improved depending on the goals set, content, means and methods of teaching and upbringing, and organizational forms of their implementation.

However, today there are also new problems associated with both the specifics of the "Physical Culture" training area and the transition to a new higher education system [5].

First, the direction of training "Physical Culture" refers to practice-oriented, i.e. in the process of training students, especially in sports and pedagogical disciplines, there is a combination of different types of training: theoretical, physicaloй, technicaloй, methodologicaloй, research, which requires the formation of universal (soft skills) and professionalx skills (hard skills), which also requires the development of appropriate criteria for assessing the formation of

these competencies. Secondly, появляются внew and new sports are appearing in the Council of Europe, including computer sports and "Digital", which requires their consideration and diversification of physical education [3].

Conclusion. The presence of a digital educational environment, which includes a wide range of innovative author's digital educational materials, creates optimal conditions for training highly qualified personnel in the field of physical culture and sports at all levels of education (bachelor's, master's, postgraduate). This contributes to the effective development of future specialists and teachers ' digital skills, which are critical in the context of the formation of the information society. On the eve of the transition to a new model of higher education in Russia, planned for 2025-2026г., it is extremely important to integrate the accumulated experience of digital modernization of physical education and further improvement of the digital educational infrastructure, taking into account the emergence of new digital sports, such as computer sports and "Digital" on the basis of a modern methodological system of training personnel for the digital economy.

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