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Professional training of future specialists in physical culture and sports in the information society

Formación profesional de los futuros especialistas en cultura física y deporte en la sociedad de la información

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Abstract

The theoretical foundations of the professional training of future physical culture and sports specialists by the global challenges of the information society have been clarified. It has been proven that thanks to information technologies it is possible to search for quick information; organization of quasi-professional interaction on virtual platforms; in athletes, based on the results of tracking their physical characteristics, the analysis of empirical data is automated; the use of specialized software, technologies for working out a certain type of motor skills, techniques, physiological changes in the body of a person, in social networks, chats, etc., for the visualization of individual sports movements. The impossibility of quality training of

future specialists in physical culture and sports without the use of digital technologies has been proven. The principles of self-organization of future specialists in physical culture and sports by the global challenges of the information society (generally pedagogical, specific) are defined. The leading principles and acmeculturological ones are singled out. A survey of future physical culture and sports specialists was conducted to clarify the main issues of their quality training.

Keywords: cultural physical, professional development, information, information technologies, training.

Resumen

Se han aclarado los fundamentos teóricos de la formación profesional de los futuros especialistas en cultura física y deporte de acuerdo con los retos globales de la sociedad de la información. Se ha comprobado que gracias a las tecnologías de la información es posible buscar información rápida; organización de interacciones cuasi-profesionales en plataformas virtuales; en deportistas, a partir de los resultados del seguimiento de sus características físicas, se automatiza el análisis de datos empíricos; el uso de software especializado, tecnologías para trabajar cierto tipo de habilidades motoras, técnicas, cambios fisiológicos en el cuerpo de una persona, en redes sociales, chats, etc., para la visualización de movimientos deportivos individuales. Queda demostrada la imposibilidad de una formación de calidad de los futuros especialistas en cultura física y deporte sin el uso de las tecnologías digitales. Se definen los principios de autoorganización de los futuros especialistas en cultura física y deporte de acuerdo con los retos globales de la sociedad de la información (generalmente pedagógicos, específicos). Se destacan los principios rectores y los culturoológicos cumbre. Se realizó una encuesta a los futuros especialistas en cultura física y deporte con el fin de aclarar las principales cuestiones de su formación de calidad.

Palabras clave: cultural física, formación profesional, información, tecnologías de la información, entrenamiento.

1. Introduction

The transition to the digital economy contributed to the deep and intensive penetration of information technologies into the educational process, which led to the new innovative development of higher education institutions and stricter requirements for professional training of future physical culture and sports specialists, their competence, by the global challenges of the information society. Effective tools are digital educational resources in those institutions of higher education that implement digitalization in their activities, simplifying tasks and personalizing the educational process. Outdated models of competencies of future specialists need reorientation and revision to the realities of the information society and global economy and therefore should be aimed at a competitive graduate, ready for the opportunities and challenges of digital transformation (Denysova, 2020). Therefore, the strategy and content of the professional activity of the teaching staff of higher education institutions depend on the socio-cultural conditions in which the system of educational tasks functions regarding the quality of professional training of a specialist at a specific stage of social development. In the system of higher education, the leading trends are determined, which in the training of specialists determine the need for qualitative changes and outline the requirements for professional training, future specialists in physical culture and sports, and the requirements for the personality of a teacher of a higher school today. The formation of a highly qualified future specialist in physical culture and sports, his creative personality, takes place on the condition that the future specialist is given opportunities for self-organization, self-realization, self-improvement, self-education, which takes place in the process of active educational and professional activity, taking into account the context of his future profession (Myronchuk, 2018).

It is the digitization and technologization of society that is important in the field of education because they provide new ideas about educational results that are impossible or difficult to achieve in the conditions of

ordinary, traditional education: emotional contact of students of education, real communication, use of material devices and objects.

The professional training of future specialists in physical education and sports, their acquisition of e-communication skills, digital skills, and mastery of information means of a specialized field is impossible without the organization of an electronic (virtual) information and educational space (Lazorenko, 2021).

2. Literature Review

O. Bida, O. Shevchenko, O. Syroezhko, K. Shovsh, & V. Vizaver (2023), the peculiarities of group interaction of students of education in team sports, the methodology and theory of organizing such interaction are revealed. The necessary ways of carrying out high-quality training of specialists and the organization of sports events are shown, which contributes to this position and instilling love for sports, increasing the level of physical development of the individual, improving the state of health, physical fitness, which has a clear tendency to constant deterioration. Examples of physical culture and sports activities that allow solving these issues are given. The types of communication (direct and indirect) that are necessary for the organization of group interaction of future specialists in team sports in the course of sports events during which the mental education of the participants of the educational process is carried out are revealed. The main functions of competition organizers, sports referees, teachers of physical culture and sports in team sports related to the organization and conduct of sports competitions are highlighted.

A scientific solution and theoretical generalization of the problem of professional training of future specialists in physical culture and sports by the global challenges of the information society, built on acmeculturological principles, was proposed to I. Ivani (2021). The developed system of professional training of future physical culture and sports specialists on the acmeculturological basis, which is represented by five structural blocks (theoretical-methodological, substantive, target, organizational-procedural, criteria-evaluative), was theoretically substantiated and experimentally verified. The synergistic relationship between the culturological approach and the acmeological approach as an effective basis for the professional training of future physical culture and sports specialists by the global challenges of the information society is shown, and the category "acme-cultural approach" is substantiated. The structure of the defined concept of "professional and pedagogical culture of a physical culture and sports specialist" is described. Pedagogical conditions for the professional training of future specialists in physical education and sports, built on acmeculturological principles, are proposed.

M. Danylevich (2018) revealed the methodical and theoretical foundations of the professional training of future specialists in physical education and sports for recreational activities. A system of such training of future specialists has been proposed, which includes a designed model, a developed concept, created educational and methodological support, and identified pedagogical conditions for such professional training. It is indicated that the system of professional training of future specialists in physical education and sports is a complex entity consisting of theoretical-methodological, target, organizational-technological, substantive, and criterion-evaluation blocks, which are shown in the model. Ensuring the implementation of the developed pedagogical conditions represents the effectiveness of the developed system of professional training for recreational and recreational activities of physical education and sports specialists: filling the content of training with professionally oriented disciplines, taking into account the specifics of recreational and recreational activities; ensuring the training of specialists with modern information and communication technologies, active methods in education, subject-subject interaction of education seekers and teachers; integration of practical, theoretical, research training of specialists in physical education and sports in the process of organization of research work and practical training of students.

S. Lazorenko (2021) proposed a solution to an important problem for future physical culture and sports specialists in the conditions of mixed education: the formation of information and digital culture. The

(practical and theoretical) principles of the formation of information and digital culture in the future specialist of physical culture and sports in the conditions of mixed education are substantiated. The concept of "informational and digital culture of the future physical culture and sports specialist" is revealed, and its main components (motivational, reflexive, axiological, cognitive, technological, communicative-suggestive) are distinguished. For future specialists in physical culture and sports, the author's system of formation of information and digital culture in the conditions of mixed learning is presented, which as a result ensures positive dynamics of the levels of formation of all components of the training of future specialists in physical culture and sports by the global challenges of the information society; is based on methodological approaches (technological, cultural, systemic, activity-based, BYOD-approach, student-centered, visual-digital); is subject to the following principles: the principles of creating digital educational resources, the use of blended learning; principles of professional training.

L. Denisova (2020) substantiated the methodological and theoretical principles of using information and communication technologies for the professional training of future masters of physical culture and sports. Developed a system of professional training using information and communication technologies for future masters of physical culture and sports and presented the author's concept of such training. Submitted the author's presentation of the concepts "professional training of future masters of physical culture and sports using information and communication technologies", and "readiness for professional activity of future masters of physical culture and sports, which is formed in institutions of higher education using information and communication technologies", "professional competence of masters of physical culture and sports, which is formed in institutions of higher education using information and communication technologies", "information and communication competence of masters of physical culture and sports" and "informational and educational environment of higher education of future masters of physical culture and sports".

O. Bida, O. Shevchenko, & O. Kuchai (2018) presented one of the promising areas of higher education development: the use of innovative technologies in physical education and sports, clarifying the meaning of the terms "innovation" and "pedagogical technology". They proved the need for the modern innovative society to introduce new technologies into education, which has theoretical and pragmatic significance because in the conditions of globalization, the historical development and perspectives associated with "high technologies" are of primary importance. They showed the peculiarities of improving the training of specialists in physical education and sports using innovative technologies, which were tentatively divided into groups, depending on the form of educational activity appropriate for their use. They characterized the technological criteria that are important in the development of innovative pedagogical technologies in physical education and sports at the current stage of education development (scientific; systematic; guaranteed; manageable; massive).

O. Bezcopylnyi (2020) developed and characterized the system of training for health-preserving activities in primary school for future physical education teachers. In the professional training of future teachers of physical culture, he revealed the theoretical foundations of health-preserving activities in primary schools. He presented the historical aspects and results of monitoring the professional training of future teachers of physical culture in primary schools for health-preserving activities. The practical training of future teachers of physical education in institutions of higher education: domestic and foreign was analyzed. Presented the model and developed the concept of the system of professional training of future teachers of physical culture in the primary school for health-preserving activities. Pedagogical conditions for the professional training of future physical education teachers have been identified and theoretically substantiated about health-preserving activities in primary schools.

The purpose of the article: is to find out the theoretical foundations of the professional training of future physical culture and sports specialists by the global challenges of the information society.

3. Methodology

To fulfill the research goal, theoretical methods of scientific research were used: analysis of philosophical, psychological and pedagogical, methodical literature and special specialized literature on physical culture and sports, teaching aids and textbooks; comparative analysis; retrospective analysis, study of prospective experience in practical activities in order to clarify the problem of the state of development of the quality of professional training of future physical culture and sports specialists in accordance with the global challenges of the information society in pedagogical practice and scientific literature of higher education institutions: foreign and domestic; structural and systemic analysis and abstraction to reveal the content of the structural components of readiness for professional training of future physical culture and sports specialists, which is formed using information and communication technologies in higher education institutions; synthesis and systematization for determining indicators, criteria and characteristics of levels of readiness for professional training of future specialists in physical culture and sports in accordance with the global challenges of the information society; design and generalization for the development of the content of professional training of future physical culture and sports specialists in accordance with the use of information and communication technologies; modeling for the purpose of developing a system of professional training of future physical culture and sports specialists using information and communication technologies; empirical – survey, pedagogical observation, expert evaluation, self-evaluation.

The leading idea of the study is that the professional training of future physical culture and sports specialists by the global challenges of the information society involves:

- provision of quality education for professional training of future physical culture and sports specialists;
- taking into account the positive gains of foreign experience in such training;
- availability of open access to information by the global challenges of the information society and its compliance with the educational, professional, and scientific needs of future physical culture and sports specialists;
- development of creative and intellectual abilities of future physical culture and sports specialists, increasing their desire for self-education throughout their lives;
- access of future specialists in physical culture and sports, engaged according to an individual schedule, to informational educational resources;
- orientation of future physical culture and sports specialists on the profile of future professional activity;
- performance of various types of work by online physical culture and sports applicants;
- implementation by teachers of online assessment of the results of independent work tasks by future physical culture and sports specialists;
- expansion of opportunities for scientific and pedagogical workers and students of physical culture and sports education in communications;
- active dissemination of web technologies, cloud technologies, remote technologies, and Smart technologies;
- the inclusion of network technologies and a large selection of educational software in the educational process.

The research is represented by the following concepts: methodological, theoretical, and methodical.

The methodological concept of the research is based on consideration of the professional training of future physical culture and sports specialists by the global challenges of the information society using information and communication technologies.

The following principles are involved: systematicity and consistency in education, scientificity, the connection of theory and practice, visibility, differentiation, individualization, variability of the subject

content of professional training, the collective nature of education in combination with the development of individual characteristics of the student of education, academic integrity.

The position of quality training of specialists is represented by methodological approaches: acmeological, qualitative, axiological, competence, systemic, and personally oriented.

The acmeological approach in the professional education of specialists in physical culture and sports affects the development of the creative personality of the student, uses and reveals the personal resources of the student, to stimulate the professional motivation of the future specialist to achieve the heights in professional activity.

The qualitative approach, through the use of information and communication technologies, manages to monitor the quality of the system of professional training of future specialists in physical culture and sports.

The axiological approach effectively forms the interests, motives, professionally important, and general value orientations of future specialists.

The competence approach directs the educational process in institutions of higher education to the formation of professional competence of future specialists in physical culture and sports with the use of information and communication technologies.

The systematic approach considers the professional training of future specialists in physical culture and sports by the global challenges of the information society, as a system with a multi-element structure consisting of tasks, goals, forms, methods, means, content, projected results of education of higher education seekers, methodical support.

A personally oriented approach creates the individualization of the process of professional training of future specialists in physical education and sports, the creation of a personal learning environment by the global challenges of the information society for the organization of the personal trajectory of acquiring knowledge by future specialists.

The theoretical concept of the research provides a substantiation of the research concepts of professional training of future physical culture and sports specialists by the global challenges of the information society. The technological concept of the study makes it possible to reveal the content of the components of readiness for professional activity of future specialists in physical culture and sports, which is formed with the use of information and communication technologies in institutions of higher education; helps to identify and theoretically substantiate the effective conditions of professional training of future physical culture and sports specialists by the global challenges of the information society; contributes to the development of the system of professional training of future physical culture and sports specialists by the global challenges of the information society.

The methodological concept of the study provides educational and methodological support for the professional training of future physical culture and sports specialists to the global challenges of the information society.

4. Results and Discussion.

Professional training of future specialists in physical culture and sports by the global challenges of the information society today is impossible without the use of digital technologies. Thanks to information technologies, it is possible to find quick information; organization of quasi-professional interaction on virtual platforms; in athletes, based on the results of tracking their physical characteristics, the analysis of empirical

data is automated; the use of specialized software, technologies for working out a certain type of motor skills, techniques, physiological changes in the body of a person, in social networks, chats, etc., for the visualization of individual sports movements.

According to the analysis of the features of professional training in the system of higher education of future specialists in physical culture and sports by the global challenges of the information society of the developed countries of the world, the strengthening of the information and digital component in it has been confirmed. By the global challenges of the information society, future physical culture and sports specialists must have a sufficient level of knowledge in the fields of physical culture and sports and information technologies and be prepared and aware of the use of information technologies in professional further activities, which will contribute to the formation of future physical culture and sports specialists of a new quality – at the same time a specific type of culture: digital and informational (Lazorenko, 2021).

Contextual training of future physical culture and sports specialists by the global challenges of the information society implements a productive learning strategy.

One of the main ways of implementing such training is the organization of the educational process in institutions of higher education based on the pedagogical co-creation of students and teachers. The subjective and objective factors of the implementation of high-quality pedagogical collaboration between students and teachers in the educational process include the following:

- optimal use of dialogic forms when teaching students of education;
- introduction of elements of creative training into the process of preparation;
- the use of a group form of training for education seekers;
- formation of motivation for co-creation in the subjects of interaction;
- based on creative educational and professional tasks, the problematic nature of the educational process;
- creation of mutual respect, a good-natured psychological atmosphere, and equality of participants in the educational process;
- focusing on the optimal self-realization of the education seeker, the mandatory use of pedagogical means of indirect management;
- the transformation of the teacher's position as a consultant, not a carrier of information, as well as an organizer of the educational process.

We will determine the principles of self-organization of future physical culture and sports specialists by the global challenges of the information society.

General pedagogical:

- subjectivity;
- humanistic orientation;
- integrity and continuity of the pedagogical process;
- social and personal development of the connection between theory and practice, etc.;

Specific:

- the principle of self-determination – self-determination of internal motivation in various situations of professional activity, own behavior, freedom;
- the principle of self-actualization of experience – quick self-organization for acquiring new knowledge, using the individual experience of the student of education;

- the principle of self-correction – awareness of one's own experience, overcoming the stereotypical understanding of oneself as a source of knowledge, feeling the specificity of the situation, establishing a dynamic balance of professional activity and one's personality;
- the principle of self-organization of time – planning ways to achieve one's own goals and realizing their necessity; rational distribution of time to overcome the daily routine and monotony of life for various activities;
- the principle of development of creative thinking – direct adoption of creative, non-standard decisions, creation of alternative ways in professional activity, overcoming uncertainty of situations (Myronchuk, 2018).

In addition to general didactic principles and specific principles of learning, we will highlight the leading principles of physical culture and sports:

- comprehensive, harmonious personality development;
- age adequacy of physical activity;
- health, therapeutic and adaptive orientation;
- a gradual increase in physical activity;
- alternation of load and rest;
- connection with life activities;
- systematicity;
- accessibility and individualization.

Let's consider acme-cultural principles:

- the principle of continuity of three levels of education: special (professional-pedagogical), general (general cultural), and individual development (personal), which makes the logic of mastering the content of education and the connection between the stages of becoming a future specialist accessible. The principle from the level of the consumer of education services to the level of creating acme-cultural values of society and the individual creates conditions for the development of the activity of the subject of cognitive activity.
- the principle of integration of all the essential forces of a specialist and the integrity of his formation, which are manifested in intellectual, motivational, bodily-motor, emotional, and moral aspects. With this approach, integrity, self-improvement, and creative self-realization act as a factor in the comprehensive development of the individual.
- the principle of personality formation in a variety of activities acts as the main element of professional and pedagogical training of physical culture and sports specialists by the global challenges of the information society on an acmeculturological basis. The essence is that in the process of professional training, students should be included in various types of activities, taking into account that the basis of the comprehensive harmonious development of the personality needs (primarily spiritual, professional, cultural).
- the principle of professional and pedagogical orientation, takes into account the need for the formation of skills, abilities, and knowledge that will be necessary in future professional activity.
- the principle of the unity of theory and practice carries out an integrative combination of practical and theoretical activities, which enables the transition to a qualitative awareness of the connections between professional experience and successful professional self-realization from the quantitative accumulation of pedagogical and sports experience.
- the principle of pedagogical reflection helps to identify the student's behavior and the meaning of professional actions, directs activity to knowledge, and enables the elimination of motivational and value contradictions, the analysis by the student of the phenomena of his activity and consciousness, directs

the individual to build a positive life and professional perspective, to the formation of the future professional and pedagogical activities and meanings of life.

- the principle of social conditionality determines the formation of the professional and pedagogical culture of the student through the socio-cultural processes that take place in society, expresses the personal image of the future specialist in physical culture and sports by the global challenges of the information society and cultivates his success (Ivanii, 2021).

The functions of competition organizers, sports doctors, teachers of physical culture and sports, and sports referees are related to the holding of sports competitions and their organization and vary depending on the nature of these people's activities. Preparing children for participation in sports competitions is one of the most important functions of physical education and sports teachers (Kuchai, 2013).

The main document that regulates and influences the results of the competition is the rules of the competition for a certain type of sport. They regulate the actions of participants, judges and provide the conditions for identifying the winners, contain a list of prohibited actions, and determine the norms of athlete behavior (Kuchai & Kuchai, 2019).

Competitions and game sports start in primary school and are of great importance for a child's health (Akseonova et al., 2020).

The basis of the educational process is information resources, which is a necessary and important condition for the quality training of future physical culture and sports specialists by the global challenges of the information society. Electronic information resources are effective when used in education, for their use devices are necessary: electronic (computer), with the aim of transformation into electronic educational resources. Today, electronic educational resources are the main component of the information content of the educational process, they are used as a means of learning, for the development of reference materials, for educational and methodological support, in scientific research, etc. (Varzar, 2013).

Therefore, the professional training of future specialists in physical culture and sports by the global challenges of the information society with the use of information and communication technologies is considered an educational process that integrates technical and software means of processing and distributing information, collecting information, and allows future specialists to effectively implement professional functions with the aim of physical improvement, increasing intellectual and physical activity of people and achieving higher sports results (Denysova, 2020).

High-quality higher education, in today's conditions, is impossible without the global use of electronic educational resources and information and communication technologies, therefore, for the qualitative training of future specialists in physical culture and sports by the global challenges of the information society, the use of electronic educational resources in the training of future specialists in institutions of higher education (Shchyrbul et al., 2022).

We will single out the main types of electronic educational resources necessary for quality training of future specialists in physical culture and sports by the global challenges of the information society:

- virtual educational resources – (existing based on cloud technologies), characterized by the speed of processes, scale, and the possibility of performing clear actions that are impossible in the real world.
- textographic (presentation of material on a computer screen), according to the same principle as in a regular book, the author sets the sequence of the material – this type of electronic educational resource does not have significant differences from the polygraphic version, it can be translated and printed in paper form of the educational material.

- multimedia resources (created on video materials): contain animation, sound, illustrations, texts, videos, and other possibilities of digital technologies.
- hypertext (built using hypertext technology). Allows viewing in an arbitrary order of text fragments defined by a hypertext link. Terms, facts, and concepts can be referenced in electronic educational resources of this type, they provide an opportunity under the conditions of choosing a keyword (or word combination) to obtain qualitative information for clarification (Lytvynova, 2011).

We will reveal the advantages of using electronic educational resources for high-quality training of future specialists in physical culture and sports by the global challenges of the information society:

- combined content and simultaneous impact on various organs of information perception.
- an opportunity for the student to study the presented material independently at a convenient time.
- transmission of information in various ways.
- the possibility to simulate various pedagogical situations and processes.
- formation of innovative thinking and activation of cognitive activity.
- the possibility to distribute information via the Internet.
- Interactivity.
- possibility to supplement educational courses with new data.
- convenience and wide possibilities of searching for information.
- convenience, simplicity, and reliability of information storage.

The integration of modern information and communication technologies into the educational process provides opportunities for the implementation of new ideas in the field of education, in particular for the implementation of various forms of electronic learning (distance learning and mixed) (Kravchenko et al., 2022).

The main technological base, which widely uses the technology of mixed learning in the practice of training future specialists in physical culture and sports to the global challenges of the information society, gives primary importance to the modern learning management system Learning Management Systems (LMSs) and based on organizational measures and training methods, Internet technologies, which allow to implement various types of electronic forms of education, are a complex of software and technical means.

Cloud services are an ideal platform for automating the training of future specialists in physical education and sports by the global challenges of the information society, as they allow many students to collaborate at the same time and do not require the purchase of hardware. When using information and communication technologies during the training of future specialists in physical culture and sports, there is a problem of providing information support, choosing the optimal way of organizing the educational process, and mastering educational disciplines with the rational use of information and communication technologies in the educational process with students taking into account the specifics of the specialty of physical culture and sports. An example of an open service, such as a platform where a teacher can create his unique educational course, can be the Google service for educational institutions (G Suite for Education). This software service is provided free of charge to public institutions as a "Software as a Service" through an accessible Internet browser.

Let's emphasize that digital technologies cannot completely replace real communication with the teacher and the classroom's traditional form of the educational process in all academic disciplines (Bezcopylnyi, 2020).

Modern information and communication technologies: web conferences, and webinars, provide the opportunity to remotely participate in symposia, scientific and practical conferences, debates, etc. to scientific and pedagogical workers; via e-mail: cooperation with other institutions of higher education takes place, collections of scientific papers are sent, invitations are sent to publicize the results of scientific research, and materials of conference results are also stored, cooperation with sports federations takes place. Scientific and pedagogical workers, students of education, that is, future specialists in physical education and sports by the

global challenges of the information society, actively interact with the help of social networks, which simplifies the process of information exchange between the participants of the educational process.

Active in the means of information exchange are services such as the Facebook social network, which is a tool for student youth to cooperate with academic supervisors, research advisors, and participants in educational activities.

Through social networks, information is provided about planned scientific conferences, projects, and debates, which makes communication more accessible and allows for the process of integration between interested persons who are representatives of other higher education institutions.

The use of special programs in the research environment provides an opportunity to hold audio and video conferences, communicate in real-time, transfer text, files, and images. With the help of Viber, a special messenger, future specialists in physical culture and sports by the global challenges of the information society can quickly receive advice on important educational issues.

Online services have significant potential for improving the system of training future physical culture and sports specialists, respectively. The most popular are Office Online, Google Docs, Teamlab Office, Zoho Docs, iWork, ThinkFree, QuickOffice, Gliffy, Documents To Go, Dropbox, DocMe, Microsoft OneDrive, and Google Drive.

The vast majority of interviewed future specialists in physical culture and sports, in particular, possess:

78.1 % of the skills and abilities to search for information of an educational, professional, and scientific nature to navigate the Internet;

77.04 % with the knowledge to ensure in the field of physical culture and sports scientific and research activities through automated

75.97 % skills and abilities of free work in user mode on a modern personal computer; information and search systems;

75.18 % with the skills and abilities to process informational material using the services of the global Internet network;

71.05 % knowledge of the principles of personal computers, the conceptual apparatus of computer technology;

71.08 % are good or fluent in general-purpose software (Microsoft Office tools, in particular, MS Excel, MS Word, MS Access, and MS PowerPoint);

25.89 % knowledge for the effective solution of tasks of scientific activity in the field of physical culture and sports about information resources of electronic databases of scientific periodicals;

25.38 % knowledge about the use of modern information technologies and their promising directions for solving effective tasks of professional activity;

24.87 % of skills and abilities to fill web pages with informational, professional material in the field of physical culture and sports to use the hypertext markup language of HTML documents;

24.27 % with knowledge of modern global computer networks;

24.39 % skills and abilities to work with graphic information processing software packages;

24.33 % are good or fluent in Internet services (WWW network service, e-mail, webinars, web conferences, etc.);

23.95 % have skills and abilities based on cloud computing to apply modern computer technologies to solve professional tasks;

23.60 % with knowledge of computer network services;

18.41 % skills and abilities to organize methodical and informational materials and regulatory documents.

According to the priority of the use of communication and information technologies, cloud computing technologies took the first place; in second place, virtual educational environments Google Classroom, Moodle, etc.; in third place, messengers, e-mail, webinars, WWW network service, etc. – Internet services; in fourth place, graphic information processing programs, Microsoft Office tools, etc. – general and special purpose software; in fifth place, Hangouts, Zoom, Skype, etc. – video communication technologies; in sixth place, programs for recording video from monitor screens, video editing programs, etc. – technologies for creating multimedia projects (Plakhotnik et al., 2023).

The use of cloud technologies makes it possible to optimize the process of training future specialists in physical culture and sports by the global challenges of the information society, to simplify the process of monitoring the quality of the results of educational activities of education seekers, and to create conditions for self-evaluation of learning results, which are necessary for effective professional future activities in the field of physical culture and sport (Denysova, 2020).

The task of teachers of higher education institutions is to choose such technologies that would allow every future physical culture and sports specialist to show creativity and activity. That is, along with traditional education, multimedia technologies take place (Plakhotnik et al., 2022). The tools of multimedia technologies, which are necessary today, are of great importance in the high-quality training of specialists. New information technology, multimedia, helps to achieve the set goal of quality education and represents a set of methods of production, techniques, methods of processing, storage, and transmission of audiovisual information (Shevchenko et al., 2022).

With the help of multimedia technologies, the professional thinking of specialists is formed, and this is important because often students cannot make independent decisions, it is difficult for them to predict the possible results of interaction with the team, express independent judgments, deviate from the proposed model in certain pedagogical situations (Veseliivskyi et al., 2015).

The reform of education in the world considers it necessary to use multimedia technologies in physical education and sports and is one of the promising directions of the world development of education (Dychkivska, 2004).

To meet the modern requirements of employers for physical culture and sports specialists by the global challenges of the information society, a new approach is needed as a personality of a new formation, to a mobile, physically prepared, professional-cultural, creative, morally mature, competitive professional, ready in the conditions of modern socio-cultural realities to active life. Therefore, the training of physical culture and sports specialists, taking into account the global challenges of the information society, is necessary today (Bida et al., 2018).

5. Conclusions

The theoretical foundations of the professional training of future physical culture and sports specialists by the global challenges of the information society have been clarified.

The professional training of future specialists in physical culture and sports by the global challenges of the information society with the use of information and communication technologies is considered an educational process that integrates technical and software means of processing and disseminating information, collecting information, and allowing future specialists to effectively implement professional functions for physical improvement, increasing intellectual and physical activity of people and achieving higher sports results.

Thanks to information technologies, it is possible to find quick information; organization of quasi-professional interaction on virtual platforms; in athletes, based on the results of tracking their physical characteristics, the analysis of empirical data is automated; the use of specialized software, technologies for working out a certain type of motor skills, techniques, physiological changes in the body of a person, in social networks, chats, etc., for the visualization of individual sports movements. The impossibility of training future specialists in physical culture and sports without the use of digital technologies has been proven.

The main ways of implementing high-quality training of specialists are shown, in particular, the organization of the educational process in institutions of higher education based on the pedagogical co-creation of students and teachers. Subjective and objective factors of the implementation of high-quality pedagogical cooperation of students and teachers in the educational process are singled out.

The principles of self-organization of future specialists in physical culture and sports by the global challenges of the information society (generally pedagogical, specific) are defined. The leading principles of physical culture and sports are highlighted. Acmeкультурological principles are considered.

A survey of future physical culture and sports specialists was conducted to clarify the main issues of their quality training.

The main types of electronic educational resources necessary for the high-quality training of future specialists in physical culture and sports by the global challenges of the information society are highlighted. The advantages of using electronic educational resources for quality training of future physical culture and sports specialists are revealed.

The integration of modern information and communication technologies into the educational process provides opportunities for the implementation of new ideas in the field of education, in particular for the implementation of various forms of electronic learning (distance learning and mixed). Cloud services are recognized as an ideal platform for automating the training of future physical culture and sports specialists by the global challenges of the information society, as they allow a large number of students to collaborate simultaneously and do not require the purchase of hardware.

The issue of the implementation of the professional functions of future specialists in physical culture and sports with the aim of physical improvement of the personality, increasing the intellectual and physical activity of people, and achieving high sports results needs to be further investigated.

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