

Employing digital tools to facilitate self-directed learning in aerobics classes

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Abstract

Objective of the study was to examination of the potential of information and communication technologies (ICT) in facilitating self-directed learning in recreational aerobics classes.

Methods and structure of the study. The research was conducted through a variety of methods, including: a review of a wide range of scientific and methodological literature, encompassing both domestic and international publications on the integration of ICT in physical education; an examination of our own practical teaching experience; quantitative research techniques, such as testing and surveys, to evaluate the impact of ICT from the perspective of students; qualitative methods, such as observing the educational process when ICT is employed; statistical analysis of the collected data using specialized software to identify trends and correlations.

Results and conclusions. The effective use of information and communication technologies in the independent work of students is a crucial element of modern education. The successful integration of ICT can enhance student motivation, improve educational outcomes, and prepare them for the demands of the information society.

The technological factors that contribute to the success of independent work are identified, and the required student skills are defined, aligned with the objectives for independent work at each stage of professional training.

Keywords: *aerobics, information and communication technologies, independent work, students, educational process.*

Introduction. In modern higher education, independent work of students is presented as one of the mandatory forms of the educational process, which is allocated a significant part of the academic load [3, 5].

The use of computer technologies is a necessary condition for the high-quality organization of independent work of students and today is considered in the context of an effective toolkit of a teacher and pedagogical technology, which is reflected in the formation of a new style of work, both for a teacher and a student. Informatization of the discipline «Elective Physical Education and Sports» is aimed at the process of providing the methodology and subject content of practical developments, the creation of an integrated system of independent work and creative tasks [2, 4, 12].

An analysis of modern publications indicates the growing role of information and communication

technologies (ICT) in the modernization of the process of teaching physical education [8, 9-11]. Education is in a state of constant renewal, characterized by the rapid development of software and the emergence of innovative digital applications. These dynamics do not simply change the means and methods of teaching, but fundamentally transform the content of educational activities, making them more independent, creative and individualized [1, 9]. Students gain access to an unlimited amount of information, which stimulates them to search, analyze and critically understand data, increasing their motivation for learning and promoting the development of self-education skills [6, 7]. In this context, studying the use of ICT in the organization and management of physical education and sports, as well as their impact on teaching methods in higher education institutions, is particularly relevant. It is necessary to deeply explore how new technologies



can not only improve the quality of education, but also help adapt the educational process to the individual characteristics of students and increase the effectiveness of the training process.

Objective of the study was to examination of the potential of information and communication technologies (ICT) in facilitating self-directed learning in recreational aerobics classes.

Methods and structure of the study. The following methods were used to conduct the study: study and in-depth analysis of a vast array of scientific and methodological literature, including both domestic and foreign publications devoted to the use of ICT in physical education; analysis of my own practical teaching experience, including observation of students, analysis of their results and feedback; detailed analysis of the ways in which students use ICT when completing independent work; quantitative research methods, such as testing and questionnaires, allowing us to assess the effectiveness of using ICT from the students' point of view; qualitative methods, such as pedagogical observation of the educational process using ICT; statistical processing of the obtained data using special software packages to identify patterns and correlations. The use of information technology in physical education classes opens up wide opportunities for improving the effectiveness of learning. Online platforms and mobile applications provide access to extensive databases with exercises, video lessons, training programs, which allows students to create individual training programs, track their progress and access information anytime and anywhere.

Results of the study and discussion. Independent work of students plays a key role in the academic discipline «Elective Physical Education and Sports» in the specialization «Health Aerobics». The increased importance of this activity emphasizes the need to take into account the individual and personal characteristics of students. Students' desire to independently manage their personal time and achievements also plays a significant role.

Thus, a necessary condition for the full-fledged education of a modern student is the creation and updating of an educational and methodological complex in the information space. In the specialization, an attempt was made to present the educational material as informative, practice-oriented and in demand in modern realities as possible. For

this purpose, an information and communication environment was created, including:

- structured video materials of educational programs with a large amount of visual material for 1st and 2nd year students;
- a block of educational and methodological manuals;
- a block of information and methodological support for independent work of students;
- scales for assessing the success of students' motor activity;

• parameters and criteria for assessing independent work at all stages of training. In addition, ICT promotes cooperation and communication between students and teachers. Online forums and chat groups allow interaction, exchange of experience, and instant help and support. Video recordings of classes allow students to review the material and clarify unclear points, and study the technique of performing exercises. Online testing and assessment systems allow the teacher to quickly and objectively assess the knowledge and skills of students, and students to track physical activity and progress. The specialization has developed a block of independent work and creative tasks, an algorithm for their implementation by semesters, which is based on the Bloom system of educational goals, which is based on the most basic goals and corresponding skills and abilities, and at the peak - complex and multi-component ones. This algorithm has been tested in the educational process, which made it possible to create conditions for active independent activity of students. Target settings at all stages of training are aimed at achieving a given educational result. At the end of each semester (stage of training), students must demonstrate a certain level of practical skills acquired in the process of performing independent work and creative tasks. Computer technologies have made it possible to create an information data bank for performing creative tasks and independent work, systematize pedagogical information, promptly present it at the request of students, analyze and evaluate the results of pedagogical influence. The presented model specifies the goals, main stages, principles and conditions for the effective use of ICT in the educational process of specialization.

The authors used sociological methods to assess the degree to which students use information technology in the educational process. The sub-



jects were 238 first-year students and 88 second-year students studying in the Health Aerobics specialization at SPbPU.

The survey results showed that the majority of students (75.2%) agree that without the use of digital technologies, the productivity of learning will decrease and, accordingly, it will be more difficult to achieve a significant effect from training and get high results from learning. However, only 10.1% of the surveyed students would like to switch completely to e-learning in Elective Physical Education.

92.9% of respondents use ICT in preparation for practical classes, in independent work and when completing creative tasks. Watching videos stimulates cognitive activity in the subject being studied in 85.9% of respondents, and 85.3% of respondents were able to apply the acquired special knowledge and skills in practice. Teachers noted that the implementation of ICT as a means of methodological support for classes helps students master and perform exercises more quickly, reduces the time for explaining the material, and notes the effect of increasing the motor density of the lesson. The results of pedagogical observation showed that the following should be noted among the positive factors of using ICT:

- students' concentration on the educational material;
- manifestation of stable motivation for systematic classes, 88.3% of respondents plan to do physical exercises in the future;
- acquisition of personal experience in the creative use of these technologies and tools in classes in their free time;
- manifestation of independence and creative activity.

However, the introduction of ICT in the process of teaching physical education is associated with certain difficulties. This may include lack of funding, lack of necessary modern equipment, lack of competence of teachers in the field of ICT. It is also important to take into account the psychological aspects of using ICT, for example, the risk of digital addiction and the negative impact on the health of students. Only an integrated approach that takes into account all aspects of the introduction of ICT will achieve maximum efficiency in the educational process in physical education.

Conclusions. 1. High-quality organization of independent work of students using information

and communication technologies is an important aspect of the modern educational process. Successful implementation of ICT can significantly increase students' motivation, improve the quality of education and prepare them for the challenges posed by the information society. 2. Technological features that affect the success of organizing independent work of students have been identified, the level of necessary student competencies has been formulated, corresponding to the target settings when performing independent work at all stages of training in the specialization. 3. Teachers constantly monitor and evaluate the effectiveness of using ICT, adapting teaching methods to constantly changing technologies and the needs of students.

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