Digital educational content «moscow electronic school» in the students learning and training process

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Abstract

Objective of the study was to justify the introduction of digital tools for learning the content of the «Moscow Electronic School» (MES) in the practice of the educational and training process of students for the accelerated development of new types of sports.

Methods and structure of the study. The experiment took place on the basis of the Russian Economic University named after G.V. Plekhanov and Financial University under the Government of the Russian Federation. Two equal groups were created: experimental (N1, n=50) and control (N2, n=50). In group N1, digital learning tools «Libraries of electronic materials» of digital educational content «Moscow Electronic School» (MESH) have been implemented: video files, images, audio files, arranged in thematic blocks by sections of training, levels of training. In group N 2, traditional learning technologies were used.

Results and conclusions. The use of the educational content «Moscow Electronic School» (MES) in the practice of the educational and training process in the elective discipline Physical culture and sport in the university increases the effectiveness of the educational process due to the use of digital learning tools and information computer technologies in the real conditions of the educational and training class and in a remote format; for the teacher – a selection of electronic scenarios of the educational and training session in accordance with the preparation section, the level of preparedness of the participant at the current moment; for a student who has started to master a new kind of sport - to quickly and correctly form an idea about a new element of technique and implement it in motor activity with a minimum number of errors; raise the level of physical and functional preparedness independently.

Keywords: *Moscow Electronic School (MES), digital learning tools, distance learning.*

Introduction. The social order of the Government of the Russian Federation on the strategic direction in the field of digital transformation of physical culture and sports until 2030 (Order of the Government of the Russian Federation dated February 7, 2024 No. 264-r) involves the collection of data in the field of physical culture and sports, carried out in electronic form, including through information systems used by government authorities of the constituent entities of the Russian Federation. The digital ecosystem in this industry is just being formed, despite the fact that digital technologies have been successfully used in the field of education for a long time. As an example, the structure of digital educational content «Moscow Electronic School» (MES), which in the modern digital education ecosystem of Russia represents a unique repository of educational electronic materials and tools that combine traditional education and digital technologies, allowing all participants in the educational process to learn and teach in a new way . The use of digital learning tools of the «Moscow Electronic School» in non-sports universities in the discipline of Physical Culture and Sports is relevant in modern conditions [1, 2, 6, 8]. Firstly, many students choose new sports to practice; secondly, by the end of the first semester (after about 4 months), students need to receive their first pass in their chosen sport. Accordingly, a contradiction arises between the time limit allotted for learning new technical elements of a sport and the requirements for the result of mastering. The advantages of the content are: a new format for interaction between student and teacher; modern technologies in education; availabil-

ity of electronic educational materials; the ability to access content from any computer connected to the Internet; the ability to create your own training lesson scenario, work remotely, and use the «Library of Electronic Materials». The content of the Moscow Electronic School is recognized by the Russian and foreign communities. The list of awards includes: Runet Prize in the category «Science and Education» (2017); handerDB «100 best global innovations in education»; Runet Award in the category «Technology vs Corona Virus» (2020); Competition of Russian developers «Digital Peaks» (2020); International IT World Awards in the category «Team of the Year during COVID-19».

Objective of the study was to justify the introduction of digital tools for teaching the content of the «Moscow Electronic School» (MES) into the practice of the educational and training process of students for the accelerated development of new sports.

Methods and structure of the study. The experiment took place on the basis of the Russian Economic University named after G.V. Plekhanov and the Financial University under the Government of the Russian Federation from September 2021 to May 2023. Two equal groups were created: experimental (N1, n=50) and control (N2, n=50).

To solve the problems, the following research methodology was used:

Diagnosis of technical readiness was carried out using standard tests used in the training of athletes at the initial stage of training. In particular, in the «Basketball» section, we used materials on teaching techniques for the basic elements of entry-level basketball (stands, dribbling the ball on the spot and in motion, throwing on the spot and on the move, passing the ball). A total of 11 technical elements were selected, rated on a 6-point scale of the form: 5, 4, 3, 2, 1, 0.

Diagnosis of the level of functional readiness of students during the learning process was carried out using electronic fitness bracelets «Qumann QSB 10». The following methods were used: pulsometry (to determine the level of individual functional fitness); timing (to measure time spent on certain activities).

Indicators of the level of physical fitness were recorded in the developed «Health Card» of the student.

To determine the level of satisfaction of students and teachers with the digital learning tools of the Moscow Electronic School (MES) platform, a digital constructor for online surveys «EXAMINARE» was used. The questionnaire contained questions to determine the level of readiness of teachers to use new digital educational technologies in the educational and training process in real conditions of an educational and training session; for students - to train independently in a distance format.

Group N1 has implemented digital learning tools «Libraries of electronic materials» of digital educational content «Moscow Electronic School» (MES): video files, images, audio files, organized into thematic blocks by sections of training, levels of training. To increase the level of functional and physical fitness of students in conditions of independent work in a remote format, video sets of exercises were individually selected for each student and links were attached to the educational portal. In group N 2 traditional teaching technologies were used.

The results of testing (cuts) of technical, physical and functional readiness of students of groups N1 and N2 were carried out in September, December, February, May.

Since it is not possible to install the interactive panel of digital educational content «Moscow Electronic School» in the gym, we installed a computer with Internet access and a portable screen to demonstrate the educational material of the digital educational platform «Moscow Electronic School» (MES) in real conditions of the educational and training classes.

Results of the study and discussion. In group N1, by the end of the school year, the average score for correct execution of technical elements was 4,85 points. The increase in the indicator of correct execution of technical elements was 2,76 points, respectively, it significantly improved by 49% ($p < 0,05$). In group N2, the average score for correct execution of technical elements was 3,2 points, which corresponded to an unreliable improvement of 0,95 points ($p > 0,05$).

Indicators of physical fitness of students in group N1 significantly improved ($p<0,05$); in group N2 they improved insignificantly ($p>0,05$).

The coefficient of variation gradually decreased from 7,93% to 4,20%, which confirms the reliability of the rating scale. In group N1 students, the restoration of heart rate (HR) to initial values at the beginning of the academic year was 33 beats/min; at the end of the school year - 20 beats/min. The increase in the indicator significantly improved and amounted to 3,9% ($p < 0,05$). In group N2 students, the restoration of heart rate to initial values at the beginning of the academic year was 36 beats/min; at the end of the school year 33 beats/min. The increase in the indicator did not significantly improve and amounted to 0,8% ($p>0,05$). A

good level of physical and functional fitness is a reliable foundation for quickly and correctly mastering the technique of a new motor action.

Conclusions. Digital learning tools of the Moscow Electronic School platform are effective in university practice. The introduction of digital tools for teaching the content of the «Moscow Electronic School» (MES) into the practice of educational and training sessions for students at a university allows you to quickly and correctly teach the elements of technique of a new sport; select an individual program to improve physical and functional fitness, work independently in a remote format. The use of digital tools for teaching educational content «Moscow Electronic School» (MES) in the practice of the educational and training process in the elective discipline Physical Culture and Sports at a university increases the efficiency of the educational process due to: 1) the use of digital teaching tools and information computer technologies in real educational conditions. training sessions and in distance format; 2) for the teacher - selection of electronic scenarios for educational and training sessions in accordance with the section of training, the level of preparedness of the student at the moment; 3) a student who has begun to master a new sport - quickly and correctly form an idea of a new element of technique and implement it in motor activity with a minimum number of errors; increase the level of physical and functional fitness independently.

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