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USE of INFORMATION TECHNOLOGY IN PHYSICAL EDUCATION CLASSES AT POLOTSK STATE UNIVERSITY

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This article offers a solution to the problem of informatization of physical education by introducing the application "Electronic Journal" into the educational process. The advantage of the electronic document management in the "Physical education" classes is being analyzed.

Over the last decade, the role that computer technology plays in human life has increased considerably. Modern society cannot do without information technology [1]. This trend affects almost all areas of human life. More and more people use computer programs on a daily basis to optimize their lives. Also, more and more attention is being paid now to the use of information technology in pedagogy. With a view to the informatization of educational process, there is a need to introduce new methods and technology, which can be used as a tool for the effective organization of a teacher's practical work.

Many experts note that, being the most important component of information technology, computer technology forms a new style of pedagogical activity, which is much more comfortable, ergonomic and increases the creative capabilities of a teacher. The development and implementation of computer technology in the field of physical education and sports is currently a very promising area of scientific activity, despite all the organizational, technical and methodological difficulties [2, p. 13].

In every educational institution, there is a wide range of documents that a physical education teacher has to keep: attendance records, academic performance journals, the results of standards, certificates of exemption, etc. Every lesson a teacher has to memorize all this information and find enough time to fill out the paperwork. All the documentation is kept in paper form.

With a view to significant changes in the life of society, it is necessary to develop and implement an electronic system of automated accounting of attendance and physical fitness in the educational process. In this work, a detailed consideration is given to the problem relating physical education teaching – the combination of documentation and teaching itself.

The relevance of this work is indicated by the state program "Education and Youth Policy" for 2021-2025 adopted by the Council of Ministers of the Republic of Belarus (No. 57 of January 29, 2021). In the program the idea of increasing the effectiveness of a stable and generally accessible high-quality educational environment becomes fundamental. It is necessary to build an innovative infrastructure for the introduction and export of scientific and technical developments into the educational institutions (Chapter 1, general provisions). There is a need to introduce modern information and communication technology into the educational process; to develop statistical accounting and digitalization processes in the field of education; to further improve the forms and methods of internal and external quality assurance of education (chapter 16, sub-program 11 "Ensuring the functioning of the education system") [3].

We propose a method of optimizing the work of a physical education teacher by means of developing a software product "Electronic journal". Conventionally, the journal consists of 3 blocks: the first block contains general information (the course and specialty of a student; health group; indications and contraindications for performing certain exercises; notes), the second one reflects attendance (this block has also a division as for the reasons for absence), the third block contains a tracker of control standards (control exercises; students' results; marks and also differentiation by gender). Below, we will look at each block in detail (Figure 1).

In the first block, the cumulative function of the application was implemented, which allows you to store information about the student. Figure 1 (Block 1) shows a screen with a more logical and step-by-step information storage system that makes it easier to find all the necessary information about a student. It is far more effective than a large number of paper academic performance journals for each group and such a system can easily replace them. The user of the program "Electronic Journal" is offered a dynamic storage of all the necessary information about a student (health group, chronic diseases, recommended exercises, etc.). In such a way a fairly primitive function solves the problem of optimizing and individualizing the educational process in physical education classes.

In the second block, students' attendance records are kept. Using the output of a dynamic array in the tabular form, which takes values for each student in the form of a tap on the screen, the grid took the following form. Figure 1 (block 2) shows the program in the form of a table, in which the values are taken – "W" (absence without a valid reason), "V" (absence for a valid reason, including illness).

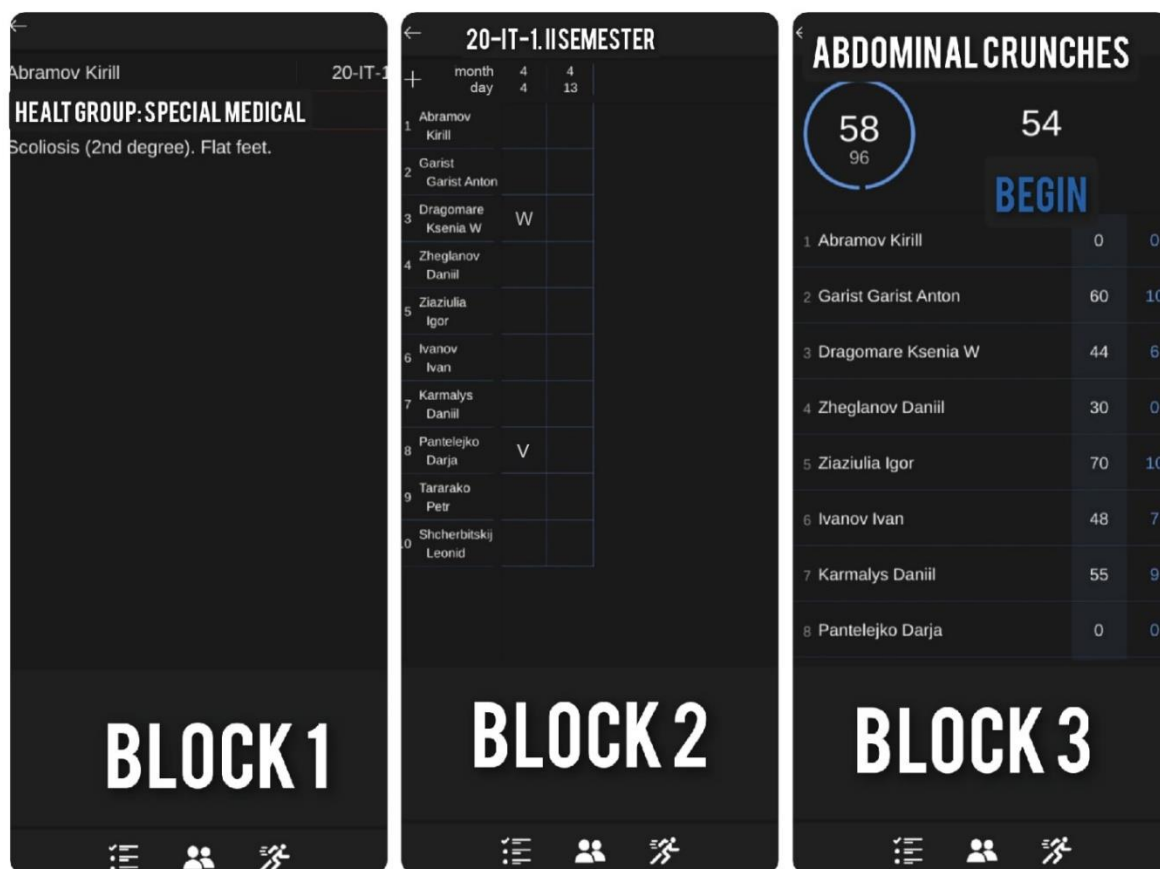


Figure 1. – The "Electronic Journal" program

Additional functionality has been implemented to add the day of the lesson with automatic date setting. To the top of it the visual component is displayed: the connection between the previous section and the section of attendance tracking. Near each student there is a certain colour bar which indicates the health group. Yellow color stands for a preparatory health group, blue – a special medical group, and the absence of a color bar means the main group, respectively. Thus, in the second block, the problems of optimizing the educational process in physical education and improving the quality of attendance monitoring were solved.

In the third block, the optimization of the standard passing was implemented, linking the tracker of the standard passing with the automatic calculation of the corresponding mark. The result of the implementation is demonstrated by the example of the control standard "lifting the body in 1 minute from the lying position".

Figure 1 (Block 3) shows a timer which can be started by tapping on the screen. The tap in its turn is recognized due to the touch sensor built into the operating system of the mobile device. You can count the raises in the same way – one tap is equal to one raise. When the time runs out (the function works due to the built-in time counting function, synchronized with the user's time zone) the result of the standard is displayed in the table.

According to the formula entered into the program, the mark corresponding to the result is calculated. This program takes into account: the specifics of the standard, as well as the physical capabilities of the student; gender and health group. Each group of students has its own calculation formula. Thus, in the third block, it was proposed to reduce the time spent on processing the results, which will consequently improve the quality of their analysis.

To analyze the teachers' of Polotsk State University opinion on the effectiveness of the electronic journal introduction in the educational process, a survey was conducted in which 20 teachers of physical education took part. According to the results of the survey, the following positive aspects of this process were identified (Figure 2).

The analysis of the question showed that 64% of the teachers are satisfied with the use of the application "Electronic Journal" and noted its positive effect. Only 4% of teachers deny the benefits of keeping electronic documentation.

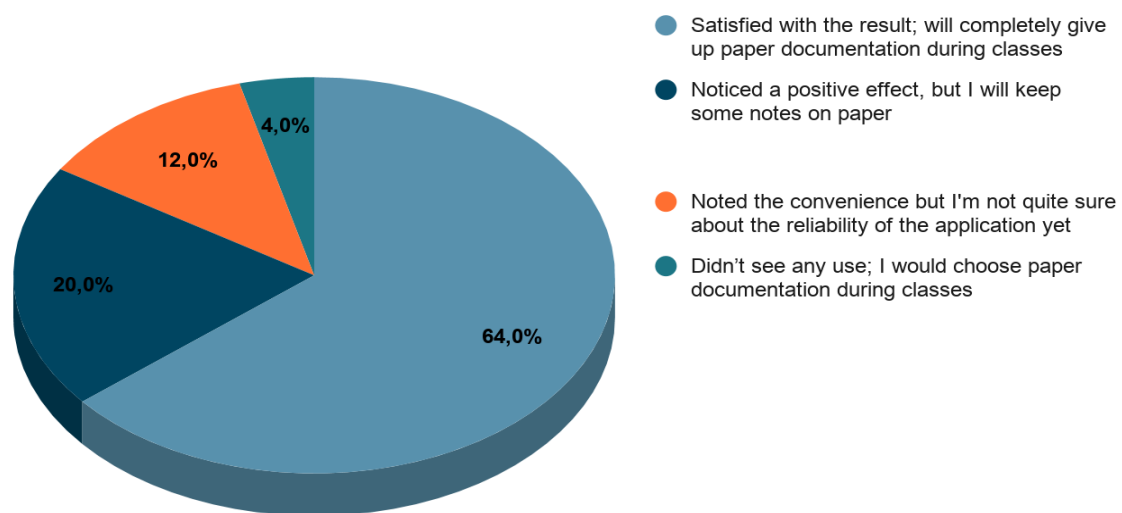


Figure 2. – Teachers' opinions about the introduction of the electronic journal

The implementation of this automated application in the educational process will have a positive effect on the following aspects:

- reducing the time spent on processing the results of control standards and improving the quality of their analysis;
- improving the quality of attendance control;
- optimization of the physical education teachers' work;
- individualization of the process of physical education.

The main aim of the article is to introduce into the educational process an automated system of accounting for physical fitness, health status and students' attendance.

Taking into account all the above mentioned aspects, it should be noted that the electronic journal is a database which facilitates the search of the necessary indicators. Due to this a teacher has more time to work with students, prepare for the classes and so on. Modern information technology significantly improves the quality of education and becomes one of the most promising innovations in the education system.

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