Usage of the online platform teams for organizing independent work during practical classes of medical faculty students

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Abstract.
The article analyzes the advantages and disadvantages of distance learning in the modern educational process, as well as the conditions for optimal quality organization of independent work of medical faculty students in practical classes. The article formulates the main requirements for creating tasks for the Forms application of the Microsoft Teams online platform, the implementation of which contributes not only to the reproductive recreation of knowledge but also to the development of the ability to analyze, think, draw conclusions and use one's knowledge in practice.

Keywords:
independent work
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Modern education in Ukraine faced a huge range of problems with the beginning of the war, which was unleashed by the Russian Federation on the territory of our country. The Ministry of Reintegration of Temporarily Occupied Territories included Zaporizhzhia and Zaporizhzhia District in the list of territories where active hostilities are taking place [1]. The corresponding status imposes a great responsibility on the organizers of the educational process because it is obvious that the safety and protection of all participants of the educational process is a priority, the main condition for the organization of education. In modern conditions, the online format of education is more secure and optimal, as noted in the report [2]. One of the advantages of organizing the educational process in a distance form is the opportunity to continue studying for students who have been forced to go abroad or to other safer cities, as well as for foreign students who have returned home but wish to continue their studies in Ukraine. Also, the use of online platforms provides an opportunity to communicate with your classmates and friends who are in different cities and countries. During the period of the Covid-19 pandemic, the Zaporizhia State Medical University has gained a lot of experience in distance learning, which we use during the war. We consider the organization of training with its full visualization, synchronous mode (i.e. according to the schedule of the training department), which disciplines students, motivates them for the best work and a responsible attitude to training, to be our advantage among other higher education institutions. But at the same time, we take into account the objective reasons why students cannot join the class synchronously and perform tasks in a synchronous mode (for example, the announcement of an air alarm during the class, lack of light or Internet). For the mastering of the necessary materials, teachers of the university departments provide the needed information for the discipline in an asynchronous mode: all classes are recorded, methodical materials are accumulated, which can be read at a convenient time, the performance of tests and tasks is postponed for a certain time, but still limited. In such conditions, the role of students' independent
work increases significantly. This independent work traditionally can have three forms: extracurricular, classroom (under the direct supervision of the teacher), and creative, including scientific research work. Clearly planned and organized, as well as combined with other forms of learning, independent work gives high results. One of the significant disadvantages of distance education can be named insufficient visual interaction during independent work in a practical session. "It should be noted that the use of technical means does not provide a full guarantee of academic integrity. It is better to accept the fact that we prepare so-called "open book tests", that is, that students will use available sources, and we must take this into account when preparing questions" that we submit for control, for independent work [3]. Analyzed and taking into account the recommendations of leading specialists, the teachers of the departments developed materials on the organization of students' independent work, namely: formulating the content of the tasks in such a way that the ready-made answer is not so easy to find in available sources; to give tasks that require analysis, comparison, evaluation of this or that phenomenon; limit the time for completing tasks. The significant advantages of this type of educational work can be called the opportunity to develop the mental activity of students, to correct its shortcomings directly during the execution of tasks, to control the assimilation of educational material, and to stimulate the student's personal progress.

The purpose of our work is to share the experience of organizing independent work of 1st-year students who study the speciality "Medicine" in practical classes in "Medical and Biological Physics" using the online Teams platform.

The main part. The methodological support of the Department of medical physics, biophysics and higher mathematics allows you to effectively organize all types of independent work of students, which contributes to the mastery of the discipline in the classroom and at home. The teachers of our department have developed a task pool in Forms, which they use in classes to develop the necessary practical skills and abilities in students. Working with tasks in Forms is
extremely efficient. Students work with questions that require reproduction of the studied material, as well as tasks that contribute to the development of thinking, and the ability to practically apply theoretical knowledge. The forms with which our students work include: an information complex on each topic of the course (relevance of studying the topic, lesson objectives, short theoretical information, problem-solving algorithm); tasks and training exercises for independent work of students (typical as well as creative tasks); generalizations and conclusions from each topic (notes, summaries, conclusions, controls). Training takes place under the guidance of a teacher, but students perform the main work independently, which, in our opinion, significantly increases the efficiency of learning the necessary knowledge, skills and abilities. An important advantage of using the TEAMS application for teachers is the ability to see the results of each student and his individual progress, as well as to separate questions that are completely unclear or require additional processing. Tasks in Forms should have a different level of complexity, that is, include questions and tasks for reproductive recreation of the studied material. These are the simplest questions (for example, the definition of terms, units of measurement) actually made on the basis of school material in physics, biology, or such questions, directly from the subject of the lesson, that check the understanding of the main concepts and their knowledge necessary for qualitative learning of the material. For example, the topic of the practical lesson "Fundamentals of electrocardiography" may contain tasks of the first level of the following type:

Match concept and its definition (table 1):

And then there are questions and problems that require the ability to analyze, think independently, use theoretical knowledge in practice, and draw conclusions.

For example, the sum of the teeth of the QRS complex in the first standard lead was +4, and in the third lead, it was +4. Construct the electrical axis of the heart. Make the direction of the axis. Draw conclusions about the direction of the heart axis.
<table>
<thead>
<tr>
<th>Concept</th>
<th>Definition</th>
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<tbody>
<tr>
<td>1. What is an electric dipole? What is its main characteristic?</td>
<td>I. Plasma membrane</td>
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<tr>
<td>Specify the units of its measurement.</td>
<td></td>
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<tr>
<td>2. Why is the surface of cardiomyocytes considered as an electric dipole during excitation?</td>
<td>II. Diagnostic method of functional state of the heart, based on the registration of potentials of the electric field that occurs during excitation of the heart. Option 2 is a method of studying the biopotentials of the heart.</td>
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<tr>
<td>3. In what structure of a cardiomyocyte there are processes as a result of which there is an electric field?</td>
<td>III. The direction of the total dipole moment of cardiomyocytes in ventricular disorders (corresponding to the complex on the ECG).</td>
</tr>
<tr>
<td>4. What is an ECG?</td>
<td>IV. The process of excitation covers the cardiomyocyte gradually. As a result, the part of the surface that is already covered by excitation is negative, while not yet covered by excitation is electropositive. That is, a single surface is formed that has both electronegative and electropositive parts.</td>
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<td>5. Electric axis of the heart</td>
<td>V. An electric dipole is a system of two oppositely charged charges of absolute magnitude, located at a short distance from each other, called the dipole arm. The main characteristic - the dipole moment: $p = q \cdot l$, where $q$ – the charge, $l$ – the shoulder of the dipole; $[K \cdot m]$.</td>
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**Conclusions:**

1. One of the most effective types of classroom independent work of students in the conditions of distance learning is work in the Forms application of the Microsoft Teams online platform;

2. The advantage of independent work in the Forms
application is the ability to correct its shortcomings directly during the execution of tasks, to monitor the assimilation of educational material by each student;

3. Completing a pool of different-level tasks creates a solid base for learning basic knowledge of biophysics, and is the basis for students' successful mastery of physiology and disciplines integrated with it, and then the use of acquired skills and abilities in future professional activities.

References:
[3] Recommendations regarding the implementation of mixed education in institutions of vocational pre-higher and higher education. Access mode: https://mon.gov.ua/