



## USE OF COMPUTER PROGRAMS IN PHYSICS LESSONS

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<https://doi.org/10.5281/zenodo.7663024>

**Abstract.** This article elaborates recommendations on the use of computer programs in the course of training in physics and highlights the importance of organizing classes based on information technologies.

**Key words:** information and communication technology, innovative technology, computer, semiconductor, capacitor, charge, electron, alternating current, oscillation circuit.

**Introduction.** In accordance with the requirements of the Law "Oboobrazovanie" and the National Training Program, a number of positive works have been carried out in our country, and frequent improvement of computer literacy of teachers and pilots, the use of information and communication technology. in the educational process [1].

Almost all science teachers use various pictures, sound effects, tables, diagrams and diagrams during the lesson with the help of presentations or virtual stands. In addition to the fact that the lesson is demonstrative, it helps students to easily assimilate information. According to psychologists, if a student only reads a subject 10%, hears 20%, sees 30%, sees and hears 50%, speaks 60% and participates in 90% of the information. When using visual aids and presentations in the classroom, not only the student can read and hear, but also his active participation is ensured [2].

Currently, all educational institutions have a modern computer classroom. We may also find that computer classrooms in some educational institutions are connected to a video projector, a webcam and the Internet. Physics teachers also use such modern techniques.

**Literature review.** In the educational process, a lot of information and recommendations are given on the use of information and communication technologies, improving the effectiveness of teaching and learning, a rational way of amateur activity [3]. The possibilities of computers in teaching physics through the use of information and communication technologies in physics lessons at school are mentioned. Physics is an experimental science that has always demonstrated the usefulness of using ICT in its teaching along with visual experiments [4]. The role of teaching methods of the Department of Molecular Physics using computer technologies is explained [5]. All future teachers can use modern means of information and communication technologies



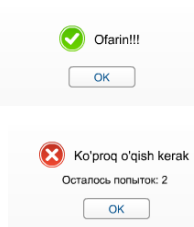


to improve the effectiveness of teaching physics [6]. Currently, electronic textbooks in the field of natural sciences are being created. In particular, it is possible to improve the quality and effectiveness of training through the electronic textbook "Atomic Physics" [7]. But not all teachers may have the skills to use programs at an ideal level.

Research Methodology. In order to control the acquired knowledge, skills, skills and competencies of students in the Ispring program, 10 non-standard tasks related to each laboratory work were created and used in the process of experimental verification. In this case, after receiving the results of the laboratory work, the student answers the questions by entering a login password. The resulting grade will be sent directly to the teacher via the server.

We give examples of non-standard tasks related to the above laboratory work.

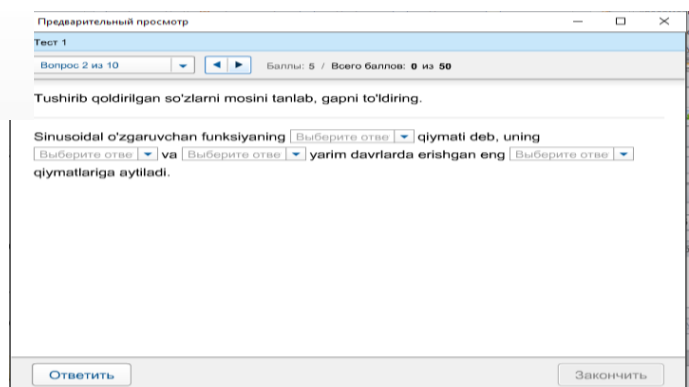
If the student answers answer, a note will appear.



correctly, if he chooses the wrong

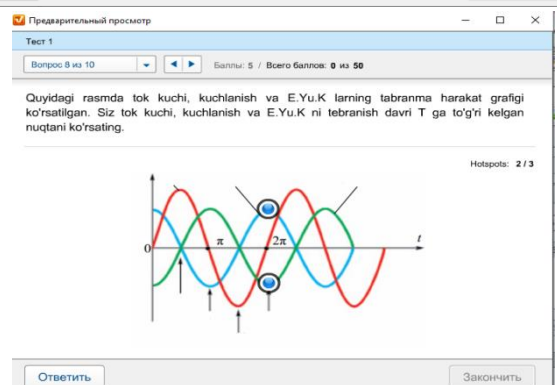
### Test task 1

When students click on the "Choose an answer" window, the student selects the appropriate words and correctly forms the definition.



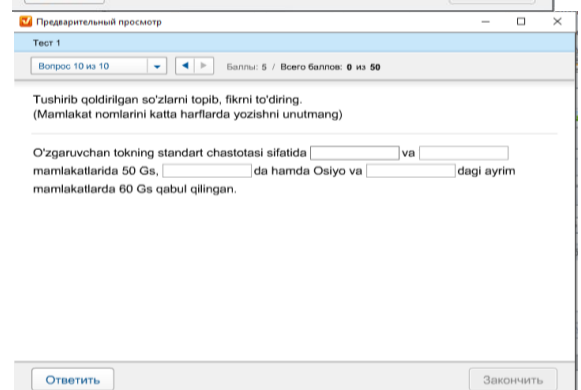
### Test task 2

The student can choose the conclusion made on the basis of the result obtained in the experiment through the graph. It is determined by placing the cursor on the object that needs to be defined on the graph. (There may be more than one target).

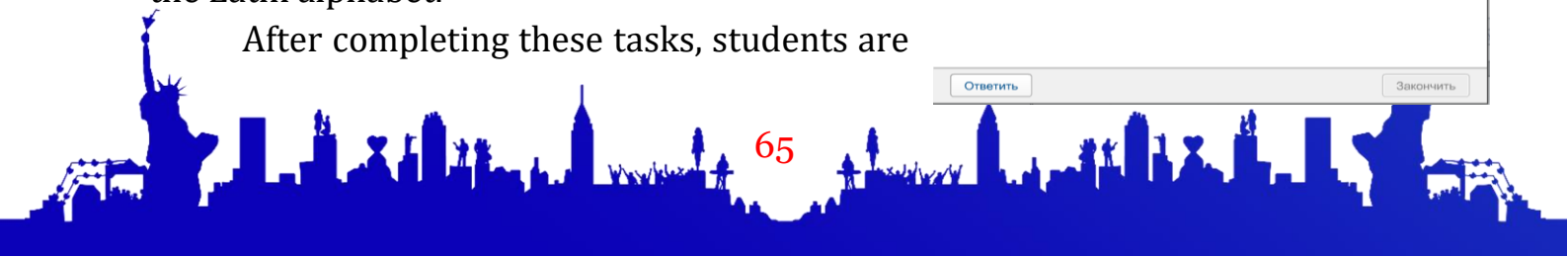


### Test task 3

A student who is familiar with the information about the "Standard frequency of alternating current" during the experiment will clearly state. It is explained in advance that the expressed opinion is written in capital letters, in the Latin alphabet.



After completing these tasks, students are



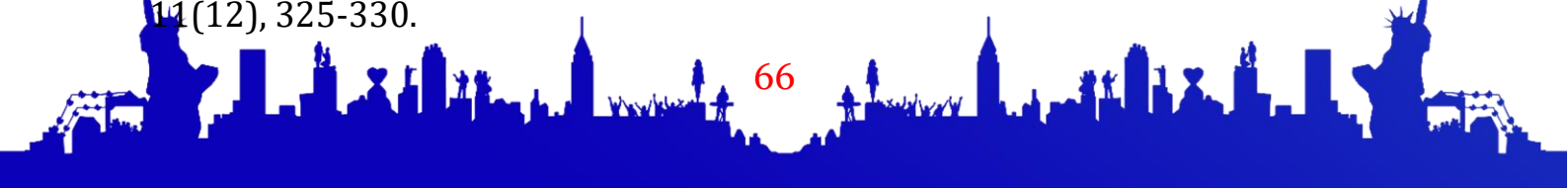


allowed to perform the following laboratory work based on their results. That is, the student must complete at least 60% of the task, otherwise he will do the laboratory task again.

Conclusions and recommendations. Using information technology, all teachers of natural sciences working on themselves, preparing such educational resources, animations, presentation slides and applying them in the educational process, are now considered important steps in the development of education. In events organized by such software tools, it is possible to improve the qualities of all students in the classroom, such as concentration, free thinking, respect for other people's opinions, as well as to evaluate students' knowledge without taking into account the human factor.

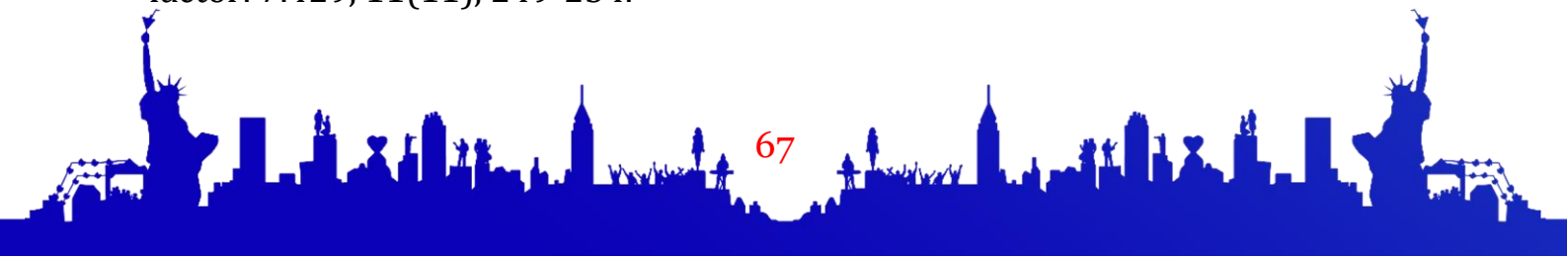
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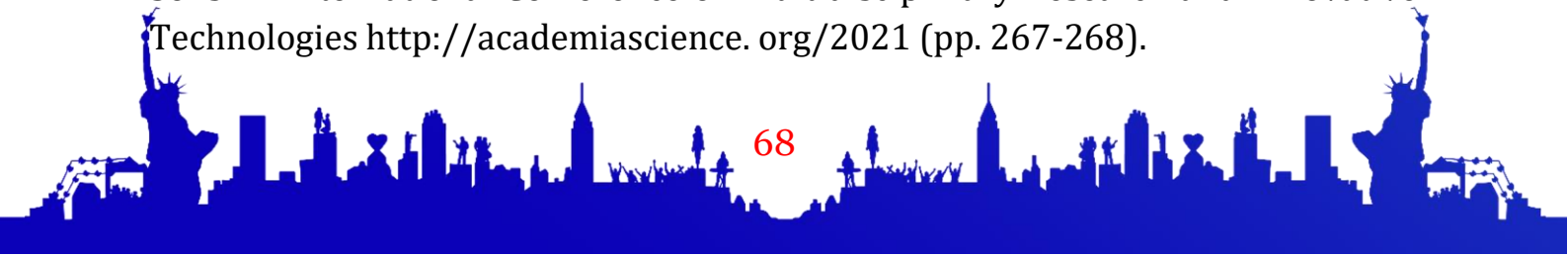


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