

# Features of the Use of Modern Information Technologies in Teaching the Subject of the Solution

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**Annotation:** Effective use of modern information technologies and Internet resources in the teaching of solutions in chemistry. Convenience and advantages of using modern information technologies.

**Keywords:** Technology, information technology, presentation, animation, simulation, videos, virtual chemistry lab, easyQuizzzy, Adobe Flash Player.

The main purpose of using modern information technology is to produce information for human analysis and to make decisions on how to perform any action based on it. Information technology is the process of using a collection of tools and tools for collecting, processing, and transmitting information to obtain new quality information about the state of an object, process, or event (information product). The main purpose of information technology is to organize the storage and transfer of information. The information system represents the computer system after information processing. Information itself reflects the process of working together between computers, computer networks, information and software, and people, and the consumer is responsible for producing three units of information. The main task of information systems is to create opportunities to manage events and processes. Also based on information, the purpose is predetermined, and the program for achieving this goal has a targeted effect on the hi process of the managed.

When technology is translated from Greek, it conveys meanings such as art, the theory of skill, and is a collection of processing, state-changing art, skills, skills, and methods. Information technology is the main source of process management. Includes systemation and processing of prepared data and transmission of information that has been processed for the necessary purposes. [1]

Students strive to see and hear what is happening on a computer, seek to know by fi krlash, and their interest in the lesson increases. With the help of sensory organs, the reader is interested in understanding what is happening on the monitor and the properties and characteristics of them. For example, with the display of a substance, appearance, or chemical reactions on the screen, the reader may not focus on the nature of these images. When explained by the processes of occurrence of other events, their passing, and their relationship with other predecessors, after watching v a several times, hi switched from cynicism to mental knowledge and began to pay attention to the nature of the issue. It is very important for the reader to analyze and synthesize events on a computer screen. Analysis and synthesis accelerate the student's cognitive process.

One of the most advanced programs that creates ten presentations and electronic training courses using information technology is the iSpring Suite software collection. The iSpring Suite software package contains iSpring Pro, iSpring easyQuizzzy, iSpring Kinetics. From these applications, iSpring easyQuizzzy creates interactive tests using audio, video files, images, and formulas

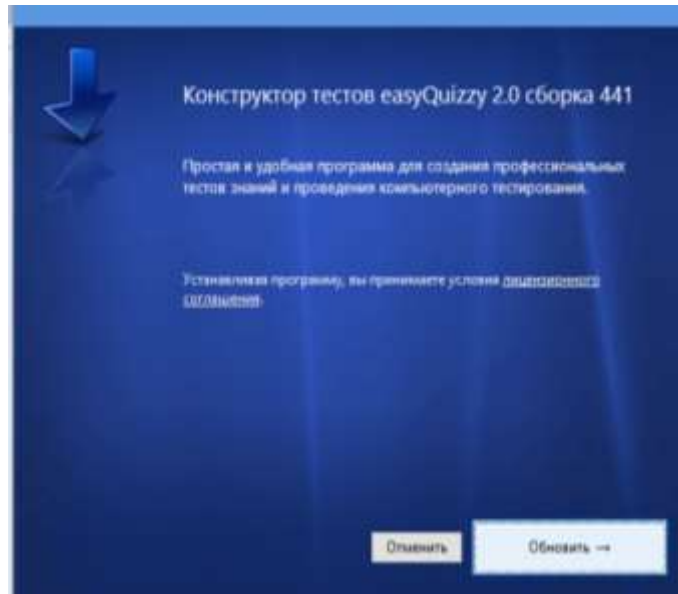


Figure 1

EasyQuizzy-2.0-installer-Russian to computer to structure interactive tests using iSpring easyQuizzy. Exe software is required to be replaced. (Figure 1) When the application is installed, we open the application, which is a working window. (2-rasm)

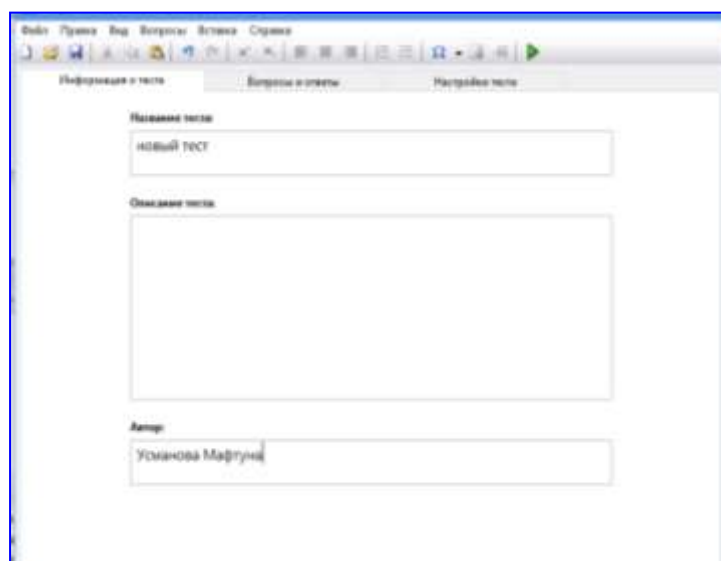
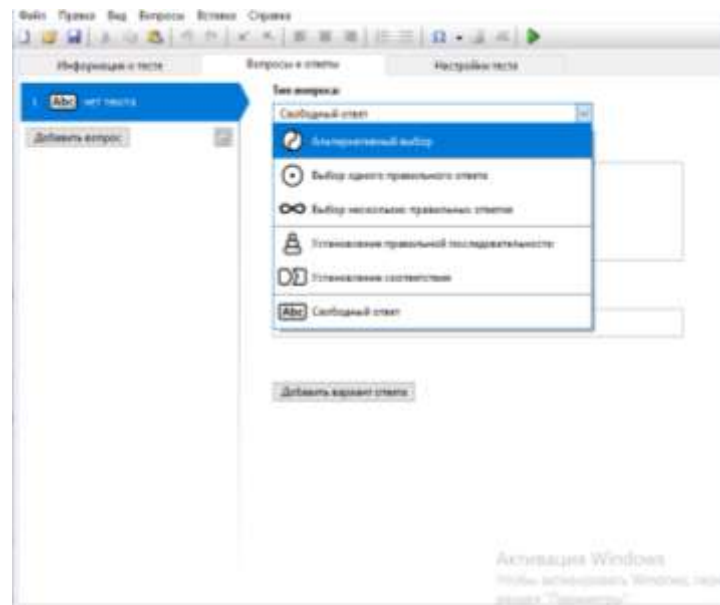


Figure 2

The working window, in turn, consists of three parts: Information on the thesis, the use and the use, and the thesis. The information covered in this brochure may not support more than the address noted in the brochure What Does God Need of Us, published by Jehovah's Witnesses. In the second section, we can select the type of test we want and create a new test.

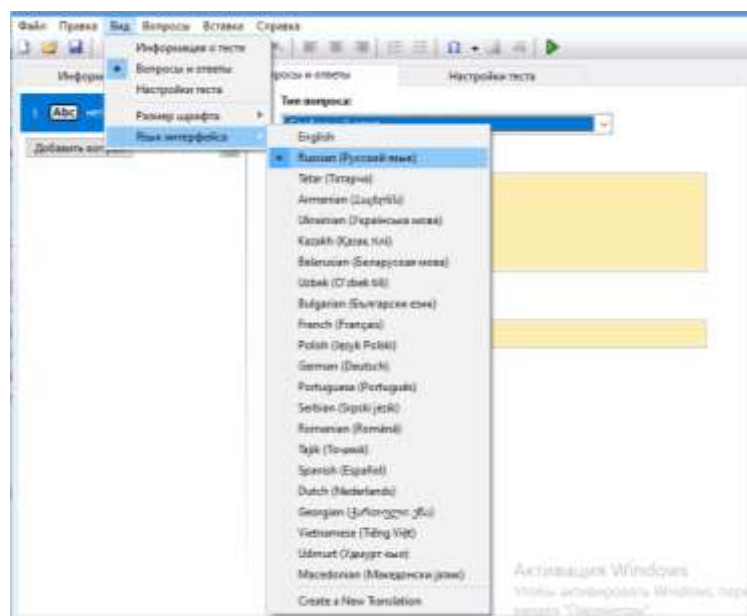


This section shows several test types in the thyboop section and we can select the desired one and create the test. They are as follows:

1. The type of test of the applicant (yes and like) – in which the question is asked and the correct or incorrect answer is selected;
2. Selecting the required response from several variants;
3. Vybrine nyscol venous processing (selecting several answers) – find a few of the given options correctly;
4. Cinput (line enteredh) – respond by entering the answer into the line;
5. Supporting soustation (matching) – answering the question by matching the answers;
6. Provisional prosthifying (order) – respond by bringing the response to the required order;

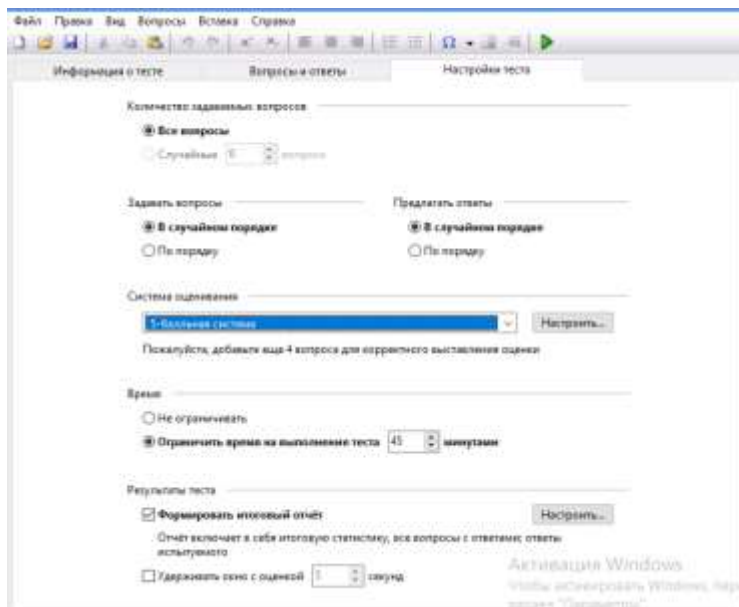
When creating a test, you will also need to select this type of tests and ask them appropriate questions and enter their answers. For example, we will compile one test on the subject of the solution.

As we can see, all the words of the program are given in Russian, but we can transfer it to any language. To do this, Ed – The First Intrapheus – Is a Rysk (English). Then the application window will appear below. (Figure 4)



At the right end of the application window is Izobrajenie, Zvuk, and Video entry, which allows you to select images, formulas, voices, and videos from files and ask questions. In this way, you can create tests by selecting from different types of tests.

Configuration work will be carried out in the New Test section, i.e. once the test is completed, we will need to give it a wax ball, how many points to give each question, and adjust the duration and time of the test . (5 -rasm).

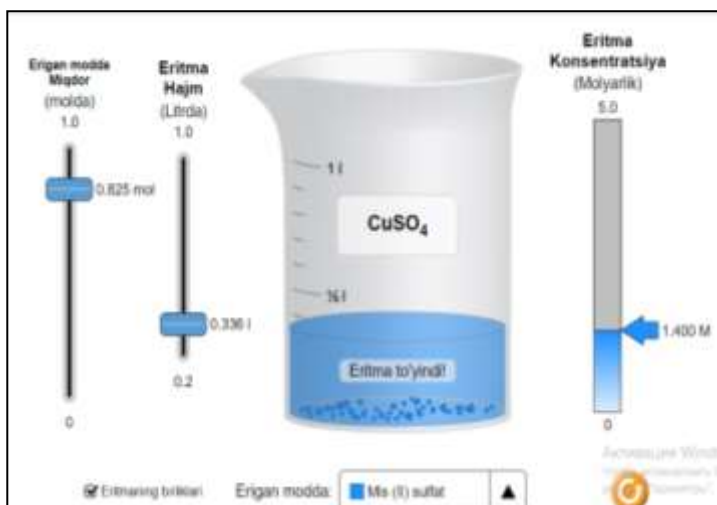


We can create our creator test in four different ways. Web page, iSpring Onlain, LMS, Word page. Next, select the test format HTML, exe, Zip archive, select the tester name, usage scope, storage location, file name, and flash-rolik properties and click the Publication button. [2]

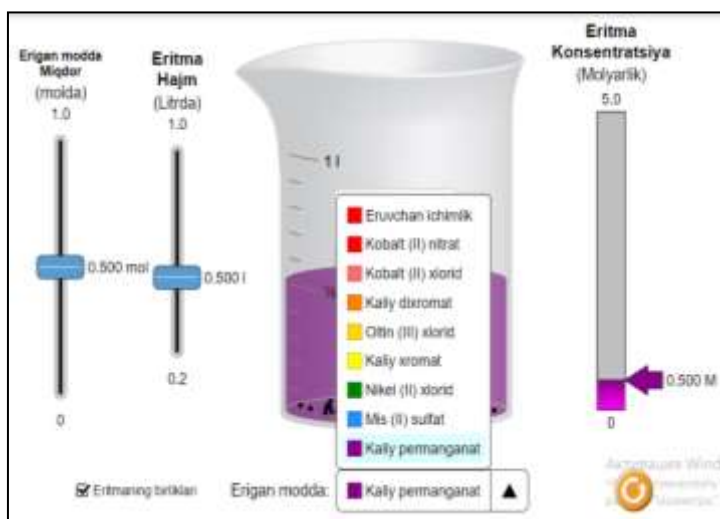
Virtual Chemical Laboratory Application has a set of reaction base and laboratory equipment and chemicals that can be used in the form of an animation equation and so on. Virtual laboratory software allows you to conduct experiments with various substances visually (in such a way that you can see with the eye). Different applications - the software of a virtual laboratory - have additional specific features. To make it easier to work with the program, there is a laboratory journal with the concept of "assistant", a set of calculators-based modifiers, and experiments. The concept of virtual experiments originated about 20 years ago, in which when actively using the interface, the teacher can add more chemicals and reactions by hand to the software himself, thereby increasing the student experience.

Thus, it ensures the "interactive modeling" of virtual laboratory training. AT Resources Virtual Laboratory software from Chemistry is an application that allows students to make decisions about the choice of chemicals and their quantities, containers, equipment and other items that can conduct experiments. Such a program is characterized by a high level of flexibility and control. The virtual laboratory has several other advantages, with the help of which teachers and students can choose the most effective experiments, taking into account the goals set, equipment, chemicals and reactions and conditions. Such planning develops potential skills through independent learning [26]. In fact, virtual experiments are additional exercises in practical laboratory training. [3]

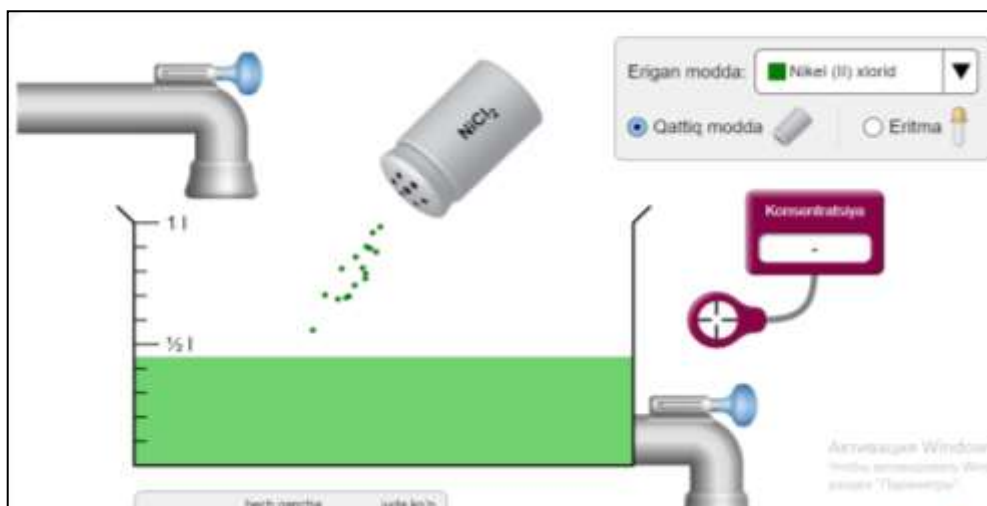
From the foregoing, you can make good use of a virtual laboratory on the subject of the solution. In Figures 6, we can see that the amount of dissolved mode and the size of the solution are given, using them to molecules the solution we can determine the concentration. Here a saturated solution was formed when the total solution of  $\text{CuSO}_4$  in dissolved mode and 0.825mol in volume was 0.336l. The molecular concentration of the solution was 1.4M.



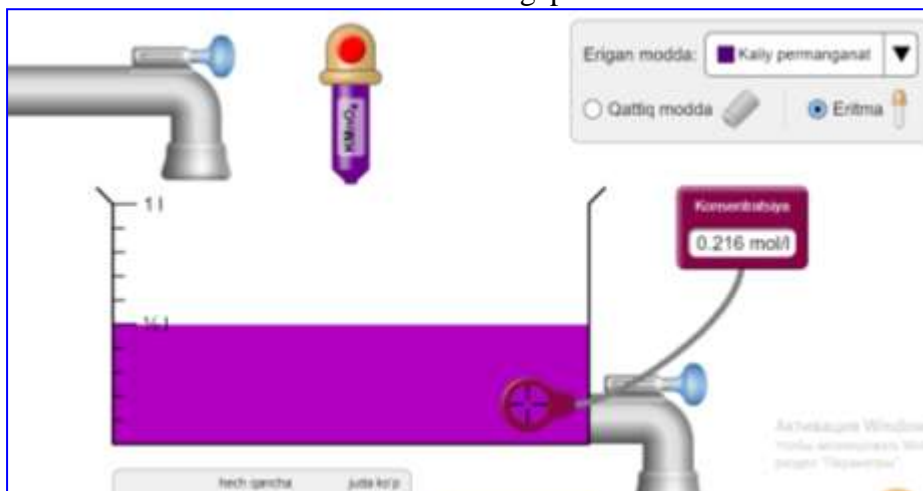
In Figure 7 , we can see that you have the opportunity to choose the name of the dissolved substance, the molecule is 0.5M when the size of the solution is 0.5mol KMnO<sub>4</sub> and the size of the solution is 0.5L



In Figure 8 , we can also select dissolved substances, in which we can pour any amount of solid matter, water and solution into a virtual laboratory, and we also have the opportunity to extract excesses if we want . After preparing the solution with all the necessary amounts, it is possible to determine the concentration of the solution through a special apparatus.



For example, in Figure 9 , we can see that the concentration of the solution is 0.216mol/l . The main purpose of using this virtual laboratory is to create a gap in the minds of students in the topics of solution, concentrations of the solution, fertility, because these topics are very complex and difficult they think so. We use these weapons of mass destruction to address these gaps.



The importance of water in our lives is enormous, and we cannot imagine our life without water. Water plays a major role in the release of these nutrients, regulating body temperature, dissolving, harmful substances in a living organism. About 2/3 percent of the human body is also made up of water. Water is also widely used in medicine, mineralized water is a mixture of various medicinal salts and is consumed in various diseases, prevention. The importance of chemistry is enormous, because many experiments, reactions do not take place without it, and many experiments come in the role of water dissolving. Water acts as a solvent in solutions, the largest class of melts, a class of aqueous solutions. Water in the form of various solutions accounts for 80% of the brain and heart, 20-25% of bone , 75% of plants, 95% of albows, and 98% of meduzas . Drug preparations, parchment tools, and dyes are also comforted by solvents. Water is also widely used in industrial production, painting, recycling, and agriculture.

Zam's teacher of spiritual chemistry is: (a)the objective of teaching chemistry and education, as well as the development of students' minds; b) curricula, textbooks, teaching manuals of academic or academic lyceums and vocational colleges; (d) theoretical foundations of chemistry teaching methodology, including chemistry training methods, monitoring teaching results, chemical room teaching equipment, laboratory security equipment, properties and storage rules of chemical reactives, teaching tools and their use paths; e) The teacher works with children with different psychological characteristics, educates and educates them. Therefore, he knows the basics of pedagogy and psychology; One of the most important aspects of developing students' thinking abilities is the development and development of skills to solve chemical problems in them.

Therefore, the teacher himself must have the ability to solve the issue. If we study the learning processes involved in teaching Kimyo in other developed countries, we can observe that in some countries chemistry is linked to life and theory is incompatible with practice. In developed countries, we can see the richness of chemistry in general secondary schools in life-related tasks and equipment related to the use of many chemicals.

Much attention is paid to education and opportunities are being created in the educational process. As a clear example of this, we can see the opening of "Presidential Schools," which we need to be able to properly take advantage of the attention and opportunities given to these young people. To be a qualified teacher, we need to have the following feelings: (1) pedagogical knowledge, (2) pedagogical skills, (3) pedagogical abilities, (4) pedagogical kindness, (5) speech culture, (6) Organizational skills, (7) must have acquired the ability to distribute attention. In addition to the foregoing, every teacher should be humble, honest, hardworking and actor. The reason you should be an actmate is that the teacher should be friendly with the students when their time comes, and when the time comes, you should also be tough. [4]

The introduction of computer technology into the teaching process enriched the teaching content. In particular, "Distance Education", "Media Education", "Internet Forum" and others. At the same time, the most important focus is on students receiving independent education. (Matthew 24:14; 28:19, 20) Jehovah's Witnesses would be pleased to discuss these answers with you. The quality of lessons in information technology, computers, or computers is determined by the following main factors:

- quality formation of the curriculum;
- the quality of computer technology and its capabilities;
- formation of skills to absorb an individual from their right computer capabilities.

When using information and communication technologies in teaching, it is necessary to pay attention to the following stages:

- the stage of presentation and explanation of teaching materials in students,
- Stage of mastering training materials in the process of interacting with a computer;
- The stage of repetition and strengthening of enhanced knowledge, skills and skills;
- The stage of self-examination of the achievements and results achieved by her husband;
- Control phase;
- Self-control, as well as the stage of correcting, correcting, and correcting the distribution, classification, systematicization of learning materials based on the results and conclusions of the supervisory press. [5]

In conclusion, the use of computer technologies in the process of teaching chemistry will expand students' ability to learn. Like that, it helps them to be interested in modern information technology, to think independently, to express their views freely, and to learn independently of textbooks and additional teaching tools. As the above shows, the availability of these interactive tests to compile tests using images, sounds and formulas encourages them to work with greater intuition. It was possible to conduct test control using limited routes from Od DIY tests, for example, for music students, only questions could be asked from theory, and in this program The ability to create a test using voices creates the ability to create questions by placing a piece of music. Other areas: information technology, mathematics, physics, biology, geography, etc. also have the opportunity to create very interesting, interactive tests. Additionally, the ability to conduct the test through computer networks and the availability of email support can meet modern educational requirements, where the main task of a fan teacher is to take into account and fully satisfy students' interests and to choose organizational forms of education. We need to make extensive and unforgettable use of the opportunities we have been given.

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