The Importance of Developing Multimedia Software to Improve the Quality and Effectiveness of Distance Education

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ABSTRACT

Today, in all aspects of the educational process, it is advisable to use a wide range of modern electronic insformation resources, a variety of information and communication technologies, including software. Software tools are practical software tools that are designed to create, prepare, compile organizational materials and data, add and display graphics or animation in all areas of the education system. Create multimedia courses to organize the educational process using such tools more efficiently. Their use at a high level, adding to them and applying them in the educational process will greatly contribute to the preparation of young people with high knowledge and skills.

Aim: to substantiate the role and importance of the creation and use of multimedia programs, multimedia educational and methodological complexes in improving the quality and effectiveness of distance learning, as well as to give recommendations on distance learning.

Methods: Experimental-test and comparative research methods, survey and observation methods were used, which can be applied in the study of improving the quality and effectiveness of distance education.

Conclusion: The creation and use of multimedia training courses open up great opportunities for local computers and the Internet. Placing multimedia training courses on the worldwide computer network, which allows them to be applied directly in the educational process, allows students to find, search for information, and also shape and expand educational activities. When creating multimedia training courses, first of all, it is necessary to pay special attention to the interactive components created by various software tools. In the context of the COVID-19 pandemic, the use of distance learning has expanded. This, in turn, requires the development of multimedia programs to improve the quality and efficiency of distance learning.

Keywords

Distance learning software, modern information and communication technologies, multimedia programs, new forms of teaching, new pedagogical and information technologies.

Introduction

As a result of theoretical study, analysis, application in practice, as well as a systematization of its tools and models, the basis for the use of distance learning technology in higher, secondary specialized, professional and secondary educational institutions of the republic has been created. Implementing large-scale reforms in all areas, our country attaches primary importance to information support and processing of various sectors of the economy. The future of the great nation-building largely depends on the specialists who have changed their worldview. For our country to take an exceptional place among developed countries, it is necessary to widely introduce modern computer technologies in all spheres of our life, especially in higher educational institutions [1].

In the context of modern informatization of the education system, when the volume of generated and processed information is increasing every day, and the means of modern computer and telecommunication technologies are rapidly improving and improving, one of the most

important tasks is to provide the education system with the necessary information resources, the formation of the necessary knowledge and skills according to their methods. collection, storage and processing. At the same time, modern information technology tools not only completely change all the possibilities and methods of organizing the educational process but also create more and more opportunities for the introduction of modern methods, techniques and software for new pedagogical technologies. It is becoming more and more obvious that the educational system of our country is undergoing significant changes [2]. It is gratifying that distance learning (DL) is widely used along with other forms of education. It is well known that this method has many advantages. All higher education institutions are working on the implementation of distance learning methods and technologies. The development of information technology requires a new approach to the organization of distance learning. Modern models of distance learning are based on communication and networking technologies. These technologies not only provide users with a wide range of information but also pose a problem for their protection [3]. The lack of direct communication between teacher and listener in distance learning also causes some problems. For example, there are certain difficulties in organizing problem learning. Problematic learning in educating trainees as professionals can be achieved through teleconferencing. However, this does not completely solve the problem. Additional training materials are required to address this issue. This includes different levels of problem-solving tasks, problem-solving instructions, and programs.

Literature Review

The issues of computerization of the education system, the effectiveness of the use of technical means of teaching, the effectiveness of the use of modern information technology in the education system have been studied in the scientific works of leading foreign scientists such as Bougon G.D, Gregori K., Lorens K., Geri X., Djeyms X., Meri D.F. [4-7]. well-known scientists from developed CIS countries such as Potemkin VG, Arthur K., Shikin.EV, Yarvud A., Epanishnikov M. make a worthy contribution [7-11]. In Uzbekistan A.Abdukodirov, Gulomov S.S., Imamov E.Z., Pozilov AM, Abduvoxidov AM, Novosardova S.A., Kurbanov SH.E. and several other scholarly works have addressed these issues in Project Work [12-14]. However, the problems of developing an effective system for organizing distance learning courses and creating the necessary applications for the new generation of courses in the system of continuing education of the republic are not fully covered.

Materials and methods

The time requires to train a specialist who fully meets the requirements of modern times. At present, a lot of positive work is being done in our country to educate, train, educate the younger generation, to approach modern information technologies and to teach them to work with new techniques and technologies. The most important of these is Distance Learning Techniques and Technology. In this regard, the steps to prepare the younger generation for distance learning can be implemented as follows: In today's world of information technology, distance learning is becoming increasingly important. Because this type of education differs from the existing ones in some respects. The difference between distance learning and full-time education is that it can involve a wide range of people. Distance learning combines the positive features of full-time and part-time education. In this regard, distance learning is one of the most promising forms of education today. Distance learning does not have to involve a certain percentage of the population who want to study at the location of the educational institution. Second, there is no need for the listener or student to overspend. Third, the age limit for those involved in this type of education can be excluded. The contingent involved in distance learning can consist of the following social groups:

- those who want to get a second higher or additional education, training and retraining;
- heads of regional authorities and administrations;
- young people who do not have access to education due to the limited opportunities of the traditional education system;
- Employees of companies and enterprises who want to raise the status of their education to modern standards;
- listeners who want to get second parallel information;
- residents of remote, underdeveloped areas;
- persons with limited freedom of movement;
- Persons with physical disabilities;
- military servicemen, etc.

The organization of distance learning in Uzbekistan is very effective. This type of education should be widely used today. Naturally, there are some problems with the introduction of this type of education. But they can be resolved at the level of opportunity. For example, using television, in the beginning, can be very effective. Nowadays, some subjects are taught on television. But the show has seemed a bit unfocused in recent episodes. First of all, these shows are mostly during the day. Second, its methodology needs to be further improved. If distance-learning is organized based on this training, then it is necessary to reconsider the organizational and methodological aspects of this type of education. As mentioned above, distance learning combines the characteristics of full-time and part-time education. Therefore, some elements of distance learning can be used in its organization. In the '80s of the last century, part-time training courses were organized to prepare applicants for entrance exams. Course staff mailed to the applicant options for tasks and assignments developed by specialists in the relevant disciplines. The assignments and assignments that the entrant was sent to the course address for review within a certain period were to be reviewed by the instructor and notified to the applicant with brief comments. One of the most important issues in the organization of distance learning is the selection of professors and teachers. To implement this type of education, teachers must be selected from the most experienced and organized professors. Because distance learning is different from other forms of education, its effectiveness depends in many ways on the teacher's knowledge, organizational and managerial characteristics. Because a teacher involved in distance learning must be a skilled educator, a wise counsellor and an experienced manager at the same time. At the initial stage of the organization of distance learning, based on the demographic characteristics of the population of the republic, it is necessary to create distance learning points in the relevant regional or regional centres. This structure should be responsible for the organization of distance learning in the field. In the next stages, distance learning centres can be established in several higher education institutions specializing in one or more different areas.

It is well known that the role of modern information technologies and systems in the gradual implementation of the goals and objectives of the Law of the Republic of Uzbekistan "On Education" and the "National Training Program" [15]. Modern information technologies: multimedia, translation from one language to another, conversion from one alphabet to another, computer test control, scanning technology, internet, email, Web technology, electronic virtual library, distance learning, presentation technology, artificial thinking systems, etc.

The software in distance learning

Our government is doing a lot in this direction. An example of this is a type of education recently developed in the republic called "Distance learning". This type of training differs from the existing types of training in some positive aspects [16]. The main reason for the emergence of this type of education is the rapid development of information and communication technologies and the creation of fundamentally new educational technologies (Internet technologies). The use of Internet technology has allowed us to distribute

and reproduce educational materials endlessly and very cheaply, as well as quickly and accurately deliver them to students. At the same time, since learning is interactive, the role of the student in independent work is very important.

The technology of creating educational software in programming languages.

Software tools such as Microsoft Front-Page (HTML-Hyper Text Markup Language), Allaire HomeSite (HTML), Microsoft PowerPoint, Microsoft Word are used in the development of hypertext documents of pedagogical software. It is necessary to use programs that work with raster or vector images to create teaching materials on the basic concepts of the subject. These include Corel Draw, Corel Xara, Corel Photo-Paint, Adobe PhotoShop, Adobe Illustrator. Special programs such as Discreet 3D Studio MAX, Alais WaveFront, Maya, LightWave, SoftImage 3d, Adobe Image Ready, Gif Animator, Macromedia Flash, Adobe Premier are used to create dynamic illustrations. Presenting and editing sound processes is done using SonicFoundry SoundForge, Wave Lab, Sound Recorder and other programs. Databases are created using programs such as Microsoft Excel and Microsoft Access.

The content of the software used to create the software.

HTML hypertext documents are used to place software on the Internet, as it is the hypertext language of the Internet, and the program for reading documents created in it is part of the operating system Microsoft Windows. It should be noted that the capabilities and perfection of pedagogical software are limited only by the level of skill of the programmer. It takes a lot of preparation to create multimedia software products. The future specialist should have knowledge not only of many programming languages but also of the methodological principles of creating teaching and control programs. Here it is advisable to carry out preparation in the following stages:

- General principles of computer science;
- work with graphics;
- voice work;
- work in an integrated environment;
- mastering the techniques of creating educational programs.

These steps are important in developing the skills to create multimedia tutorials. Not mastering a stage does not guarantee the completeness of the learning process. If a prospective teacher already knows at any stage, he or she will have additional opportunities to improve their skills. Computer programmers are often involved in the development of instructional multimedia software. But while these programmers may have a good knowledge of the quality of the product they are creating, in many cases they may not have mastered the training methodology. This does not guarantee that the training software fully meets the methodological requirements. Therefore, it is necessary to carry out a multi-stage preparation to develop the skills to create software multimedia products.

The first stage of this preparation is related to the study of computer science, and the study of the general basics of computer science provides an introduction to popular programs. In the beginning, it is necessary to study the MS Windows shell and the MS Office software package. Mastering these programs will form the basic skills of using modern information technologies. At the same time, the formation of the ability to work with graphical shells is important in the early stages of the study of practical methods of computer technology in simple and understandable programs. Because MS Office components are, in a sense, universal, they provide a solid foundation for students to master information technology. The second step is to learn how to work with graphics programs. This step is divided into several sub-steps according to the type of graph:

- raster;
- vector;
- three-dimensional;
- animated.

The sequence of learning is not very important, but it is advisable to get acquainted with the basics of animation after mastering all types of static graphics. Three-dimensional graphics do not have to be part of the overall program, as they are only used to model real objects. However, it is recommended that 3D be included in the curriculum for teacher training in specific and natural sciences. The most common three-dimensional editors are 3D Studio Max and Maya. They have a simple interface. With knowledge of raster and vector graphics, you can quickly master the skills of working with three-dimensional graphics.

It is possible to create animated graphics in the above programs with close interfaces. They differ mainly in the types of graphics: Adobe ImageReady for raster graphics, Corel R.A.V.E. for vector graphics, and 3D Studio Max for three-dimensional graphics. The next step is to learn how to work with sound. The issues of recording, editing and recreating sounds are important here. These issues can be resolved using the Sound Forge program. This program records audio and converts files to major audio formats. You can also edit sounds and add special effects to the sound. You can use the popular Winamp program to hear sounds. However, in multimedia products, the sound is integrated with the program and does not require special hearing aids. An expert with the knowledge and techniques of graphics and sound processing will then learn how to present and create multimedia products. This includes, first of all, HTML-programming, ie working with MS Word, MS FrontPage, Macromedia Dreamweaver, which belongs to the WYSIWYG group of programs, and preparing presentations in MS PowerPoint. You can also recommend Macromedia Flash, a more sophisticated multimedia interactive presentation program, graphics and sound processing, as well as Adobe AfterEffect, an animation program, and more. At this stage, the student should be able to create multimedia applications that he or she teaches. The methodical step is to ask the future specialist "how and by what means to deliver the training materials to the student?" must answer the question. At this stage, based on their knowledge of graphics and the audio capabilities of the computer, they need to know exactly in which situations it is appropriate to transmit information [18].

Results and discussion

The creation of distance learning software courses (Distance Learning Software) is one of the most pressing tasks for teachers today. Distance learning software is becoming more and more integrated into the education system due to its flexibility to change the educational process and the possibility of various changes. To date, software for the development of distance learning software in various forms and accordance with a wide range of international standards has been developed. The development of distance learning software puts new functional responsibilities on the teacher. These include:

- Designing the goals and objectives of teaching science, depending on the resources of distance learning software and other pedagogical software;
- direct creation and search of various pedagogical software tools for educational purposes, including didactic materials, lectures, multimedia materials, fragments of audio and video materials, web courses;
- To make the teaching process more interesting, meaningful and understandable than distance learning software in higher education and secondary special vocational education;
- Use of the website, ie updating of educational and informational content, work with virtual dean's office and virtual study groups;
- The introduction of modern computer technology in the educational process requires the teacher to know how to create tests, create books using pedagogical software, create glossaries and use software designed to integrate them with educational technology.

Learning how to create 11 types of tests using Mytest, and how to create glossaries and e-books

using iSpring is one of the most important tasks today. With the development of distance learning software, the role of the teacher is transferred to the computer, and there is no denying that there is a notion that the teacher is given "general guidance". We believe that the teacher has always been given a leading role in the educational process. Develop a methodology for the use and application of distance learning software in any part of the educational process. Distance learning software is tasked with planning and determining curriculum compliance, student assessment, and more. The notion that computer technology and distance learning software are "perfect in every way" is misleading. Because the integration of information and pedagogical technologies is based on educational goals.

The pedagogical process is multifaceted, it is impossible to create universal pedagogical software. An experienced teacher uses pedagogical software in different groups in the same learning process, depending on the level of preparation of students, the specifics of the field of study, and even when they are used. However, distance learning software developed at the level of demand has been successfully used in today's educational process. There is no doubt that such courses are visual, multimedia, equipped with audio and video information, have effective use of animation effects, increase the effectiveness of education.

Conclusion

It is necessary to study the experience of foreign countries and pay special attention to the creation of multimedia - electronic textbooks, electronic libraries, audio and video textbooks to implement the system of distance learning in higher education institutions of the country, to make it better. The effective use of new information technologies plays an important role in the ongoing reforms in the education system of our country. The second phase of the National Training Program focuses on strengthening the material and technical base of educational institutions and providing them with advanced pedagogical technologies. Therefore, large-scale work is being carried out in higher education institutions, professional colleges and academic lyceums on the introduction of new pedagogical technologies in distance learning.

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