ISSN NO: 2770-2367
Date of Publication: 06-05-2022

About Synchronic and Asynchronous Organizational Forms of Distance Learning Based on Web-Technologies

Azamat Ibragimovich Tillaev
Associate Professor, National University of Uzbekistan
tillayev1@mail.ru

Abstract: This article describes how to effectively use the software and hardware of distance learning. It also shows the newly created distance learning system for higher education based on web technologies and its components and capabilities.

Keywords: distance learning, seminar, synchronous seminar, chat seminar, video conferencing, asynchronous seminar, distance learning system.

Introduction

Today demands to reform the educational process in the education system, to develop new teaching methods based on new information technologies. It is advisable to introduce a distance education system. The widespread popularity of the Internet in the early 1990s, especially the introduction of the World Wide Web (WWW), brought a new dimension to distance education to the global education system.

Distance learning (DL) is a method of distance learning based on information and communication technologies - the Internet, e-mail, video conferencing, audio, video data, and multimedia textbooks. In DL, the student is required to work continuously - interactive learning. This enhances the qualitative characterization of the knowledge and skills of each field specialist.

In distance learning, the teacher and the student work at a considerable distance from each other. However, they are constantly interacting through training courses, forms of supervision, e-mail communication methods, and other Internet technologies.

In recent years, the term distance learning, which is used to manage the education system in developed countries through the Internet, has been introduced under the term e-learning.

DL technology has been around since the beginning of the last century. If we look at the number of higher education institutions in the world that use non-traditional forms of education: 79 in 1900-1960, 70 in 1960-1970, 187 in 1970-1980, 1980-1995 years - 700. According to the Internet, this figure has increased significantly since 1995. The advent of Internet technology has changed things that have remained unchanged for centuries. This traditional correspondence was exchanged for e-mail, and libraries exchanged it for websites.

Now, in the education system, the traditional forms of education have been replaced by elements of distance learning. The introduction of modern information and communication technologies into the educational process has led to the creation of a new form of teaching - distance learning - in addition to traditional teaching methods.

The Main Part

Currently, a lot of positive work is being done in our country to educate, train, and educate the younger generation, approach modern information technologies, and teach them to work with new techniques and technologies. Effective use of new information technologies is becoming a requirement today. In particular, there have been significant changes in the education system, and today the education system is widely used distance learning based on web technologies. The DL method is a new form of distance learning and independent learning that develops each student's ability to think independently, assess their situation, draw conclusions and make predictions.

ISSN NO: 2770-2367
Date of Publication: 06-05-2022

Distance education is a new type of pedagogical technology that has many advantages. In particular, the high level of mastery as a result of learning without separation from production, the speed of knowledge, the freedom of the student in the learning process, the economic efficiency of education, teaching in the learning process based on audio-video, animation, graphics there is an opportunity to objectively evaluate knowledge, to compare theory with practice. Each distance learning student is attached to a tutor. He monitors the student's mastery, that is, he is in constant contact with the student.

In distance education, most of the students' time was spent studying the materials of the educational-methodical complex independently. In addition, the constant interaction of students and teachers was carried out using means of telecommunication technologies (e-mail, bulletin board, chat, forum, offline tutorials, and video tutorials). Experimental observations have shown that the level of teaching materials on the same topic, based on MT, is significantly higher than the level of mastery of teaching materials on the same topic when organizing education based on traditional teaching methods. Indicates a decrease in time spent.

Organizational forms of distance learning technologies include seminars, forums, control systems, e-lectures, etc.

Seminars. The seminar will be discussed by a group of students under the guidance of a teacher. It's a form of practice. In addition to the lecture, the seminar is one of the main forms of organizing the learning process, which has three tasks: mastering, educating, and supervising. Video and teleconferencing computer technologies are used to implement the functions of the seminar in distance learning. This kind of organization of seminars is called "virtual" in the full sense of the word. This allows participants to easily exchange text messages without seeing each other. They can also take part in video conferencing and cable studio classes using information and telecommunications technology.

Synchronous seminar (or online). Nowadays, distance learning is widely used in the online system, and all the materials required for the program in distance learning, in what form (electronic version, text, video or audio material, etc.). The fact that the student is placed on the websites in a way that is understandable and convenient for the student, regardless of the number of students, the number of assignments for the assessment of students, and their number and timing determine the necessary conditions.

- *Chat*. Chat - in the department of live communication served as a teacher-student and student-student dialogue. The chat was led by a teacher and 8-10 students on a topic. The interview lasted 30-45 minutes and was evaluated according to the activity of the students.

Workshops are often held in the form of chats, but the use of this technology has some limitations. The duration of the chat seminar - is no more than an hour (listeners get tired quickly due to high psychological pressure) and the number of participants - is less than 10 people (the message is displayed, it is difficult to understand the meaning of the number of participants increases) is carried out.

- *Video conferencing*. Video conferencing is carried out by computer, or telephone. In this case, a student from one city can communicate live with a teacher or student from another city. Of course, this requires special video and multimedia devices, as well as special software on their computer. Video conferencing is usually pre-arranged and scheduled. Nowadays, the Zoom view is much more advanced.

- *Through special cable studios*. The process of learning through special cable studios is organized in the same way as cable television. A teacher can teach a student from one place to another on TV. Before the development of the Internet, this method was widely used in several educational institutions.

- *Through modern mobile phones*. It is possible to keep up to date with news and announcements in the MT process via mobile phones. Also, due to the rapid development of this type of communication technology, in the process of learning, they have the opportunity to use various Internet services and e-mail, to exchange information in different formats (text, audio, video, image).

ISSN NO: 2770-2367
Date of Publication: 06-05-2022

•*Asynchronous seminar (or off-line)*. In distance, learning seminars can be held asynchronously. In this case, the teacher will be able to assess the activity of each student. An example of this is asynchronous forum education.

Asynchronous forums are divided into managed and unmanaged forums (teleconferencing). In the first type of forum, the moderator (forum administrator - more teachers) has the authority to edit the content of the messages submitted by participants. The moderator can also change the sequence of messages and delete topics that are not relevant to the discussion. If the teleconference (forum) is not management-based, each participant will see the text of all unedited questions and answers submitted by other workshop participants.

Asynchronous seminars have the following advantages:

- Ease of working with listeners at different time intervals;
- Think deeply about the questions asked;
- Track the "wave" of interest in each message.

The general scenario of an asynchronous seminar is the same as a traditional seminar. However, it is not done in the usual oral form, but through electronic means. For example, during the workshop, students will be given written answers to each question when applying a report on a topic (allowing all students in the group to view the answers on a computer screen).

The teacher comments on the student's written answers. In addition, the student expands his/her feedback on the issue raised by his/her classmates. The didactic tools of the forum place special emphasis on the teacher's written information on each student. At the end of the seminar, the teacher summarizes the results and evaluates the students.

In the forum section, the teacher provided topics for discussion, and students shared their knowledge on the topic. Another convenience of the forum is that you don't have to answer the given topic and questions in real-time/live. Questions and answers have been stored on the site for some time.

The student can work independently with offline tutorials, video tutorials, and other electronic publications based on the MT system placed in the system.

Conclusion

The Internet is technology-based distance learning, a modern universal form of vocational education that is tailored to the individual needs of learners and their specializations. Distance learning allows everyone to improve their professional skills according to their characteristics.

In this method of teaching, the learner independently acquires teaching materials in an interactive mode at certain times. Tests supervise under the guidance of a teacher and interact with other learners in the "virtual" group.

Other advantages of distance learning include:

- increase in the number of students;
- Involvement of leading teachers, scientists, and experts in the field of lectures;
- organization of the educational process with the use of active teaching methods and new pedagogical technologies;
- Students learn new information and communication technologies directly.

Based on the above requirements, a new MT system has been created that can be used in web-based education. The system can be set up online at any higher education institution or separately. The system allows you to add process, enrich and teach distance learning courses in various specialties.

The following web technologies were used in the creation of the system:

- PHP was used as a web-programming tool;
- MySQL was used to work with the database.
- Software tools such as HTML5, CSS3, and Java Script were also used to ensure the design and perfection of the system.

ISSN NO: 2770-2367
Date of Publication: 06-05-2022

References

1. *Moore M.G., Aisha Al-Harthi. Using New Technologies in Open and Distance Learning. // (2006, Dec.) Open Education Research. -2006.Vol.12 No.6 pp 16-20.*
2. *M.Aripov, A.Tillaev. "Masofali ta'lim sistemasi" nomli dastur. №DGU 01506. 16.04 2008.*
3. *M. Aripov, A.Tillaev. Oliy o'quv yurtlarida informatika va axborot texnologiyalari fanini veb-texnologiyalar asosida o'qitish metodikasi. O'zMU Xabarlari. Toshkent. 2010. №3. 29-32 b.*
4. *A.Tillaev, S.Sheraliev, H.Mavlyanov. Animatsion dasturlarning vazifalari va imkoniyatlari. "Fizika, matematika va informatika" ilmiy-uslubiy jurnal № 2/2011. Toshkent, 2011 y. 83-89 b.*
5. *A.I.Tillaev, Videoma'ruzalarni tayyorlash va ular asosida dars jarayonini tashkil qilishning umumiy qoidalari, O'zMU Xabarlari. Toshkent. 2013. 165-167 b.*
6. *Tillaev A.I. Creation and use of the pedagogical software with the use of information technologies. Abstracts of the International conference "Modern problems of applied mathematics and information technologies - al-Khorezmi 2018" September 13–15, 2018. Tashkent, p. 208.*
7. *Tillaev A.I. "Animatsion dasturlar" kursi bo'yicha elektron darslik yaratish. "Amaliy matematika va informatsion texnologiyalarning dolzarb muammolari" Xalqaro ilmiy-amaliy anjuman tezislari to'plami. Tashkent. 9– 10 noyabr 2019 y. 264 b.*
8. *Tillaev A.I. Axborot texnologiyalari fanini o'qitishda multimedia dasturiy vositalarning imkoniyatlaridan foydalanish. "Amaliy matematika va informatsion texnologiyalarning dolzarb muammolari" Xalqaro ilmiy-amaliy anjuman tezislari to'plami. Tashkent. 9– 10 noyabr 2019 y. 261-262 b.*
9. *A.I.Tillaev. Improving the teaching of "Information Technology" in higher education based on multimedia technologies. // European Journal of Molecular & Clinical Medicine. London, United Kingdom. ISSN 2515-8260, Volume 7, Issue 2, 2020, p. 972-976.*
10. *Aripov M.M., Tillayev A.I. Ta'limda zamonaviy axborot texnologiyalarni qo'llash usullari. Samarqand Davlat Universiteti Ilmiy axborotnomasi. Samarqand. SamDU. ISSN 2091-5446, 2020.yil, 6-son (124), 86-90 b.*
11. *Tillaev A.I. Use of multimedia technologies in the educational process. Abstracts of the international conference "Modern problems of applied mathematics and information technologies al-Khwarizmi 2021". – Fergana, Uzbekistan. 2021. P. 229.*
12. *Tillaev A.I. Creation of multimedia applications and their use in teaching the discipline "digital and information technologies". Abstracts of the international conference "Contemporary mathematics and its application". – Tashkent, Uzbekistan. 2021. P. 103-104.*
13. *Tillaev A.I. Creating and using electronic textbooks with multimedia software. Abstracts of the international conference "Contemporary mathematics and its application". – Tashkent, Uzbekistan. 2021. P. 153-154.*
14. *Tillaev, A. I. General rules for creating and using multimedia electronic textbooks on "Digital and information technology" in higher education. Academic Research in Educational Sciences, 3(4) (2022), P. 112–116. https://doi.org/10.24412/2181-1385-2022-4-112-116.*

ISSN NO: 2770-2367
Date of Publication: 06-05-2022

15. *Tillaev, A. I. Creating Multimedia Applications and Using Them in the Teaching of "Digital and Information Technology" in Higher Education. International Journal of Multicultural and Multireligious Understanding (IJMMU) ISSN 2364-5369, Vol 9, No 4, April 2022. P. 266-271. http://dx.doi.org/10.18415/ijmmu.v9i4.3727.*