Volume 2, Issue 12, December - 2024 **ISSN (E):** 2938-379X

DEVELOPING TEACHER'S PROFESSIONAL ACTIVITIES USING INFORMATION TECHNOLOGIES

Choriyev Nurislam Nuritinovich
Teacher of Termez State University
E-mail:nurislomchoriyev69@gmail.om

Abstract
This article is devoted to a detailed disclosure of the pedagogical conditions, didactic possibilities, and methods for developing methodological foundations for the use of innovative approaches in the development of teachers' professional activities based on information technologies.

Keywords: Information and communication technology tools, promising areas of using ICT tools in the educational process, information and technical foundations of vocational education, teaching and learning using media.

Introduction

In world practice, the demand for all levels and stages of the modern educational process using information and communication technologies is increasing day by day.

The main goal of introducing and using information and communication technologies in education is to create new opportunities for all participants in the educational process, that is, learners and providers.

• reduction of the time spent by students and professors searching for educational and scientific information;

• Acceleration of changes in the content of electronic educational literature based on current needs;

• allocating additional time for students to engage in independent learning.

World experience shows that the prospects for using information and communication technologies in the educational process include organizing interactive lectures based on multimedia technologies.

Compared to traditional lectures, interactive lectures allow students to actively participate in the learning process, asking questions from different parts of the learning material and receiving specific answers.

The integration of modern software and hardware tools of information and communication technologies in multimedia technologies ensures an increase in the level of perception of information by various sensory organs of students, namely, audio information (voice), video information, and animation (multiplication, "living video"). This ensures that lessons are organized in an interesting and effective manner. The personal computer acts as a teacher's assistant. In preparation for lectures, the teacher will need to prepare video slides in the

Microsoft Office Power Point graphics program. This certainly requires the teacher to have experience working on a personal computer. In addition, it requires specially equipped auditoriums to organize such lectures or practical classes.

Currently, our country's universities are producing highly qualified specialists in computer science and information and communication technologies. In addition, if graduates of specialties such as mathematics and physics also complete certain retraining courses in programming, we can see that their intellectual wealth can make a significant contribution to the development of our national economy through the production and sale of software products. The production of the technical part of information and communication technologies in our republic requires large investments, which is not feasible both in terms of time and economy. Therefore, we should focus our attention on developing software products, first of all satisfying our own domestic demand, and then on exporting. It is becoming increasingly important to simultaneously introduce mass education in information and communication technologies from the very beginning of school education. At the next stage, it is necessary to develop and introduce special multimedia courses in the state language for students of vocational colleges and academic lyceums. At the third stage, it is necessary to form a class of programmers at the base of higher educational institutions, as well as at technological parks. In addition, it is necessary to conduct pilot projects at all stages of education and make the necessary decisions based on their results; software products to be developed for the educational process should be fully financed by the state; it is necessary to form a single database covering educational resources at the national level; it is necessary to constantly analyze the level of informatization of education in the regions of the republic and make the necessary decisions based on it.

World practice shows the need to include information and communication technologies at all levels and stages of the modern educational process. The main goal of introducing and using information and communication technologies in education is to create new opportunities for all participants in the educational process, that is, for learners and providers.

With the widespread introduction of information and communication technologies into education, distance learning, open education, and distance learning courses have also become widespread in many countries. Currently, a number of distance learning courses have been established and are successfully operating under the "Iste'dod" Foundation of the President of the Republic of Uzbekistan.

A number of practical works are also being carried out on the creation of electronic educational literature, which forms the educational and methodological basis of distance education. Currently, electronic textbooks and manuals, automated testing systems, virtual stands, multimedia systems have been developed and are widely used in the educational process. Figure 1 below shows a screenshot from the virtual stand entitled “Principles of the operation of the CD-ROM device of a personal computer”.

Web of Teachers: Inderscience Research
webofjournals.com/index.php/1

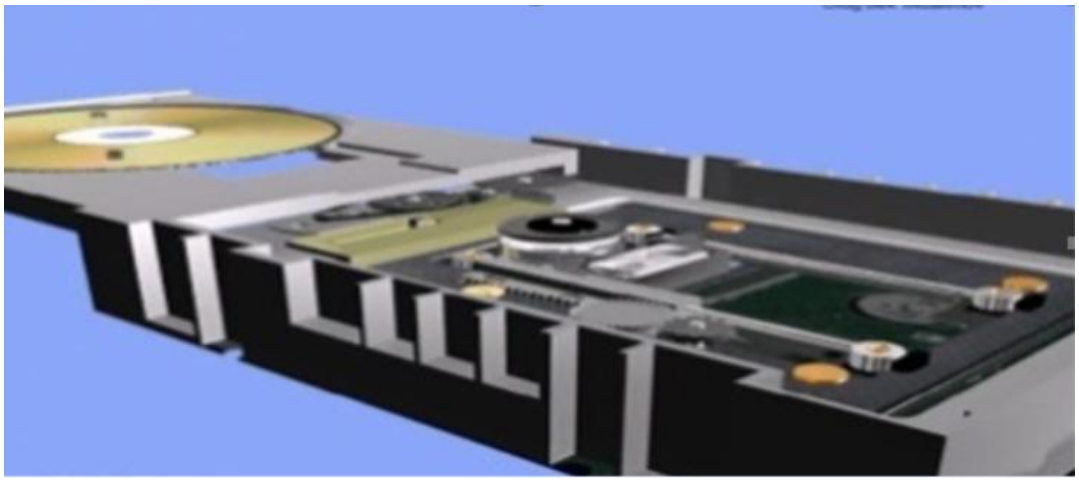

Figure 1. A screenshot from the virtual stand

Electronic textbooks are becoming increasingly important in the mass use of information and communication technologies in the educational process. Electronic textbooks are created using various programming languages, but there is currently no specific programming standard. Each electronic textbook is unique. This textbook also has several advantages, including:
– presenting the materials to be studied in a convenient form to students;
– the ability of the electronic textbook to interact with the student in an interactive way;
– the ability of students to independently study the educational materials and test their knowledge based on tests.

The widespread use of ICT helps to improve the quality and efficiency of education. For this, the following should be done:
– information about new techniques and technologies in the field of education should be widely disseminated;
– it is necessary to widely introduce the study of ICT from the school desk, which will help to quickly master computer literacy;
– it is necessary to widely use ICT to improve the quality of education at all levels;
– it is necessary to further improve the level of training of teachers, who in turn should show the way to an information society;
– it is necessary to expand the scope of effective use of ICT in education based on cooperation at various levels.

The gradual introduction of information and communication technologies into the governance system of our republic can lead to the complete informatization of our society and the formation of a new system within the education system, that is, one based on information and knowledge.

Information and technical foundations of education: teaching and learning using modern information educational technologies (Media)

Information and technological training of teachers includes several components. One of them is mastering the basics of using information and communication technologies and the methodology for their application in professional activities. The new concept of

informatization of education in the Republic of Uzbekistan provides for the preparation of students and teachers to work in the conditions of informatization of education. Therefore, the use of digital educational resources (DER) in the provision of education is gaining importance.

RTRs include educational resources on the Internet, electronic textbooks, electronic manuals, electronic libraries, as well as information prepared on the basis of the MS Office package and other programs and recorded on digital media.The following problems are relevant for education today:

1. Creation, distribution and rational use of modern RTRs in the educational process.
2. Training of pedagogical personnel who can effectively use RTRs in the educational process.

Designing a lesson based on RTRs includes four stages:

• the first stage is based on the need to use digital resources;

• the second is the technological stage, in which the teacher determines the type of lesson (lesson-research, lesson-presentation, virtual excursion, practical work, etc.), software and hardware (local network, Internet access, multimedia computer, software tools) provision;

• at the third stage, the main elements of the lesson structure are distinguished, the methods of interaction between various components (teacher-student-RTR-educational material) are selected;

• at the fourth stage, the current psychological state of students, knowledge levels and the most optimal sequence of activities are determined.

• Despite the partial use of RTR in teaching various general and vocational subjects, the issue of choosing the optimal system for improving the skills and training of pedagogical personnel in the field of their effective use remains unresolved.

• Therefore, the training, retraining, and advanced training of teachers should be of a practical, project-based nature, aimed at mastering the experience of using RTR

• in practice and designing the information environment of an educational institution.

• As is known, today a computer provides the presentation of information in all known ways in digital format. Similarly, it can combine the educational and methodological support of all components of the educational process on one carrier.

• The introduction of new educational products in secondary education institutions should be accompanied by the restructuring of the entire educational process, improving the skills of teachers and providing methodological support.

- Nowadays, the education system is in great need of high-quality RTRs. Their use in practice creates the following opportunities:
- 1. Organization of various forms of activity of students for independent acquisition of knowledge.
- 2. Use of all possibilities of modern information and
- telecommunications technologies in the process of implementation of various educational activities, including: recording, collection, storage, information processing, interactive communication, modeling of objects, events, processes, virtual laboratories, etc.

- • Introduction of instant information into the educational process, relying on the capabilities of multimedia technologies, virtual reality, hypertext and hypermedia systems, along with associative ones.
- • Objective assessment and diagnosis of the intellectual capabilities of students and their level of readiness for knowledge, learning, skills, training.Har bir o‘quvchining intellektual darajasiga mos holda ularning o‘quv faoliyatini boshqarish.

• Creating conditions for students to carry out individual independent educational activities, forming self-education, development, improvement, and mobilization skills.

• Rapidly providing teachers, students, and parents with relevant, timely information that is consistent with the content and goals of education.

• Creating a basis for constant and rapid communication between teachers, students, and parents aimed at increasing the effectiveness of education.

To conduct attestation of students, it is possible to use the traditional form (control works and tests prepared using the RTR system) or the interactive computer form (if there is a sufficient number of computers). For example, some of the students perform complex tasks that are checked manually on paper, while the rest take a computer test at this time, and then change their places. A large number of questions and issues allows for partial automation of student attestation.

The following RTRs have also been developed for “Installation and Operation of Computers and Computer Networks”:

- Multimedia lectures created using MS PowerPoint, Spring programs, a webcam and converted to Flash format. The content of the lecture slides is displayed with animation effects and includes multimedia (text, sound, video combination) elements;

The media lecture contains animations corresponding to the slide elements. The media lecture can be saved in mp3, mp4, Flash and other digital formats and recorded on digital media, and used at any time and place.

2) Graphic animation interactive documents in Flash format. Flash provides the ability to enlarge images based on the magnifying glass effect, create motion imitation, repeat frames, go back, etc.;

3) Graphic images (in jpg, gif formats) - photos and scanned images, a collection of pictures. They are given brief explanations and comments, and can replace tables, slides and posters in the lesson;4) Kompyuter ekranidan o‘qish uchun gipermatnli xujjatlar **(pdf, html, doc).**

5) Electronic tutorials created using iSpring and Camtasia Studio 6 programs allow students to present topics of any complexity in an interesting way.

RTRs in the form of documents in HTML format replace a textbook, reference book or didactic information material, allowing for frontal, independent work.

Thus, students who worked with the created digital educational resources for a year showed a more developed, dynamic combinatorial thinking, the ability to plan and rationally structure their activities, the correct selection and organization of information, clear, single-valued goal setting, and initiative. This only happens when there is high emotional interest.

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Web of Teachers: Inderscience Research
webofjournals.com/index.php/1