The Process of Creation of Electronic Educational Resources under Conditions of Reforming Continuous Education

SuleymanovaRamziya ,SharipovNodir

Lecturer, department Information Technology ,TSPU named after Nizami, Tashkent,Uzbekistan
Master, department Information Technology, TSPU named after Nizami, Tashkent, Uzbekistan

ABSTRACT: Electronic educational resources are an integral part of a modern training session that improves the quality of students' knowledge. Therefore, the article analyzes the stages of development of electronic educational resources that allow to manage the educational process, take into account the individual characteristics of students and create their own teaching materials.

KEY WORDS: electronic educational resources, pedagogical technology, educational process, multimedia, interactivity.

I.INTRODUCTION

In recent years, there has been a clear paradigm shift in the direction of active formation of personality-oriented learning models. In this context, electronic forms of education become the most important tools for the organization of educational activities of students and schoolchildren, including the administration of the educational process as a whole. The ability to adapt to the rapid increase in information flows and technology development is a prerequisite for success in the modern labor market. The formation of skills of independent and team collaboration will allow future professionals to implement one of the most important principles of the information society: "education through life".

The level of use of information and communication technologies in education should be determined not so much by the number of computers in an educational institution as by the qualitative indicators of creating full-fledged multifunctional electronic educational resources, uniting teachers into virtual communities, and effectively using the functionality of ICT for further education reform [1].

Today, it is necessary to implement large-scale programs of professional development of teachers of school, secondary professional and higher education systems aimed at meeting their needs in improving ICT competence and pedagogical skills in accordance with the requirements Of the professional standard of the teacher in the context "...qualified use of ICT tools common in this professional field in developed countries in solving professional problems», as well as the social order of modern society for the formation of an effective e-learning system.

II. SIGNIFICANCE OF THE SYSTEM

The development of information and communication technologies has led the society to create multimedia electronic educational resources of modern level. There are two main directions of Informatization:
1) Informatization of the education system, i.e. to provide the education system of computer literacy, automate workplaces and introduce information technologies.
2) Informatization of the educational process, i.e. the use of a personal computer as a means to improve the efficiency of education.

The emergence of multimedia computers has expanded the possibilities in educational information by collecting text, graphics, audio and video information, animation, the possibility for user feedback, interactivity properties in one user product. In modern pedagogical practice, there is a different concept of the content of education, the roots of which go back to the past, in the theory of formal and the theory of material education (V. V. Kraevsky). Each of them is

associated with the interpretation of the place and functions of man in the world and society [1]. The traditional group method of training is not sufficient to eliminate the constantly emerging shortage of knowledge and acquisition of skills (A. A. Zolotarev), so you can use the problem approach, the use of active activity methods, taking into account the peculiarities of the student's personality.

In continuing education, information technology is universal for solving problems, because it has an advantage over paper and other means of training: multimedia materials give visualization of a holistic image at a convenient pace, sequence and form, which is especially effective at the initial stage of training; individualizes learning, is indispensable for solving problems and repetition in preparation for control; productivity frees from routine and forms an information culture by automating: search in large databases, calculation, registration of results; modeling makes up for the lack of equipment and reagents, safe and indispensable in the study of micro - and macrocosm, social processes (and the organization of virtual laboratories; interactive replacement of the operational reaction (consultation) of the teacher and students in training, individual training and control with preservation of parameters and accumulation of results for a reasonable and objective assessment of training. communication through the network connects with students, teachers, external consultants, remote (unique, harmful) equipment.

IV. METHODOLOGY

According to experts, ICT training can increase the effectiveness of demonstrations in lessons and lectures by more than 50%, practical and laboratory classes in natural Sciences by at least 30%, the objectivity of the control of students ' knowledge by 20-25%. EOR reduce the time of mastering, optimizing educational activity due to structuring, competent tasks, prevents skipping classes, provides the necessary materials to improve the level of development of those wishing, increase motivation through individual settings, adaptation, different types of emotional perception of information, mental activity and game situations [2].

Performance in groups studying with the use of educational ICTs is higher on average by at least 0.5 points (with a five-point evaluation system) compared to traditional ones. In the transition to an information society characterized by a constant increase in the volume and role of knowledge, ease of updating and replication of EOR, productivity as a teacher with a multimedia projector, and students with a classroom and home PC, teachers need an information and communication culture with their application in the educational process, shifting the focus of activities from a repeater to a researcher consultant.

The use of modern and advanced multimedia technologies and "Virtual reality" is advisable not so much to support traditional forms and methods of education, but to create variable techniques that implement psychological and pedagogical impact of a longing nature. These techniques should be focused on: the development of visual, logical and operational thinking; education of information and legal culture; the formation of skills of independent acquisition of knowledge; the formation of skills of educational experimental and research activities. At the same time, the above ICT capabilities are implemented within the framework of computer-based teaching methodology (not only methods of programming educational activities and testing, but also computer modeling and design with information, analytical, design and technological capabilities with an increase in students) in the electronic portfolio [4]. When creating educational materials in continuing education, pedagogical goals are set, for example, to achieve a high quality of training for a particular course under existing financial, logistical, personnel, group, time or other constraints. They rely on the ability of the ESM.

The aim of creating a new modern generation of EOR is a qualitative and quantitative breakthrough in the field of information technology to support learning by providing free access to electronic resources. Tasks of creation of electronic resources: Unification of EOR according to the corresponding Federal standards. A high level of multimedia e-learning resources. Centrally store, maintain and provide access to electronic resources to all participants of the educational process, including through the Internet [3].

V. EXPERIMENTAL RESULTS

Active use of electronic resources for the implementation of the educational program of General and secondary (full) General education in institutions of General, primary and secondary vocational education in subjects, including:

creating the necessary conditions for independent work on the material, allowing the student to choose a convenient place and time of work, as well as the levels of the educational process; deeper individual learning and ensuring conditions for its effectiveness; the possibility of interaction with models of objects and processes; with a virtual image of the studied objects and phenomena (the cognitive graph); the possibility of submitting unique information multimedia tools; an automated control of knowledge, abilities and skills; structured and automated information retrieval; the possibility of dissemination on the local media: selected elm from the total content of open multimedia systems together with programs easily transferring to CD-ROM; expansion of educational modules: the inclusion of new topics, new teaching methods in the new variative [1].

The tasks are implemented according to the classification of Informatization using the modularity of the EOR structure and the allocation of EUM of independent educational objects (described according to the SCORM 2004 specification): interoperability: the ability to transfer objects created by one set of development tools or platform to others and use them without changes (investment protection); the Ability to make courses from EUM, flexibility when used in different contexts (reuse of objects). The developed EOR will provide a substantial basis for the Informatization of General education in order to radically improve its accessibility and quality, since it will allow to obtain systematic content on the subject, which can be used and supplemented with individual modules and expanded with new educational sections at both the Federal and regional and local levels.

Electronic educational resources are a class of specialized information systems focused on the use in the educational process of institutions of different levels in order to improve its quality. The process of creation and development of the information system is described in the form of the life cycle of the system (LC).

Let us clarify the stages of the life cycle of the information system in relation to EOR.

1. Selection of the subject, section, theme for the development of EOR, pedagogical justification of goals, objectives, expected results, criteria for assessing the quality of development.

2. Analysis of existing EOR on the selected topic.

3. Development of the EOR model: determination of the purpose of the resource as a didactic tool, classification type, components of the resource, conditions and risks of its use in the educational process; development of specifications - requirements for the resource.

4. Development of scenarios of resource components, algorithms of interaction of the student with educational content, including for implementation of feedback, receipt by the teacher of data on training results.

5. Software implementation of the product, development of: user interface; functionality of EOR components based on the created scenarios; modes provided by the EOR model; databases for storing training results, etc.

6. Development of guidelines for teachers on the use of the resource in lessons of different types, when students work independently with the resource.

7. Testing and approbation of EOR in the educational process for control groups of trainees, evaluation of the resource as a didactic tool to improve the quality of education, taking into account the resources of the educational institution.

8. Modification of EOR by results of approbation.

9. Support of e-learning resources in use in the educational process.

Steps 1-4 are crucial for creating quality e-learning resources. Errors, inaccuracies made at the design stage or, as professionals say, in the formulation of the problem, it is difficult, sometimes impossible, to correct the software implementation.

At the stage of setting the task:

-the structure of the educational content of EOR is determined, the components of the resource that implement certain didactic tasks are allocated;
-describes the screen forms and algorithms of their presentation, depending on the actions of the student;
-the scenarios of dialogue of the student with EOR are developed, providing management of educational activity of pupils;
-describes the scenarios of tasks of different types, including controlling, methods of automatic formation of input parameters, algorithms for evaluating the results of tasks by students.

Scenarios are created with the joint work of programmers and teachers, are a formalized description of the components and modes of the future EOR. It is possible to consider that in the scenario educational materials, methods, approaches to training are reflected in the language clear to the programmer. For full participation in such work the Methodist, the teacher has to own principles, approaches to creation of modern EOR.

At the programming stage, it is necessary to carefully work out the user interface, taking into account the ergonomic requirements for the EOR. At this stage, specialists in the field of computer design and psychologists, teachers are involved in the work, who are able to assess the correspondence of the EOR interface to the age of students.

The next important stage is experimental testing, pedagogical approbation of EOR, during which changes can be made to the software product that do not affect the conceptual foundations and do not imply modifications of the EOR architecture. This, for example, improving the interface, making edits to the content of educational content, refining algorithms that implement feedback, algorithms for automatic generation of parameters for tasks, etc.

We note once again that careful elaboration of details at the design stage and creation of scenarios of EOR components, will help to avoid additional activity on modification of a product by results of approbation.

In the process of approbation of EOR, as well as any new pedagogical technology, all the shortcomings that prevent its effective use in teaching can not be revealed. At the stage of support, methodologists and teachers reflect on the experience of implementing EOR, formulate requirements for developers to modify the software product.

Activity on creation, development and operation of EOR is a multi-faceted process, the complexity of which, first of all, is determined by the presence of a contradiction between information technologies that require formal entity models for software implementation, and difficult to formalize components of the educational process..

At the same time, the introduction of information technology in education to improve its quality and accessibility is an objective requirement of the time, the request of the modern information society, the success of which depends, among other things, on the professionalism of teachers of various subject areas, their willingness to participate in this process.

REFERENCES

1. Osin A.V. Multimedia in education: the context of Informatization. Moscow: Agency "Ideal service", 2004 320 p.
2. Martynov D. V., Smolnikova I. A. Multipurpose use of electronic presentations and requirements to them. 15th international conference-exhibition "Application of new pedagogical technologies" Moscow: Troitsk, 2004. pp. 164-166.
3. Martynov D. V., Smolnikova I. A. Typology and recommendations for the creation of Federal electronic educational resources. Moscow: IIO RAO, 2006.
4. Martynov D. V., Smolnikova I. A. Federal electronic educational resources are the basis for further creativity. Moscow: RSUH, 2006, vol. 2. 11