DEVELOPMENT OF ELECTRONIC-DIDACTIC CAPABILITIES FOR IMPROVING THE METHODOLOGICAL TRAINING OF FUTURE PRIMARY SCHOOL TEACHERS

Narbayev Farrux Sharafbayevich

Gulistan State University, Department of Mathematics, Gulistan, Uzbekistan

E-mail:narbayevfarux79@gmail.com

A B S T R A C T	K E Y W O R D S
The article examines the theoretical foundations of problem-based learning, the development of electronic and didactic opportunities for improving the methodological training of future primary school teachers in higher education institutions and, at the same time, the use of problem-based learning in mathematics lessons. Improving Blended Learning Methods in Digital Learning Environments The article highlights the content of the use of digital technologies in the process of expanding the possibilities of independent learning in digital education, and also determines the level of effectiveness of the results obtained on the basis of experiments.	Problem-based learning, digital education, blended learning, cognitive, creative, talent, motivation, innovation, creativity, critical thinking.

INTRODUCTION

Today The use of information and communication technologies for the organization and management of the educational process in higher education institutions provides opportunities for the prompt provision of information resources, collection of information about the educational process, improvement of each student's knowledge at all stages of the educational process, continuous monitoring of the quality of education and other opportunities. Today, one of the main indicators of education is ensuring the ability of students to think independently, acquire creative skills, and promptly learn about innovations in their field, which in turn implies the training of qualified personnel for future innovative activities. They have achieved many achievements in the field of computerization of education. In this regard, research on the creation, presentation and effective use of information resources by each specialist in their professional activities based on computer tools and capabilities is of great importance[8].

The results of the observation show a shortage of software products aimed at high-quality teaching in the field of education, as well as a lack of in-depth research on the creation of high-quality information and didactic support for the education system, recommendations on software and its use, as well as the process of creating information and didactic support based on software[9].

Currently, a number of studies are being conducted to improve the presentation of teaching and methodological materials in the educational process. Of particular importance in this regard are the

issues of the introduction and use of modern pedagogical and information technologies in the educational process[10].

- Literature Review

U.Sh. Begimkulov conducted research on the creation of electronic information resources for the higher education system, management of the educational process using electronic educational resources, computerization of educational processes, creation of a unified information and educational environment of the educational process [3].

In the research work of N.I. Taylakov, issues of creating a new generation of educational literature for the continuous education system, the main provisions on the form, organizers, types and use of educational literature of the new generation are presented [5].

A number of scientific works of A.A. Abdukodirov provide valuable information on the means and methods of organizing the use of computers in the professional training of future teachers of physics and mathematics, on the use of computers in the educational process, on distance learning and technologies for organizing it [2].

The research of M. Aripov is devoted to the use of information technologies in the educational process, increasing their efficiency, organizing, implementing and developing distance learning [1].

The study of F.M. Zakirova describes the use of virtual didactic maps in classrooms, methods of teaching computer science, the creation of electronic educational resources and requirements for them [6]. "Methodological thinking," asserts N.E. Kuzovleva, "is a relatively independent and specific activity, which is considered as a means of controlling all actions that underlie the scientific research and educational activities of the teacher, and acts as a necessary resource for the implementation of these actions" [4].

Research Methodology

In a globalized society, as in all areas, one of the main sources of development of higher education institutions is information, since information plays a leading role in setting strategic goals and objectives, using emerging opportunities, making informed and timely management decisions, coordinating the actions of existing divisions of higher education institutions, and directing their activities to achieve common strategic goals. Thus, the rapid development of information and communication technologies and the trend of education modernization indicate the need to develop modern approaches to the implementation of independent learning using a programming environment, taking into account the professional training of students. One of such approaches is the development and use of pedagogical software products for independent learning of students, the theoretical and practical material of which is aimed at developing the professional competence of students. Methodical thinking is reflected in editorial skills[11]. Organization of initial classes and scientific and methodological work is considered an important form of methodological training of students of "editorial" faculties. The introduction of research work of future primary school teachers should be aimed not only at training personnel for scientific work, but also at the formation of scientific knowledge on all practical issues that graduates face in various fields of education. The methodological literature describes various student units: research teams, student clubs, targeted intensive training of specialists, creative student teams, student design bureaus, student associations, problem groups, student scientific circles, problem circles, etc. Editorial work in higher education

institutions is aimed at working with students, a scientific council of scientists, student scientific circles, seminars for talented students are organized[12]. Based on the analysis of scientific and methodological research on the problem of improving the methodological training of future primary school teachers, the following main and important areas of didactic and electronic-didactic opportunities were identified (Table 1):

Table 1.

Didactic possibilities	Electronic and didactic possibilities
Development of teaching skills	Interactive educational resources
Developing competencies for working with children of different ages	Information and Communication Technologies (ICT)
Development of creative abilities	Multimedia technologies
Using innovative teaching methods	Evaluation and monitoring tools

The didactic possibilities for improving the methodological training of future primary school teachers are very broad and varied. The main manifestations are:

Analysis and Results

The creation of an electronic information and educational resource that forms an electronic didactic environment consists of the following stages: preparatory process; setting goals; creating and planning content; developing a software product; determining the scope of application and effectiveness of the developed software product. The most important stages of creating an electronic information and educational resource that forms an electronic didactic environment are presented in Table 2.

Table 2. **Stages of creation of information and educational resources**

Tr	Stage	Content
1.	Content stage	At this stage, the formation of information and educational resources takes place, creating an electronic didactic environment and the content of its information support.
2.	Organizational stage	At this stage, in addition to the technical aspects of creating information and educational resources that form an electronic didactic environment, statistical data on users of the electronic didactic environment are collected and analyzed in order to clarify the categories of users, develop mechanisms for systematization and updating of existing resources, integrate existing resources in educational institutions, organize distance learning, and determine the demand for information and educational resources.
3.	Methodical stage of delivery	At this stage, the development of a methodology for using electronic didactic environment technologies in the educational process and the provision of consulting services will begin.

In accordance with the developmental objectives of training, it is advisable to effectively use the developmental potential of a lesson on a specific topic, forming certain knowledge, skills and abilities in students [16]. The main goal of monitoring the knowledge, skills and abilities of students is to identify their achievements and successes, indicate ways to improve them and, on this basis, create conditions for active creative activity of students. Improving the methodological skills of future primary school teachers in an electronic didactic environment requires the use of appropriate

educational forms, methods and means[11]. At the initial stage of the survey, preliminary data are collected on the problems of improving the methodological skills of future primary school teachers in an electronic didactic environment, at the stage of assessment and correction, problems are clarified, at the stage of independent assessment, additional training sessions are selected and a program for improving the methodological skills of future primary school teachers is developed (see Table 3):

Table 3 Forms, methods and means of teaching

No.	Improving the methodological training of future primary school teachers in an electronic didactic environment	Forms of training	Teaching methods	Educational tools
1.	Initial phase of examination	Visual and explanatory lessons on international assessment programs	"Flipped Learning", "Boomerang", "Problem-based learning", "Event-based" technologies	Visual tools electronic multimedia resource
2.	Evaluation and correction phase	Problem-based lessons based on the problem-solving process	"Flipped Learning", "Boomerang", "Problem-based learning", "Event-based" technologies	Text and visual tools, electronic multimedia resource
3.	Independent Evaluation Phase	Programmed lessons on task types related to cognitive domains in problem solving learning	"Flipped Learning", "Boomerang", "Problem-based learning", "Event-based" technologies	Audiovisual aids, electronic multimedia resource
4.	Final qualifying round	Non-standard lessons on improving the methodological training of future primary school teachers in an electronic didactic environment	"Flipped Learning", "Boomerang", "Problem-based learning", "Event-based" technologies	Auxiliary and modeling tools, electronic multimedia resource

The content of improving the methodological training of future primary school teachers using electronic didactic resources should include the following blocks:

In accordance with the developmental objectives of training, it is advisable to effectively use the developmental potential of a lesson on a specific topic, forming certain knowledge, skills and abilities in students [20]. The main goal of monitoring the knowledge, skills and abilities of students is to identify their achievements and successes, indicate ways to improve them and, on this basis, create conditions for active creative activity of students. This goal is associated, first of all, with the quality of assimilation of educational material by students, that is, with the level of mastery of knowledge, skills and competencies provided for by the curriculum. On the other hand, this is associated with clarifying the main purpose of control, studying the relationship between mutual and self-control, forming the need for mutual and self-control. In essence, this goal is aimed at developing positive personal qualities in students, such as a sense of responsibility for the work performed.

Conclusion/Recommendations

It is necessary to improve the content and cognitive aspects of the educational materials used in teaching the discipline "Methodology of Teaching Mathematics" in higher education institutions by

harmonizing them with electronic didactic environments and supplementing them with practical content. It is necessary to develop methodological recommendations, scientific and practical recommendations for improving the methodological skills of future primary school teachers in an electronic didactic environment and ensure their implementation in higher education institutions when training relevant specialists.

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