ORGANIZING INDEPENDENT LEARNING OF STUDENTS IN AN INFORMED EDUCATIONAL ENVIRONMENT

Jo'raeva Dildora Yunusovna
Navoi State Pedagogical Institute, doctoral student.

Article history:		Abstract:
Received: **Accepted:** **Published:**	11th March 2023 20th March 2023 20th May 2023	Students' basic knowledge, skills and competences are formed only in the process of independent education, they develop the ability to work independently. As a result, during the students' independent work, their interest in scientific and creative research appears, scientific and creative thinking ability, skills and qualifications for creative work are formed. In this article, the importance, relevance, relevance, information and communication education the technological principles underlying the design of the environment, the ways and models of development of independent education of students, and the pedagogical conditions of the effectiveness of independent education of students are discussed.

INTRODUCTION
Currently, in the educational process, special attention is paid to the improvement of traditional educational methods with the help of various innovative and information technologies. This requires students to independently search, acquire knowledge, and in turn leads to the improvement of independent education.

A student will acquire knowledge deeply only if he is independently engaged in subjects outside of academic classes and works tirelessly on himself.. Students' basic knowledge, skills and competences are formed only in the process of independent education, they develop the ability to work independently. As a result, during the students' independent work, their interest in scientific and creative research appears, scientific and creative thinking ability, skills and qualifications for creative work are formed.

Today's classrooms are very different from ten years ago, and in an era when classrooms are equipped with computers, iPads, tablets, smart boards and other types of educational technologies, it is now necessary to organize, manage, control and analyze the results of independent learning of students at the level of modern requirements. is the need of the day

The main goal of the student's independent education is to systematize and strengthen the acquired theoretical knowledge, practical skills, to deepen and expand theoretical knowledge, to develop psychological and pedagogical skills, to form competencies (private and professional), to develop skills for working with normative and legal documents, information and special literature. . The ability to think independently, which is necessary to come to a certain solution to certain problems and tasks, to choose its optimal option, is formed and strengthened in the process of independent work of a person.

Action strategy on the five priority areas of development of the Republic of Uzbekistan in 2017-2021 [1], based on the requirements of the state program for the implementation of the 2020 "Year of Science, Science and Digital Economy Development", regarding the operation of the newly introduced electronic system in the education system and the establishment and development of a number of activities, including electronic government, electronic pedagogy, and distance education, led to ensuring the effectiveness, continuity, and continuity of the educational system. This, in turn, allows the pedagogical activity to "create conditions of educational cooperation between the student and the teacher that allow not only mastering the program material, but also their full development by striving for self-awareness, self-esteem, sharing experiences with others" is a professional activity [3].

MAIN PART
At the modern stage of the development of pedagogy, computer modeling is of great importance. B.S. In his works, Gershunsky pays great attention to the use of computer tools in scientific and pedagogical research. In particular, he stated that "optimization and acceleration of pedagogical activity, which has scientific and practical importance, but is becoming more and more intense nowadays, is organically related to solving the issues of comprehensive, reliable and fast information supply in this field, regardless of the field of its application. ". According to B. S. Gershunsky, only the cooperation of human intellectual capabilities and computer technologies in harmony leads to a new stage of

the process of acceleration and optimization of multifaceted pedagogical activity. Any teaching model is based on existing didactic theories and concepts [5].

As a result of the theoretical analysis of the literature, improvement of the independent education of biologist students that meets the basic conceptual rules of humanistic pedagogy and the requirements of a person-oriented approach to teaching made it possible to distinguish the principles underlying the design of the information-communication educational environment.

The information and communication educational environment should be understood as the process of "systematized transfer of information from the teacher to the students in the form of various information resources, electronic educational resources, educational and methodological support aimed at meeting the educational needs of learners through the Internet global network" [10].

In defining the ICT learning environment, we simultaneously focus on:

- to the information field, which implies new technologies of working with data;
- development of interaction between the participants of the educational process and interactive teaching tools for the implementation of independent educational tasks by students based on a person-oriented approach;
- to use modern pedagogical technologies to increase the quality and effectiveness of independent education at various stages of the educational system [8].

In the process of theoretical analysis [8,9], the following technological principles underlying the design of the information and communication educational environment were distinguished:

Modularity ensures the development of the content of the information resource in the form of independent and logically interconnected elements. Each of them can be used in the process of mastering the sections and topics of the relevant science [8].

Multilevel means different levels of complexity of educational material aimed at different levels of preparation and motivation of the student [8].

Media resourcefulness is the use of all types of information presentation: text, image, animation, multimedia, video, audio, virtual laboratory [4]. In the conditions of informatization of the field of education, the computer is becoming one of the main didactic tools, therefore, in order to increase the effectiveness of education, all the possibilities of computer technologies should be fully reflected in the educational process.

Multimedia technologies [6] should integrate various media of information presentation, i.e. text, statistical and dynamic, graphic, audio and video materials into a single complex that allows to become an active participant in the educational process. The use of multimedia makes it possible to take into account the individual characteristics of information reception at the maximum level, and this possibility is especially important in the process of indirect transfer of educational information from a teacher to a student through a computer [7]. In this case, the didactic principle of individualization is reflected.

In the structure of mutual cooperation of the main components of the information-communication educational environment, the interactive cooperation between the teacher and the student has a complex and meaningful character, which can be implemented through the information-communication educational environment and personal communication. The teacher organizes and manages the independent education of students with the help of information and communication educational environment. The degree to which the teacher's guidance can be easily implemented by means of an information and communication learning environment depends on the student's readiness for independent learning.

The student will have the freedom to choose and manage the independent learning task. He can refer to the teacher for advice or use the educational content. The interaction of the student with the educational content is carried out in a dialogic or interactive mode. His work will change. The student can use a large amount of different data, integrate them and automate processing, process modeling, and be relatively independent in the learning process. In the mode of control and self-control, appropriate correction of training is carried out. Rapid feedback carried out by the educational content [15] (focusing the student's attention on the mistakes made, showing different directions, recommendations on how to eliminate the shortcomings, the possibility of correcting mistakes [8,12]) allows to realize the resulting independent learning.

The mutual cooperation of the student and educational content is realized in the process of determining the importance and place of the information-communication educational environment and the methodology of its use by the teacher in the organization of independent education. Analyzes, modifies and adapts educational content with the help of pedagogue and methodical content.

The student comes into contact with methodical content during the study or correction of methodical recommendations for effective use of educational content in the performance of independent educational tasks, as well as during monitoring. Methodical content communicates one-way with students and provides information about their learning. The interaction between the student and the components of the information-communication educational environment is not one-sided. By making a decision, the student, on the one hand, exerts a managerial influence on the environment, and on the other hand is an object of management [3.8].

Forms organizational-methodical and organizational-technical learning models in accordance with the necessary technical and informational software for the development of independent education of students. All published and electronic teaching and learning resources placed on the network, that is, electronic learning and teaching resources, make it possible for students to use them openly and freely.

Electronic teaching-methodical resource is a collection of teaching-methodical materials in an electronic version, intended for the use of distance education technologies in full-time, part-time and evening education, and important for the effective mastering of academic subjects by students [11,12]. Unfortunately, in pedagogical theory and practice, teaching-methodical educational resources are used as a teaching tool, not as an independent educational tool. The main goal of creating an electronic educational and methodological resource is to comprehensively familiarize students with a collection of scientific information. The procedure for creating an electronic teaching-methodical resource intended for student independent education is carried out in the following stages:

Determining the volume of educational materials in accordance with the requirements of the State Educational Standard and the science program;

creating a working program filled with additional information and data;

preparation of publications including textbooks, lectures, training manuals, workbooks and other practical training and exercises;

preparation of methodical instructions for independent study of theoretical materials, laboratory training, practical work performed in qualification and educational field practice, course work and graduation qualification work;

creation of materials (tests, questionnaires, case assignments) for control and assessment.

The software of the electronic educational-methodical resource must meet the following requirements:

platform and system independence (on computers and operating systems with the widest availability);

the presence of instructions and instructions for the installation and operation of the software and its components;

the presence of an automatic start system of the software shell;

accurate mechanism for external and internal navigation (direction);

The information and communication educational environment is a highly structured environment for the organization of various types of independent educational tasks as a source of educational and methodical information and various forms of training, and is usually formed in a global network or relies on skillfully developed layers [14]. As shown above, this environment is open to both the teacher and the student, and it allows making corrections and presenting the results of learning activities in an information-communication learning environment.

The use of the information and communication educational environment in the educational process does not reduce the role of the teacher, on the contrary, it modifies the following tasks:

- direct management of educational activities or indirect management through means of information and communication educational environment;

- Updating and changing the content of the information and communication educational environment, including and enriching resources;

- Opening the possibilities of the information and communication educational environment for the educational process, in particular, independent education.

The presented structure of the information-communication educational environment provides an opportunity to perform the following tasks:

- quickly deliver educational information to the student;

- communication between all participants of the educational process;

- providing individual, collective, individual-group independent education;

- active use of the information and communication educational environment allows creating personal electronic educational resources for students and their subsequent introduction into the information and communication educational environment [8];

- improving the quality of education by systematizing information resources, using them to solve problems of continuous education.

During the study and analysis of scientific literature, we were able to determine the following decisive factors (organizational, methodical) of the effective organization of student independent work in the information and communication educational environment and certain pedagogical conditions for increasing the effectiveness of student independent education, that is, decisive factors of independent education:

1) organizational factors (student's time allocation, place of student's independent education, resources, means, form of activity);

2) methodical factors (planning, control and independent control system of teaching methods of student independent education and use of ICT)[3].

Pedagogical conditions of the effectiveness of student independent education:

1) student's readiness - the student's readiness for independent work (motivational, cognitive, technological components) and the use of information and communication technologies for its effective implementation;

2) teacher's preparation - the teacher's (motivational, technological, psychological-pedagogical components) readiness to use information and communication technologies, taking into account the formation of the degree of independence in organizing students' independent work, and the psychological-pedagogical component leads to the formation of methodical, psychological-pedagogical competence .

3) information and communication education - the presence of a specially designed information and communication environment that has block-module and openness features and enables the implementation of active methods of teaching in the independent work of students (telecommunication project, webinar, blog-discussion, heuristic chat-conversation, etc.) [3].

CONCLUSION

Using technological principles (modularity, multi-level, media resources) to increase the effectiveness of independent education of students based on the design of the information and communication educational environment, it enables the effective organization of independent work of students in the auditorium and outside the auditorium, optimizes the educational process in all aspects, independent education of students. information and communication educational environment aimed at improvement serves the effective implementation of the professional-pedagogical training mechanism.

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