



CLLOUD TECHNOLOGIES AS A TOOL FOR FORMING PERSONAL INFORMATION EDUCATIONAL ENVIRONMENT

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Annotation: The article is devoted to the formation of the information educational environment of any participant in the educational process. Since the information educational environment can be considered as a multi-level component of the educational space, each element of it must be considered as a personal one. The purpose of this article is to theoretically substantiate the principles of the formation of a personal information educational environment based on the requirements of federal state educational standards and participants in the educational process.

Key words: educational environment, information educational environment, information competence, management of educational activities, cloud technologies, cloud services, electronic educational resources.

Introduction. The concept of "Information and Educational Environment" has firmly entered the everyday life of the participants in the educational process. The development of information and communication technologies and their integration with the educational process influenced the transition of the educational environment to a new form of presentation of educational resources, and also provided new opportunities and tools for participants in the educational process.

Literature review. What is meant by the term "information educational environment (IEE)"? A.A. Shirokikh [1] believes that "... IEE is a means of implementing and implementing the educational process and educational interaction, which, under the influence of informatization, has become informational." According to O. A. Ilchenko [2], the information and educational environment (IEE) "...is understood as a systematically organized set of information, technical, educational and methodological support, inextricably linked with a person as a subject of the educational process." Rakitina E.I. [3] by IOS means "... a part of the information space, the nearest external information environment in relation to the individual, a set of conditions in which the activity of the individual directly takes place." Sokolova O.I. [3] suggests that IEE "...is one of the aspects of the activity of the university, which includes organizational and methodological means, a set of technical and software tools for storing, processing, transmitting information, providing prompt access to information and carrying out educational scientific communications."

If we generalize all these concepts, then by the information educational environment we mean a system of information and educational resources and tools aimed at implementing the educational activities of a participant in the educational process. There are several levels in the information educational environment:

- general education;
- educational institution;

➤ personal;

The participants in the educational process at the level of the institution include: the administration of the educational institution, teachers, students. Teachers and students also act as participants in a personal information educational environment. The components and requirements for the information educational environment are enshrined in the Federal State Educational Standard:

- ✓ “The information and educational environment of an educational institution includes: a complex of information educational resources, including digital educational resources, a set of technological means of information and communication technologies: computers, other ICT equipment, communication channels, a system of modern pedagogical technologies that provide training in a modern information and educational environment ” [4];
- ✓ “The information and educational environment of an educational institution should include a set of technological tools (computers, databases, software products communication channels,), cultural and organizational forms of information interaction, the competence of participants in the educational process in solving educational, cognitive and professional tasks with the use of information and communication technologies (ICT), as well as the availability of support services for the use of ICT” [5].

Based on these definitions, it can be assumed that the personal IEE of any participant in the educational process must necessarily include the following components:

- ❖ information educational resources;
- ❖ technological means of ICT;
- ❖ information and communication competence of the participant of the educational process;

The requirements for the IEE of an educational institution state that “the information and educational environment should provide:

- ✓ information and methodological support of the educational process;
- ✓ planning the educational process and its resource support;
- ✓ monitoring and recording the progress and results of the educational process;
- ✓ modern procedures for creating, searching, collecting, analyzing, processing, presenting information;
- ✓ placement and preservation of materials of the educational process, including the works of students and teachers used by participants in the educational process of information resources;
- ✓ interaction between the participants of the educational process, including remote via the Internet, the possibility of using data generated in the course of the educational process to solve the problems of managing educational activities;
- ✓ controlled access of participants in the educational process to information educational resources on the Internet (restriction of access to information incompatible with the tasks of spiritual and moral development and education of students);
- ✓ interaction of an educational institution with the bodies exercising management in the field of education, and with other educational institutions organizations” [5].

Since the priority direction of education is the development of the individual, ensuring the continuity of his self-development, then the personal IEE of each subject of education is

necessary. Consequently, "a personal IEE should be self-organizing at the level of this person, but methodically controlled by the IEE of an educational institution" [6].

Discussion. Based on the analysis of the requirements for the IEE of an educational institution, it can be concluded that a personal IEE (teacher or student), as a component of the IEE of an educational institution, should perform the following functions:

- access to information and educational resources of the educational environment;
- organization of interaction between participants in the educational environment;
- development and storage of electronic educational resources for educational purposes;
- planning and managing their educational activities;
- optimization of the educational process;
- optimization of resource provision;

The main goal of the IEE is to provide information-educational, information-methodical, information-organizational, information-managerial needs of all participants in the educational process. It is possible to talk about a full-fledged information and educational environment of an educational institution only if there is a place for both the teacher and the student in it, that is, a personal information educational environment is formed for each participant in the educational process. In a personal IEE, the teacher builds connections and interactions with students, as well as with the administration and colleagues.

In a personal IEE, the student builds connections and interactions with teachers, as well as with other students. Participants in the educational process must design their personal IEE themselves as a set of tools, resources and connections that allow them to set goals and solve problems related to the organization and provision of educational, educational processes, project and research activities, joint activities and their own professional development.

Personal IEE is a personal educational information space, that is, a set of tools, resources and connections that allow the student to set and solve learning goals and objectives related to obtaining knowledge, building skills and developing skills.

Thus, "improving the quality of education with the help of modern information technologies, in particular, the electronic information and educational environment, will contribute, firstly, to the formation of a competent specialist, and secondly, to the development of a person with high information competence. Both factors are the most important condition for further professional growth and personal development" [7].

Cloud computing is a model for providing convenient, on-demand network access to a shared set of customizable computing resources (e.g., networks, servers, data storage, applications, and/or services) that the user can quickly use for their tasks and release when minimizing the number of interactions with the service provider or own management efforts [8].

Based on the above, it can be seen that "cloud technologies" provide:

- ✓ storage of data not on a computer;
- ✓ data processing using applications, not installed on the computer;
- ✓ provision of "cloud technology" services at the request of the user.

The most popular "cloud technology" services among end users are "cloud storage".

Cloud storage is file storage in the form of allocated disk space on a remote server of a company providing such services. Among the large number of representatives of cloud



storage, the following can be distinguished – Yandex, Drive, Google Drive, Cloud@mail.ru, OneDrive, Dropbox, pCloud, Mega. Modern cloud storage allows:

- upload and store files (text, spreadsheets, drawings, photographs, etc.);
- share files with other users;
- share files (open, view, edit, delete). [9]

Some cloud storages, in addition to file storage services, provide other services:

- Creation and work with text documents, spreadsheets, presentations;

These cloud services include: Google Documents, Google Sheets, Google Presentations, and Office OnLine (supported in Yandex.Disk, Cloud@mail.ru, and OneDrive). Google has the widest range of services:

- ✓ creation of sites - Google Sites;
- ✓ Creation of surveys and tests Google Form;
- ✓ planning and control of events – service Calendar;

To organize the planning and control of events, you can use the Calendar service supported by Yandex, Google, mail.ru. The use of "cloud technologies" in building a personal information educational environment is aimed at virtualizing the personal educational space of a participant in the educational process. The principles of building a personal information educational environment based on "cloud technologies" include:

- ✓ IOS is based on cloud services (Yandex, Mail, Google, ...).
- ✓ Differentiation of access rights to IOS - viewing, editing.
- ✓ Ability to create and work with a personal segment of the IOS.
- ✓ Resource and instrumental support of the educational process.
- ✓ Cloud-based ITS is a learning management system.
- ✓ Authorized access to IOS - resources, tools, means of communication. [10]

The information educational environment based on "cloud technologies" has the following impact on the educational process:

- the possibilities of presenting the results of educational activities are expanding;
- the possibilities of storing and presenting electronic educational resources, educational materials, etc. are expanding;
- the boundaries of educational, educational, organizational and managerial, monitoring and control activities are expanding;
- the possibility of organizing joint work.

Cloud technologies by themselves will not give anything to the participants in the educational process. If the teacher can organize the interaction of interested parties using cloud technologies, then this will significantly expand his educational space. Even wider opportunities are provided by the use of such technologies for school administrations and site administrators of educational institutions.

An important advantage of the educational process organized within the framework of the information educational environment is the possibility of implementing one of the priority areas in education - the organization of student-centered learning, which combines different pedagogical technologies (learning in cooperation, multi-level learning, variable learning, individualization of learning, project activities, technology contextual learning, modular rating learning technology, self-education, designing your own learning path, etc.) .



With content hosted in the cloud, there is no need to spend time and resources printing or copying documents or lesson plans. Students can now access homework, class notes, and other online content. Students and teachers can share their work without using paper versions of materials [11].

Conclusion. The personal information educational environment, implemented through cloud technology services, makes the educational process more flexible by virtualizing the personal learning environment. The ability to organize collaboration on projects, shared documents, files hosted on the cloud allows IOS participants to be more mobile

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