Use Of Interactive Internet Services In Education

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Summary

The article describes the concept of a Web-portal of an educational institution; the technical conditions for the creation of the Web-portal of the educational institution were determined; the features of the use of the Web-portal in the educational process and its organization are revealed.

The scientific and practical value of the article lies in the fact that the use of portals in education will improve the management of an educational institution, activate and bring the educational process to the level of modern technologies at all its stages, as well as enhance the interaction of parents and students with employees of the educational institution.

Key words:
higher education, competencies, education system, information competence, philosophy of management.

1. Introduction

The relevance of the topic is due to the current level of development of network technologies. Currently, within the framework of the state educational paradigm, in addition to issues of individualization, humanitarization and fundamentalization of modern education, great importance is attached to the problems of internatization of education. Moreover, within the framework of the latter direction, the Internet resources are assigned the role of not only a means of searching and obtaining "useful information", but also the role of a means for the development of existing forms of education and for the creation of new ones. In addition, it becomes relevant to conduct research on the creation and development of educational resources of the part of the Internet, as evidenced by publications in the domestic scientific and methodological literature devoted to the problems of creating a school educational portal, information and educational space. Note that the information and educational space is usually understood as an interconnected set of information, software and technical resources, as well as organizational and methodological support aimed at increasing the efficiency of the educational process for educational institutions.

Thus, the relevance of building an educational portal is determined by:

• modern state educational paradigm, the main directions of which are: fundamentality, integrity, focus on the interests of the student's personality development;

• the need to implement the program "Scientific, scientific, methodological and conceptual support for the functioning of the open education system", which provides for the creation of a fund of training courses in the open education system;

• introduction and use of Intranet and Internet tools and capabilities in the educational process in order to form information and communication competence of students (as provided, in particular, by the concept of the educational field "Informatics and Information Technologies") [1-4].

We define the notion "educational portal" as an interconnected set of information resources and services Intranet and Internet, which has a vertical structure, the content of which is devoted to educational topics. The concept of "educational Web site" will be interpreted as a group of Web pages interconnected by general hyperlinks, the content of which is entirely devoted to the educational resources of a particular educational process, namely, the model of the learning process and its main backbone element - the content of teaching a particular academic subject. Note that the selection of training content for a Web site is carried out within the framework of the concept of the educational process, using special methods of technology selection of training content. In this case, the structure of the content can be represented in the form of a logical structure of concepts using special methods (for example, topological sorting), as well as in the form of a constructive model - using basic data structures - a conceptual graph or a semantic network. The electronic implementation of a constructive model of learning

content using Web technologies is an educational Web site[3].

In accordance with modern systemic concepts, the pedagogical system and the educational process that implements it represent a complex multi-element and multi-level structure, which should be taken into account in the design and creation of an information and educational Web-portal. "A specific project expressing the goals of education needs to be formulated so that later it will be possible to build a training and education program; the program is needed in order to determine the number, type and connection of those academic subjects that should be included in the education system; depending on the nature of teaching aids, those techniques and methods of teaching are built that ensure the transfer of funds to students. "Successful construction of an educational and informational portal can be achieved if we proceed in its design from the methodology of pedagogical design of created information and educational resources and building links between them. In accordance with the definition: pedagogical design is "a specially organized comprehension of pedagogical projects and systems, when, on the basis of the existing state and the forecast of the desired results, a new look of the system is created and at the same time the process of realizing what is actually conceived", as well as pedagogical design "... is a multifunctional activity , naturally arising in connection with the need for transformations in educational systems. Its objects are of a dual nature, possess the ability to self-organize. In this regard, pedagogical design is built as an intellectual, value-based, informational predetermination of conditions capable of guiding the development of transformed objects. " However, designing the goals of teaching, upbringing and education in general is one of the most difficult pedagogical tasks. It is generally accepted that the formulated goal is the leading system-forming element of both the methodological training system and the pedagogical system. In addition, the peculiarity of the current state of the use of information and communication technologies in pedagogical practice lies in the fact that it is no longer enough to formulate a goal in the form of a slogan, the goal should be not only clear, but also technological, and possibly concretized by the sequence of pedagogical tasks.

At the same time, pedagogical design can only help in identifying the main stages of building an educational portal and cannot help, for example, in identifying the main elements of the structure of the Web-portal, fundamental components and conceptual lines of the educational content of the educational Web-portal, building navigation between the main components of the content.

The purpose of the article is to define, identify and study the conditions for creating a Web portal, taking into account the characteristics of an educational institution.

2. Theoretical Consideration

Currently, there is an active process of integrating internal information systems of institutions with applications that provide interaction with users, as well as with Web applications for visitors to Web sites, and the number of Internet projects associated with this is growing rapidly. In other words, many modern educational institutions are now actively creating an infrastructure that makes it possible to use the Internet and Intranet not only as a means of communication, but also as one of the main tools for improving the quality of education. Building such an infrastructure means implementing Internet applications that allow an institution to provide up-to-date information, and often direct access to corporate information systems and other applications, and to process information received from them in a timely manner. For this purpose, portal technologies are often used, allowing the integration of existing applications within a single way of accessing them. Currently, there is a rapid growth in the market for these technologies and the products that implement them[8].

At its core, a portal is a Web site intended for a specific audience (for example, subjects of the educational process), which analyzes, processes and delivers information and provides access to various services based on the personalization of users using any device connected to the Internet Intranet.

Portals can be classified according to various criteria, but most often they resort to classification by purpose. Currently, on this basis, there are three main types of portals:

1. Public, or horizontal, portals (sometimes called megaportals), such as Yahoo !, Lycos, Excite, Rambler. These portals are aimed at the widest possible audience, which is reflected in the content of the information and services they provide - they are usually general in nature (for example, news on political events and cultural life, e-mail, newsletters, etc.). The sphere of activity of such portals overlaps with the sphere of activity of the media, therefore, recently there have been processes of merging of publicly accessible portals and the media within one company;

2. Vertical portals are designed for specific types of market and serve the audience using the services of this market or working on it. Examples of such portals are B2C (Business-to-consumer) applications, such as travel agencies that provide services for hotel reservations, ordering and delivery of tickets, access to maps and

information on road routes, etc., or B2B portals. (business-to-business), allowing their clients to implement joint business transactions (for example, select suppliers and purchase goods, conduct auctions, etc.). The number of such portals has grown rapidly lately as new markets for goods and services move to the Internet;

3. Corporate portals are intended for employees, customers and partners of the same enterprise (sometimes they are called B2E portals - Business-to-employees). Users of such a portal get access to the services and applications intended for them, depending on their role and personal profile, and this is the most interesting category of portals in terms of implementing corporate infrastructure and application integration. The purpose of the corporate portal is to provide external and internal users with the possibility of personalized access to all corporate data and applications (including unstructured and heterogeneous data), unification of isolated business models, integration of various corporate applications (including applications of business partners), providing full round-the-clock access for all users (including mobile users) to the company's resources 24 hours a day, regardless of their location.
Some publications offer a more detailed classification of corporate portals, dividing them into portals representing the results of data analysis (Business intelligence portals), intracorporate Intranet portals (Business area portals), portals for organizing group work (Enterprise Collaborative Portals), portals designed for knowledge management (Enterprise Knowledge Portals), the so-called role portals (Role portals), supporting three business models - B2E, B2C and B2B [12]. Some sources refer to corporate portals and sites based on document and content management tools for sites and are intended only to provide information to various groups of visitors[4].
In addition, portals are sometimes called other types of Web applications that provide their users with certain services over the Internet, for example, voice portals that give the right to access certain services over the telephone line using voice commands or commands sent from the telephone keypad, or the so-called personal portals providing services of personal information managers and e-mail.

Analytical company Gartner Group in its research formulated the basic requirements for corporate portals that characterize the first two generations of these products. According to these studies, the first generation of enterprise portals has the following characteristics:
search and indexing of a wide range of information repositories;
categorization of content;
content management and aggregation;
personalization;

highly efficient application development and the ability to integrate with other applications.
The second generation of corporate portals used as an integral part of e-business are characterized by:
reliable application implementation environment;
powerful and flexible application development tools;
ample opportunities in the field of application integration;
compliance with the requirements for information systems of the enterprise scale;
support for integration with other applications and partner information systems[6-9].

Portals are created using specialized portal creation tools. Leaders have been identified in the enterprise portal market, according to recent research by the Gartner Group. These include SAP, IBM, Sun, and Sybase, which are among the top offerings in general portal management.
Portal creation tools are a means of providing access to data, resources, business processes and applications of company employees, its customers, partners and suppliers, contain built-in tools for managing structured and unstructured content, tools for remote administration, tools for supporting transactions within information systems, personalization and collaboration tools. Typically, user profiles, page types, and information categorization are managed using a Web interface. User access to data and applications is carried out using portlets - portal components that are elements of the interface of Web pages [5].

Personalization can be carried out based on the user's role, as well as on the basis of his behavior on the site, goals, objectives, location and time. In addition, users can modify the look of the site to suit their needs, organizing the most convenient access to the most frequently used data and applications. Access to documents and data, as well as distribution of documents are also carried out on a role-based basis. It is also possible to access the data and applications of the portal using mobile devices.

In the process of development, from a set of information resources, the Internet has gradually turned into a tool that helps to improve the efficiency of companies, and then into one of the main means of doing business. The technologies for creating corporate web portals developed in a similar way - gradually, among them, there appeared tools for implementing interactivity, personalizing content, interacting with customers, as well as tools for integrating with corporate information systems and enterprise management tools. Specialized tools have also appeared for creating the infrastructure of corporate web applications, the implementation of which generally does not require programming. However, the vast majority of both enterprise web application infrastructure tools and custom-made solutions are based on a relatively small

number of web application development technologies. Technologies for creating web applications can be conditionally divided into client (that is, used by web browsers and other web clients, such as office applications or instant messaging clients) and server (that is, used on web servers).

Our analysis of the existing practice of using educational information resources shows that the use of educational information resources available today, most of which are published on the Internet, allows:

organize various forms of trainees' activities for the independent extraction and presentation of knowledge;

apply the whole range of possibilities of modern information and telecommunication technologies in the process of performing various types of educational activities, including such as registration, collection, storage, processing of information, interactive dialogue, modeling objects, phenomena, processes, the functioning of laboratories (virtual, with remote access to real equipment), etc .;

to use in the educational process the possibilities of multimedia technologies, hypertext and hypermedia systems;

diagnose the intellectual capabilities of trainees, as well as the level of their knowledge, abilities, skills, the level of preparation for a specific lesson;

manage learning, automate the processes of monitoring the results of educational activities, training, testing, generate tasks depending on the intellectual level of a particular student, the level of his knowledge, abilities, skills, and the characteristics of his motivation;

create conditions for the implementation of independent learning activities of trainees, for self-study, self-development, self-improvement, self-education, self-realization;

work in modern telecommunication environments, provide information flow management;

to form on their basis specialized educational information portals.

The use of almost all types and forms of educational information resources in educational practice significantly increases the quality of visual and audio information, it becomes brighter, more colorful, more dynamic. Modern multimedia technologies have enormous potential in this regard. In addition, when using educational information resources and the advantages of modern telecommunications in teaching, the methods of forming visual and audio information are radically changing. If the traditional visualization of teaching implied the concreteness of the studied object, then when using computer and telecommunication technologies, it becomes possible to dynamically interpret the essential properties of not only those or other real objects, but also scientific laws, theories, concepts.

The experience in the education system of using telecommunication means and educational information resources published with their help testifies that the practical use of educational information resources in the educational process is pedagogically expedient due to the following main circumstances:

in comparison with traditional "paper" information resources, they contain a much larger amount of information (including in audio, video or other form), which provides a new level of education quality;

electronic information resources are filled with content that can be most effectively assimilated only with the help of this information and telecommunication technology;

each new information resource allows teachers to achieve a sufficiently high relative efficiency of the use of telecommunication means in the educational process. This means, for example, that the time for assimilation of educational material, the formation of certain skills and abilities when using a new educational information resource (without loss of quality) is less than using traditional teaching methods, and the level of assimilation of educational material is not lower than that achieved with the help of traditional methods;

the use of educational information resources of the Internet ensures the achievement of educational goals and objectives for training and organically fits into the educational process.

The same statements indicate the advisability of using the educational information resources described above in the formation of specialized educational portals aimed at creating conditions for information and technological support and development of the educational process, a gradual transition to education based on information technologies, and increasing the efficiency of the work of scientific and pedagogical workers.

The modern introduction of educational information resources into the educational process takes place in accordance with two main directions. Educational information resources, introduced according to the first direction, are included in the educational process as "supporting" means within the traditional methods of the historically established educational system. In this case, information resources act as a means of intensifying the educational process, individualizing training and partially automating the routine work of teachers related to the accounting, control and assessment of students' knowledge.

The second direction of implementation is a more complex process that leads to a change in the content of training, a revision of the methods and forms of organizing the educational process, the construction of holistic courses based on the use of the content of

telecommunication environments in certain academic disciplines. Currently, most of the educational information resources published on the Internet refer to the first direction of informatization of education.

An important, from the point of view of education, feature of many existing ones is their interactivity, the presence of feedback. Feedback in the triad "teacher - educational information resource - learner" can be divided into two main types: external and internal.

Internal feedback is information that comes from the information resource to the student in response to his actions during the exercise. Such a connection is intended for self-correction of educational activities by the learner himself. Internal feedback enables the trainee to make a conscious conclusion about the success or error of educational activity. It encourages the student to reflect, is a stimulus for further action, and helps to evaluate and correct the results of educational activities[2-4].

Internal feedback can be both counseling and effective. Help, clarification, hint, pushing, etc. can act as a consultation. Effective feedback can also be different: from informing the trainee about the correctness of the solved problem to demonstrating the correct result or method of action. Information from external feedback goes to the teacher who conducts computerized training, and is used by him to correct both the student's activity and the mode of functioning.

The development, expertise, content and specifics of functioning within the framework of educational portals impose significant restrictions on the features of teaching students and the specifics of the educational institution. So, for example, the main goal of the functioning of secondary education systems is to train graduates with knowledge in the necessary fields of activity. At the same time, the quality of education of a graduate must meet the requirements of the educational standard and correspond to the modern level of preparation for further education and the beginning of professional activity.

Educational information resources should provide students with significant assistance in meeting the requirements of the educational standard. So, for example, increasing the efficiency of various types of activities with the help of modern information technologies, as well as the formation of a holistic view of processes and phenomena, can be achieved by using computer graphics and animation in educational information resources used in teaching. The mastery of the culture of thinking and the development of thinking abilities can be achieved if problem and research tasks, intellectual training systems are used as educational information resources[6-8].

For the education system, it is necessary to specify the goals of using the information resources of educational portals. These goals are:

automation of such types of educational activities as search, collection, storage, analysis, processing and transmission of relevant information;

automation of processing the results of laboratory work;

automation of calculations and other information processing in the process of performing control tasks;

automation of design and construction;

organization of an interactive dialogue and operational interaction between participants in the educational process;

automation of monitoring the results of educational activities.

In the case of combining disparate information resources into a comprehensive educational information portal, a rational, didactically grounded learning sequence using such a portal is reduced to the following methodological stages:

initial acquaintance with the theory through printed materials, audio and video recordings;

comprehension and consolidation of the theory with the help of OIR included in the portal (EI, virtual classrooms, computer testing systems);

formation and development of practical skills through the portal;

solving issues of vocational guidance of graduates.

An analysis of the existing practice of using electronic information resources received through the Internet in the education system shows that the use in lectures is limited. Despite the obvious pedagogical advantages, this application is still difficult for logistical reasons: in most educational institutions, there are practically no lecture halls equipped with appropriate computer, telecommunication, projection and video equipment[5].

The most active introduction of educational information resources (regardless of the fact of their entry into one of the educational portals) is observed in the field of laboratory and practical classes. This is due to a number of factors:

trainees get access to the most relevant and scientifically new information, which, as a rule, is not contained in traditional paper editions, including the latest textbooks, teaching aids, recommendations and additional materials for laboratory and practical classes, etc.;

when using remote access to the experimental stands of collective use centers, the material base available for laboratory studies is significantly expanded;

a large amount of routine work of teachers is being automated in the formation and verification of individual practical assignments.

Modern electronic information resources provide the trainee with the opportunity to study theory at a convenient individual pace, conduct experimental research, acquire

practical skills and abilities through training actions, and exercise self-control. One and the same resource, regardless of the form and place of its physical publication, can be used at a lecture, at a laboratory-practical lesson, for organizing self-study or during current and final control. At the same time, the use of modern telecommunication environments removes any temporal and spatial restrictions from the practical [9].

The proliferation of electronic educational information resources, as well as the expansion of telecommunications access to them, reduces the interest of the education sector in the development of service tools, since programs that facilitate routine calculations, processing experimental data and similar programs have become a familiar tool in recent years. As a rule, all existing information resources include the service modules necessary for their work.

At present, aimed at monitoring and testing the level of knowledge of students, as well as information resources containing such tools, are becoming more widespread. They significantly relieve teachers from the routine work of forming multivariate individual practical tasks and monitoring their implementation. The resulting possibility of frequent control of knowledge increases the motivation for learning [10-12].

It follows from the above that the practical implementation of the integrated use of the capabilities of information and telecommunication technologies in the educational process can be achieved through the development and use of multifunctional educational electronic information resources, which are both all previously known software tools and educational resources, and the latest developments, corresponding to the advanced world level. The main didactic goals of using such resources obtained through telecommunication channels in teaching are the communication of information, the formation and consolidation of knowledge, the formation and improvement of skills and abilities, the control of assimilation and generalization.

Conclusions

The formation of an information educational environment - a school educational portal and its integration into an information educational space is a natural step in the development of informatization of school education.

The formation of the information and educational environment of the school and its integration into a single information educational space will allow solving the main task - to improve the quality of training of school graduates.

The actualization of the formation of an information and educational portal is due to the modern level of development of network technologies. Currently, within the framework of the state educational paradigm, in addition to the issues of individualization, humanization and fundamentalization of modern education, great importance is attached to the problems of the Internetization of education. Moreover, within the framework of the latter direction, the Internet resources are assigned the role of not only a means of searching and obtaining "useful information", but also the role of a means for the development of existing forms of education and for the creation of new ones. In addition, management of an educational institution using Intranet technologies is becoming relevant. In the domestic scientific and methodological literature, the school educational portal is considered as a means of creating an educational space.

Thus, the relevance of building an educational portal is determined by:

• modern state educational paradigm, the main directions of which are: fundamentality, integrity, focus on the interests of the student's personality development;
• the need to implement the program "Scientific, scientific, methodological and conceptual support for the functioning of the open education system", which provides for the creation of a fund of training courses in the education system;
• introduction and use of Intranet and Internet tools and capabilities in the educational process in order to form information and communication competence of students (as provided, in particular, by the concept of the educational field "Informatics and Information Technologies").

We defined the concept of "educational portal" as an interconnected set of information resources and services Intranet and Internet, which has a vertical structure, the content of which is devoted to educational topics. We interpret the concept of "educational website" as a group of Web pages interconnected by general hyperlinks, the content of which is entirely devoted to the educational resources of a specific educational process, namely, the model of the learning process and its main backbone element - the content of teaching a specific academic subject. Note that the selection of training content for a Web site is carried out within the framework of the concept of the educational process, using special methods of technology selection of training content. In this case, the structure of the content can be represented in the form of a logical structure of concepts using special methods (for example, topological sorting), as well as in the form of a constructive model - using basic data structures - a conceptual graph or a semantic network. The electronic implementation of a constructive model of learning content using Web technologies is an educational Web site.

To improve the efficiency of management in the school education system, to meet the needs for access to information of all participants in the educational process, it is necessary to create a corporate educational and management network with a school server, with access to the Intranet and the Internet, external and internal e-mail, etc. etc., i.e. to create an electronic infrastructure for the provision of educational and managerial processes in the school. There is no single

standard here, each educational institution is individual, but, in our opinion, general approaches can be determined.

The creation of an educational Intranet / Internet portal will allow an educational institution to reach the city, regional and federal educational level on the basis of the full use of modern Intranet / Internet technologies.

Educational Intranet / Internet-portal is a system multi-level integration of educational resources and services in the local network, as well as in the Internet. This is a system of professional pages made according to a similar concept and working in uniform standards of information exchange. First of all, it is a dynamic site that provides the ability to effectively search and access Intranet and Internet portal resources on a specific topic, area of knowledge or area of activity. The portal should have a specialized navigation system for various categories of users and presented problems, include a number of typical services and services, such as a resource directory, a search engine, news with a subscription, forums, polls, etc., a customizable user interface. Educational Intranet / Internet-portal provides search and access to reference and normative materials for education management system. The Internet portal must work smoothly around the clock and provide a prompt response time to a user's request.

Based on the materials presented in the work containing a recommended nature, we substantiated a number of factors for the educational Web-portal of school No. 24 in Nefteyugansk:

The web portal can be effectively used in the management of an educational institution;

The web-portal can be effectively used in the educational process to form students' skills in work, information search and communication on the Internet, conducting classes according to the classroom system;

further development of the portal and its improvement, modernization, its integration into the city educational Web-portal;

to freely monitor the work of an educational institution by parents.

Thus, we can say that the tasks have been solved, the goal of the article has been achieved.

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