FORMATION OF INFORMATIONAL EDUCATIONAL ENVIRONMENT

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Abstract. This article discusses the issues of formation of informational educational environment. In it analyzed the main purposes of creating an IEE in the education system, requirements of educational institutions for the acquisition of a wide range of specialties using the latest information and telecommunications technologies, the level of education, information, educational resources and educational services.

Key words. IEE, educational resources, information resources, regional IEE, educational institution, scientific-methodological complex, professional approach, structural models.

I. INTRODUCTION

The Education System of the XXI century requires the training of future professionals under modern requirements, especially taking into account the goals and objectives of informatization of society, the widespread use of information and communication technologies (ICT) in the educational process.

However, there is no perfect scientific development or scientific-methodological complex on the creation of an Informed Educational Environment (IEE) for the widespread use of ICT in the educational process and thus the training of future professionals. With this in mind, we aimed to describe in this work the goals, objectives of the creation of an IEE for the educational process, and the results of our research on its formation.

At present, the principles of systematic integration of ICTs with the educational process in educational institutions and the formation of IEEs based on them are not sufficiently developed. That is why we start the first stage of the work in defining the goals and objectives of the IEE.

First of all, if we think about the IEE, the IEE itself is an open system that combines (collects) cultural, educational, intellectual, software, methodological, organizational and technical support.

An IEE is a software-communication environment (SCE) that provides an integrated technological means of conducting an educational process based on information support and evidence-based learning in the Internet environment, regardless of the level of education and professional specialization of any number of educational institutions.

The main purpose of creating an IEE in the education system is to meet the requirements of educational institutions for the acquisition of a wide range of specialties using the latest information and telecommunications technologies, regardless of the level of education, information, educational resources, where they live, as well as the necessary educational services.

To achieve the main purpose of the IEE, you need to solve several tasks:

• Creating an opportunity for IEEs to pursue their own economic policies, regardless of the methodological guidelines for the formation of a particular educational institution, the organization, and conduct of the educational process;

• Preparation of a standard service package for a voluntary educational institution, providing its implementation at all stages of education, taking into account the formalization of the educational process;

• Automating the process of compiling a list (menu) of information and other resources (resources) that will provide the user with the maximum amount of information in any educational institution included in the IEE;

• enabling volunteer research and teaching staff, regardless of their place of work, to have a professional approach to IEEs;

• Describe statistical and other dynamic data on IEEs and automate their collection;

• Ensuring monitoring of IEEs, collection of suggestions and comments, and creation of improvement mechanisms;

• control over the implementation of the functional tasks of the IEE and its monitoring, the organization of the teaching staff, taking into account the establishment of a scientific-methodical center and the optimization of its activities;

• Regular preparation of databases (DB) to improve the performance of the IEE.

It is known that in the use of any technological process in the educational process, of course, it is necessary to take into account its specific features, because the education system is also a dynamic system, which must reflect the scientific and technological development of society and the state.

Therefore, it is advisable to provide information on the following necessary aspects in the formation of IEEs:

I. Principles of IEE organization:

The IEE should provide the user with the following quick and convenient tools:

• be able to provide information regardless of the location of the educational institution and the level of training;

• The list of IEE -trained Vocational Colleges and the specific specialities they train in should be clear;

• it is possible to get a voluntary information resource wherever the educational institution is located;

• modern information and communication technologies should be connected to IEEs;

• taking into account the intellectual property of the teaching staff (regardless of their location);

• Scientific and technical programs that take into account the telecommunications and educational resources at IEEs should be taken into account;

• Development of user support tools from IEEs;

• Financial incentives should be provided, from the authors of the textbooks participating in the IEE to the educational institution.

II. Formation of Information Resources:

• textual materials;

• computer training programs;

• mathematical models;

• organizational and structural models;

• conceptual models;

• multimedia educational products;

• experimental research materials;

• directory information;

• results of sociological research;

• Materials representing the scientific and pedagogical activities of educational institutions.

III. IEE support and development tools:

1. IEE support;

• Collection and analysis of suggestions and feedback from any category of users;

• Development of recommendations for improving IEEs, taking into account the views of education system experts;

• monitoring for a large number of users;

• Development of appropriate software based on the adopted recommendations, development (modernization) of IEE operation technology, and methodology.

2. User support and IEE development tools:

• organization of online consultations on technology and methods of organization of the educational process;

• organization of consultations on legal issues of the educational institution;

• Training of technical specialists to ensure the performance of functional functions of IEE regional units;

• organization of regular seminars and conferences;

• organization of exchange of experience on the use of educational, methodological, informational, and other resources in IEEs.

IV. Information Resources of IEEs.

IEE Information Resources (IR) involves the introduction of resources in several different content and styles. The following information resources are mainly involved in such implementation:

• textual materials;

• computer training programs;

• mathematical models;

• organizational and structural structures and models;

• materials related to multimedia education in a particular field of study;

• a set of applications;

• standard applications, etc .;

• a set of hardware and software that reflects the functional functions of the device and stands for practical and laboratory training (this is one of the main IRs).

Also, the consumer or researcher wishing to use the IR in an appropriate (rational) way should consider the following resources, which serve as resources to assist in the performance of the functional functions of the IEE:

• results of experimental research;
• directory information;
• The results of social research.

It is known from the names of the mentioned IDs that the educational-methodical complex is also important in the targeted use of IEEs. This means that the role and place of the educational-methodical complex and IR for the full operation of IEAs is unique, that is, without them, IEEs can not be used effectively in practice. Therefore, when using them in practice, it is expedient to express the educational-methodical and IR of IEE in the following categories:

The First category of IR is a database of information created by the electronic library based on specific objectives of the educational process, which includes the expression of any form of information on the educational institution in the IEE in VI, and this information is addressed (divided into special areas). the case is ready. These IRs are part of the global catalog of IEEs and are used to perform functional and functional tasks in IEEs, and for other purposes, they can also be transmitted via VI.

In general, this category refers to the organization of automated laboratory complexes of IR. To do this, the educational institution, which is part of the IEE, must be equipped with modern equipment and automation of information transmission, even in remote locations.

The Second category of IEE resources is the catalogue of educational and methodical resources of the educational institution participating in this activity. In this case, the menu of electronic orders for any educational institution of the IEE is the basis of IR. The menu has the following resources to use:

• books (scientific, scientific-methodical, methodical recommendations and manuals, textbooks, manuals, etc.);
• programs;
• data reading devices;
• Various scientific and technological developments related to the functional functions of IEE s;
• Projects and models that are part of the regional IEE and are designed to expand the capabilities of the IEE as a whole in terms of functional functions.

The Third category of IEE resources is information about various organizational and pedagogical events, seminars, conferences, symposiums in the educational institution, which is part of the IEE. The role of videoconferencing is unique in that it allows you to quickly use the innovations of any educational institution in all educational institutions. In addition, the student will have the opportunity to hear the information being studied not only from his teacher, but also from a professor of another educational institution. This further increases their interest in their field.

The Fourth category of IEE resources is intellectual resources. These include the products of the authors' creative work, which include software and hardware resources, the results of inventions, developments based on the latest advances in science and technology, and new techniques and technologies for modern production, as well as automated computer systems, intellectual education. databases on systems, discoveries in the field, inventions and databases on their use in the training of future junior specialists, etc. Thus, IR, which belongs to this category of IEEs, helps to ensure that future professionals have high human qualities and modern knowledge of their time, as well as a conscious and creative approach to processes, noble qualities such as moral and ethical enrichment.

IR, which falls into this category, is called "Electronic Intellectual Property" and is renamed in the appropriate directions, depending on the direction of its use.

V. Organizational organization of IEE -structural view.

The creation of IEEs in the education system is carried out through a homogeneous structure based on standard software (SS), designed to work on the INTERNET. This software is generated in ICCs located in different regions of the country and equipped with ICT, and it is used in the creation of regional IEEs. Each regional IEE contains virtual images (VI) representing all indicators of the educational institution. Hence, they can be described as follows (Figure 1).
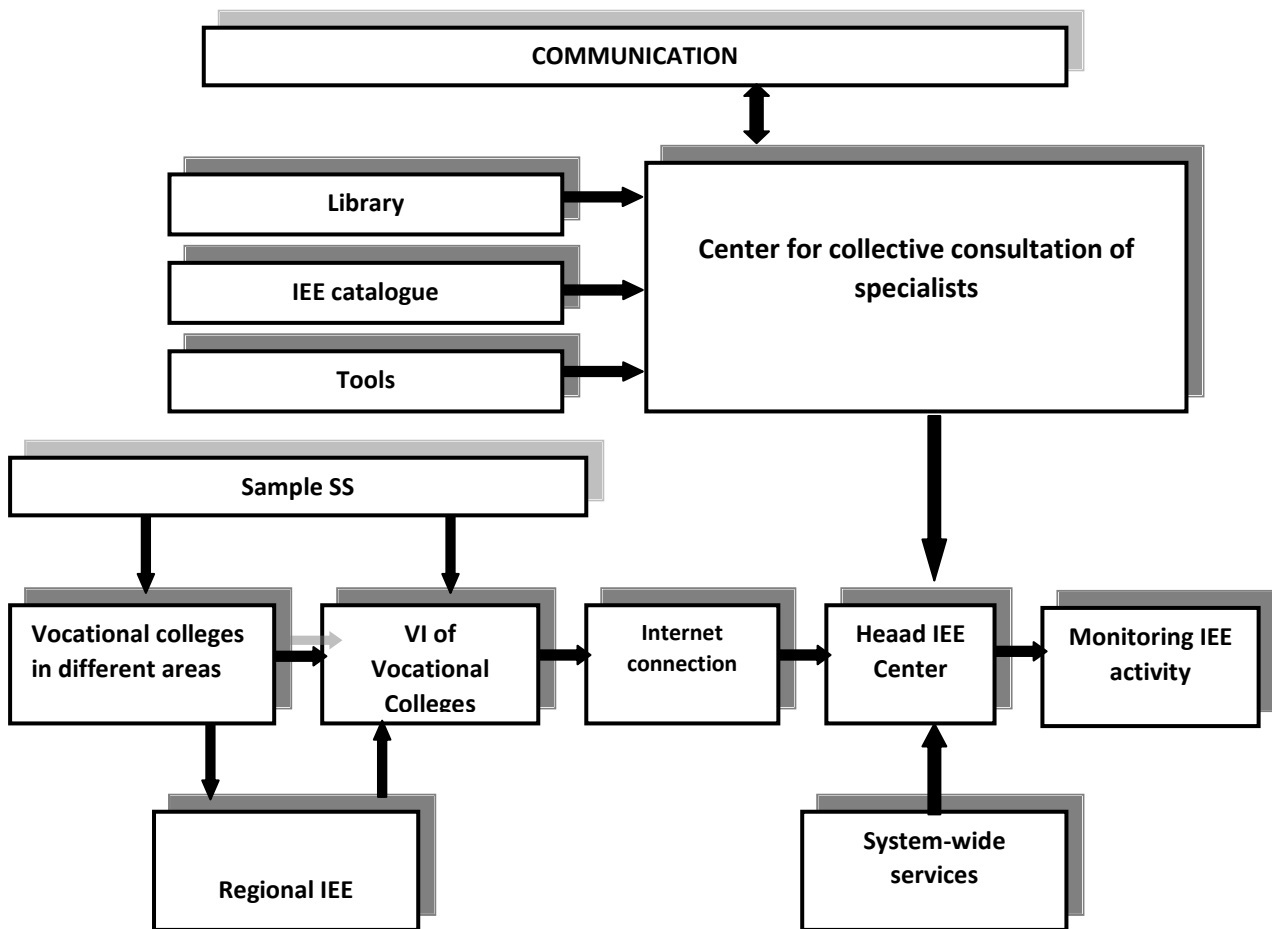
Figure 1. Organization of IEEs on Vocational Colleges - structural form.

Based on these, a system-wide database of IEEs will be created and the first opportunity to perform its functional function will be created (Figure 2).

VI. The general form of an IEE.

It is known that IEEs are an open system operating in human-machine mode, and their help improves the training of specialists for the system of continuing education. This task is assigned to the interactive hardware and software system of the IEE. Therefore, in this part of our work, we provide information about the interactive hardware and software system (IHSS). Let us denote the set of components of IHSS by $B^к$ and the relations in the system by B^o. Let's define the set of goals (sequence set) created to create IHSS based on these as Fe. In this case, IHSS can be summarized as follows:

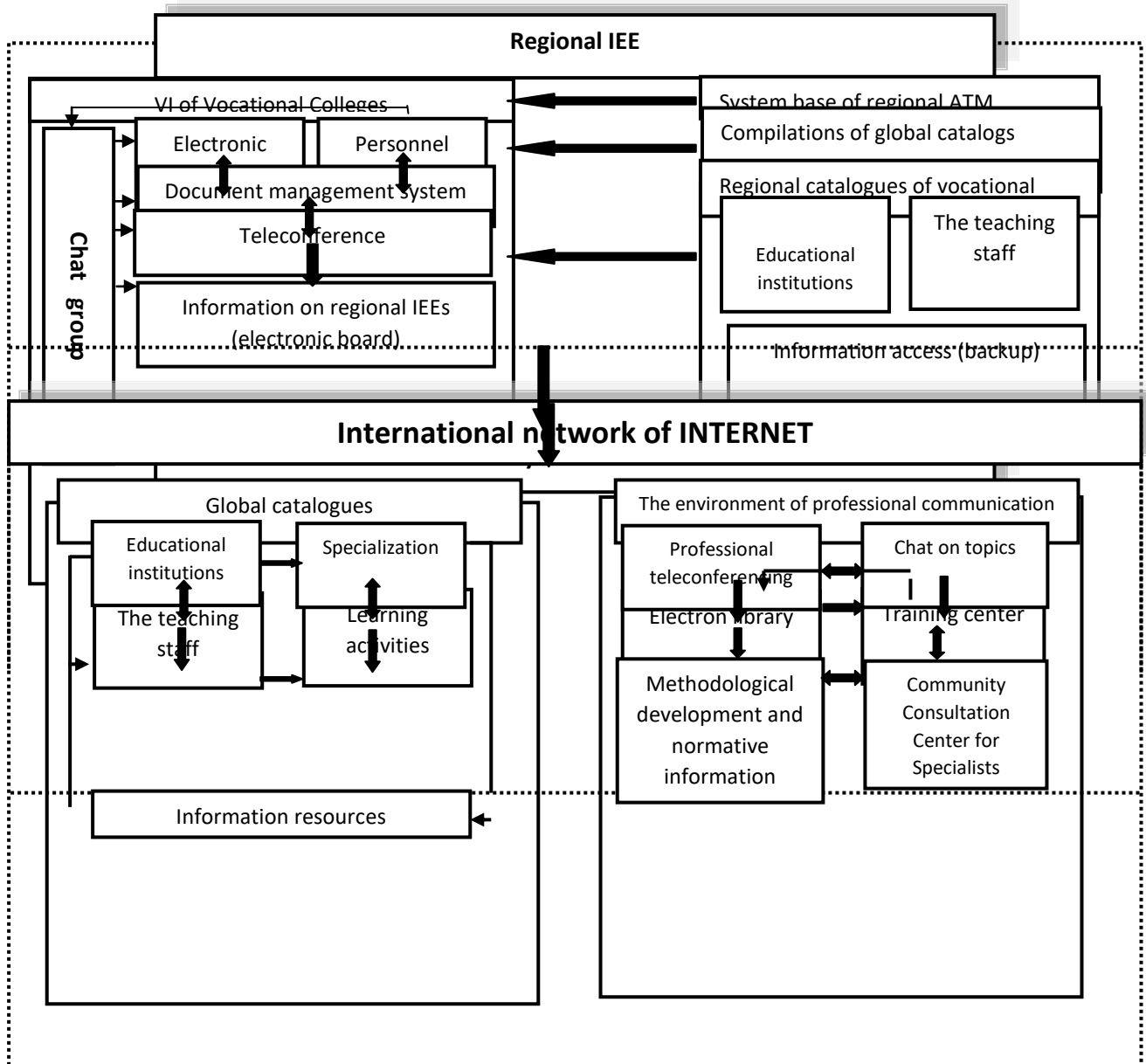$$A_m^м = \left\{ B^o, \left\{ B^к, \Phi^e \right\} \right\}.$$

Figure 2. System-wide resources of IEEs.

Here -IEE
The components of the MTDT are as follows:
• - Model IR for MTDT;
• Software IR for MDTT;
• Technical IR for MDTT;
• -Electronic library fund for MTDT;
• -Educational and methodological IR for MTDT;
• AR, formed on the basis of the conclusions and recommendations of creative conferences for MTDT;
• -IR based on intellectual property and formed in the direction under consideration for MTDT.
The set of goals of the Fe-system in the general form of MTDT consists of a set of models and applications. Of course, the participation of other components of the MTDT is not ruled out. In addition, the focus on external and internal relations for MTDT will also provide a solid foundation for the effective formation of IEEs created for the education system.
The results of our research in this area show that it is better to take into account the internal and external relations as follows. - It is necessary to divide the set of relations into two interrelated parts - the set of internal and external relations. If we conditionally define it with internal relations and with external

relations, then or we have expressions. Hence, the internal relations to the MTDT in the formation of the IEE are the components of the system listed above, while the external relations to the MTDT are taken into account and, consequently, allow the MTDT to fully perform its functional functions. So now it is possible to express the general appearance of the IEE, ie

The general appearance of this IEE can be expressed in organizational and structural form as follows (Figure 3).
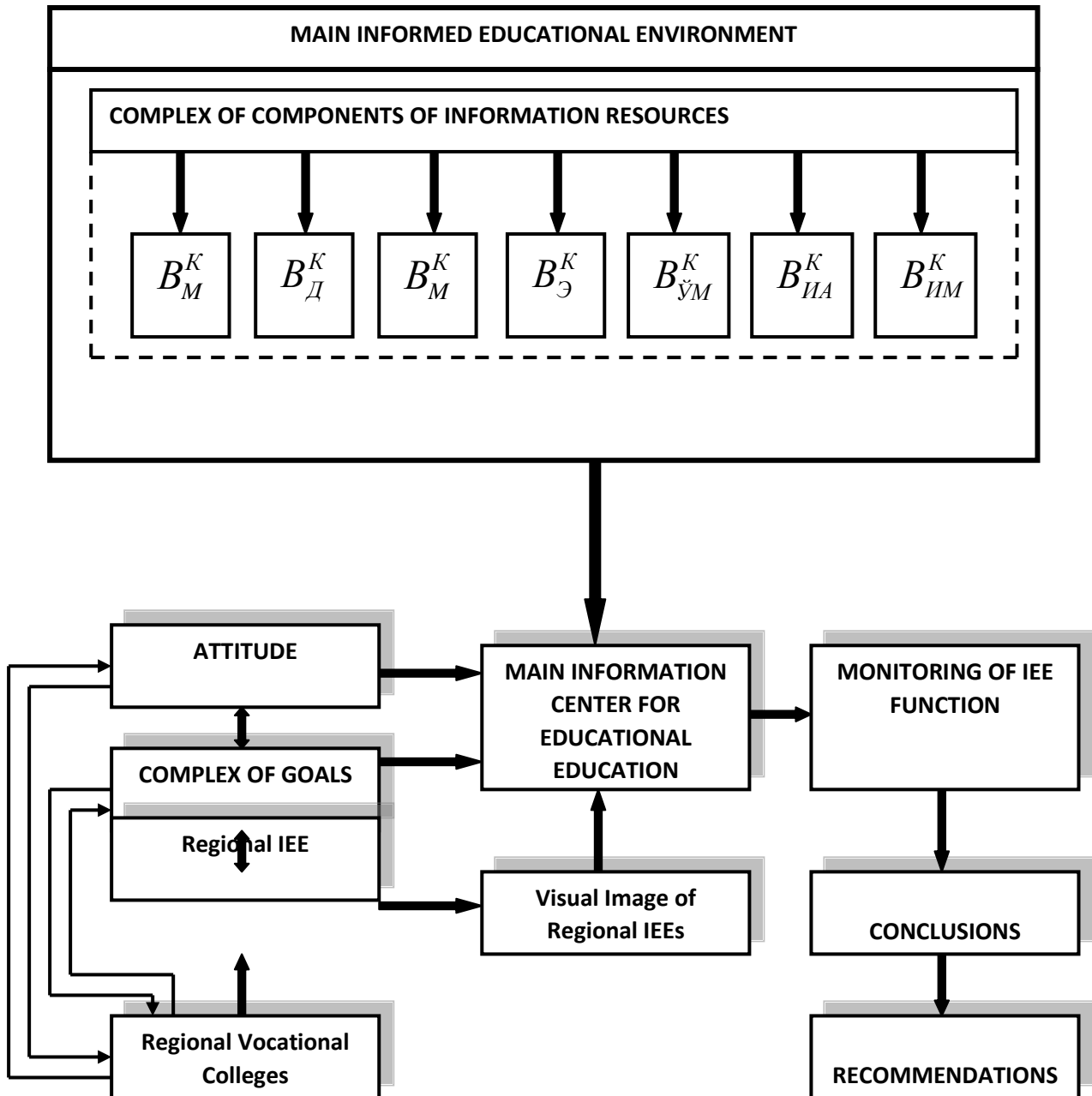
MAIN INFORMED EDUCATIONAL ENVIRONMENT

COMPLEX OF COMPONENTS OF INFORMATION RESOURCES

$$B_М^К \quad B_Д^К \quad B_М^К \quad B_Э^К \quad B_{ЎМ}^К \quad B_{ИА}^К \quad B_{ИМ}^К$$

ATTITUDE

COMPLEX OF GOALS

Regional IEE

Regional Vocational Colleges

MAIN INFORMATION CENTER FOR EDUCATIONAL EDUCATION

Visual Image of Regional IEEs

MONITORING OF IEE FUNCTION

CONCLUSIONS

RECOMMENDATIONS

Figure 3. Overview of IEEs.

This means that one of the most effective ways to train young professionals in professional activities, that is, to form their professional knowledge and skills, is to create an IEE for them for the process of training future professionals. The results of our research on the formation of the above IEE show that the following points can be summarized:

• The rapid introduction of ICT in the educational process of educational institutions, the two interconnected and complementary components of the educational process, namely, the traditional form

of teaching aids and electronic form, which is firmly expressed on paper. forces to look at it as a set of teaching materials;

• Training in the training of junior specialists using the IEE environment ensures the creation of an excellent teaching and learning process, which allows not only to display the text and teaching materials simply but also to demonstrate it, as well as to tell and demonstrate. guarantees the didactic possibilities and advantages of this educational technology;

• The training of junior specialists is inextricably linked with innovative methods, such as the use of interactive methods of IEE training, which is primarily interactive teaching, and in the process: teacher and student; computer and user; user and user interactions are performed;

• An HTML-hypertext editor can be used to create hypertext, hyperlinks, and a related image, code name elements and link them when creating IEEs for junior specialists.

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