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INFORMATION SYSTEM FOR ACCOUNTING OF SCIENTIFIC AND RESEARCH ACTIVITIES OF UNIVERSITY TEACHERS

Стаття присвячена дослідженню проблеми розробки і впровадження інформаційної системи обліку науково-дослідницької діяльності викладачів закладів вищої освіти. Об'єктом дослідження визначено науково-дослідницьку діяльність викладачів університету. Предмет дослідження - інструментальні засоби розробки веб-сайтів. Мета роботи полягає у розробленні і впровадженні сайту обліку науково-дослідницької діяльності науково-педагогічних працівників закладу вищої освіти.

Ключові слова: інформаційна система, база даних, веб-сайт, науково-дослідницька діяльність, заклад вищої освіти

The article is devoted to the study of the problem of development and implementation of an information system for accounting for scientific and research activities of teachers of higher education institutions. The object of the study is the research activity of university teachers. The subject of research is web site development tools. The purpose of the work is to develop and implement a website for recording scientific and research activities of scientific and pedagogical employees of a higher education institution.

Keywords: information system, database, website, research activity, higher education institution.

By definition, research activity is one of the activities of a teacher, aimed at learning and transforming pedagogical reality based on the achievements of pedagogical science and the application of scientific methods; the result of this activity is the acquisition of new pedagogical knowledge and experience and the development of the methodological culture of the teacher-researcher. The scientific and research work of university teachers can be called scientific and methodical work in connection with the peculiarity of the subject of its research, namely, the teaching methods of various disciplines. The main goal of the teacher's scientific and methodical work is

twofold, namely: it involves increasing the professional qualification and scientific and methodical level of teaching staff, as well as providing the educational process with scientifically based teaching tools (programs, plans, textbooks and teaching aids, visualization tools, computer programs, etc.).

Both sides of the main goal are closely interconnected and mutually determined. It is primarily about the development of the teacher as a creative personality, about switching him from a consumer type to an independent search for methodical solutions, about turning the teacher into a developer and author of innovative methods and teaching tools that allow them to be implemented. The difference between the scientific and methodical work of teachers from the traditional educational and methodical work is not in mastering knowledge already existing in science and not in appropriating someone else's teaching experience, but in independently finding and extracting new knowledge. The peak of professional and personal growth is the teacher's ability to carry out individual research activities, which can be represented by work on a methodical topic and the completion of a dissertation research on the material and basis of an educational institution. Thus, the scientific and methodological work of a teacher is a scientific study, the purpose of which is to obtain one's own, that is, author's conclusions and results of a theoretical and practical nature in the field of teaching a specific discipline and within the framework of the chosen topic[1-3, 5].

An important component of teachers' professional activity is scientific research activity, which directs their creative search for the development of new theoretical concepts, effective methods and educational technologies, etc. Implementation of the results of research activities of teachers in the practice of a higher educational institution allows raising the level of professional training of future specialists to a qualitatively new level. As you know, in the modern conditions of higher education, teachers have significant opportunities for conducting scientific research work.

Each higher educational institution has a research department that monitors the scientific activity of teachers, organizes their tasks and monitors the deadlines. In accordance with the task, teachers publish monographs, articles, regulatory and technical documents, participate in inventive activities, etc. It is also possible to work together with teachers of other Ukrainian universities and foreign higher institutions. To simplify the process of accounting for all types of activities of teachers of a higher educational institution, it is necessary to design and create an information system that allows you to optimize, speed up and improve the work of the research department.

An information system is a set of organizational and technical means for storing and processing information in order to meet the information needs of users. Information system is a communication system that provides collection, search, processing and forwarding of information. In any management information system, three types of tasks are solved: situation assessment tasks (sometimes they are called pattern recognition tasks); tasks of transforming the description of the situation (calculation tasks, modeling tasks); decision-making tasks (including optimization

ones)[1, 3]. Modern conditions are characterized by the use of highly effective information systems based on the use of the latest information technologies. Information, especially its automated processing, remains an important factor in increasing the efficiency of any organization. An important role in the use of information is played by the methods of its registration, processing, accumulation and transmission; systematic storage of information and its issuance in the required form; production of new numerical, graphic and other information [2].

In order to outline the key characteristics of the information system, a review of the existing sites of research units of higher educational institutions was conducted. Research work at the university is carried out under certain management. Management in a broad sense can be interpreted as a set of certain actions and levers, which in their combined interaction lead to a certain result. Given this, in the conditions of the university, the management of research work includes such levers as: planning, accounting and control, analysis, decision-making.

The department and dean's office carry out accounting and control through reports, reviews, checks of documented work, etc. One of the forms of reports on the implementation of individual plans by students and graduate students is the planned stages of work execution, defined in the plan-schedule, which are checked by the academic supervisors of students and graduate students. All scientific and research activities of a higher educational institution are subject to accounting and control. So, in particular, the departments submit to the dean's office reports on scientific research activities for a certain period, in which the main scientific results are determined, for example, the number of published monographs and textbooks, published articles and scientific reports, etc., which were prepared by graduate students and doctoral students, scientific and pedagogical employees of the department. The development and implementation of the information system is complex, therefore the implementation of the information system is divided into two parts. This work considers the implementation of functional capabilities for university departments: edit own profiles; view last year's reports on research activities; add research works and information about inventive activity to the information system base; enter into the database of graduate students; edit job information; send and receive messages from the administrator [2-4].

The stages of project development, as a rule, are performed sequentially, therefore, it is extremely important to follow the sequence of stages and understand that any unexpected and uncoordinated changes or corrections can significantly affect the efficiency of work. After the site is created, it is published on the network (Internet). After the site has been tested and checked for functionality, people who did not participate in the development should be asked to review and test the site again. It is possible that certain shortcomings that a person who did not participate in the development can see have not been noticed. Also, you can conduct research using a survey: what visitors like or dislike on the site, whether navigation is convenient, etc.

Efficiency is an extremely important factor when programming for environments designed for many users, which includes the web. A very important advantage of PHP is its translational interpreter. Such a device allows you to process scenarios at a sufficiently high speed. According to some estimates, most PHP scripts (especially not very large ones) are processed faster than similar programs written in Perl. However, so that the PHP developers did not do, the compiled executables will work much faster - dozens, and sometimes hundreds of times. But the performance of PHP is quite sufficient for creating quite serious web applications. The javascript language can function as a procedural and object-oriented language. Objects are created programmatically in JavaScript by attaching methods and properties to empty objects at runtime, as opposed to the syntactic class definitions common in compiled languages such as C++ and Java. Once an object has been built, it can be used to create similar objects.

AJAX is not an independent technology, but rather a concept of using several related technologies. The AJAX approach to development, which is intended for user interfaces, combines several basic methods and techniques: use of DHTML for dynamically changing page content; using XMLHttpRequest to contact the server "on the fly" without reloading the entire page completely; an alternative method — dynamic loading of the JavaScript code into the <SCRIPT> tag using the DOM, which is carried out using the JSON format); dynamic creation of child frames.

Using these approaches allows you to create much more convenient web user interfaces on those pages of sites where active interaction with the user is required. AJAX is asynchronous, so the user can continue browsing the site's content while the server is still processing the request. The browser does not reload the web page and the data is sent to the server without visual confirmation (except when we ourselves want to show the process of connecting to the server)[6].

In this information system, the departments were given the opportunity to add and edit information about inventive activity, publishing activity and scientific and technical activities, enter graduate students, view last year's reports on research activity, edit their own profiles, exchange messages with the administrator. Therefore, the implementation of this closed information system makes it possible to more effectively and quickly record the scientific and research activities of university teachers.

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ВИКОРИСТАННЯ АКТИВНИХ ФОРМ ОРГАНІЗАЦІЇ УРОКУ ІСТОРІЇ В УМОВАХ ДІСТАНЦІЙНОГО НАВЧАННЯ (З ДОСВІДУ РОБОТИ)

Стаття присвячена узагальненню досвіду роботи щодо використання активних форм організації освітнього процесу на уроках історії в умовах дистанційного навчання під час пандемії COVID-19 і повномасштабної збройної агресії РФ проти України, а також розкриває питання щодо впровадження нових активних підходів до навчання, удосконалення засобів і форм організації освітнього процесу, активізації пізнавальної діяльності учнів.

Ключові слова: історія, дистанційне навчання, інтерактивні методи навчання, синхронний режим навчання, он-лайн тестовий контроль знань.

The article is devoted to the generalization of work experience regarding the use of active forms of organization of the educational process in history lessons in the conditions of distance learning during the COVID-19 pandemic and the full-scale armed aggression of the Russian Federation against Ukraine, and also reveals the issue of the introduction of new active approaches to education, improvement of means and forms of organization educational process, activation of students' cognitive activity.

Keywords: history, distance learning, interactive learning methods, synchronous mode of learning, online test control of knowledge.

Інформаційні технології все більше впливають на сучасне суспільство. Утворюючи глобальний інформаційний простір, вони проникають в усі сфери людської діяльності. Інформаційні технології покликані стати невід'ємною