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NAS RK is pleased to announce that Bulletin of NAS RK scientific journal has been accepted for indexing in the Emerging Sources Citation Index, a new edition of Web of Science. Content in this index is under consideration by Clarivate Analytics to be accepted in the Science Citation Index Expanded, the Social Sciences Citation Index, and the Arts & Humanities Citation Index. The quality and depth of content Web of Science offers to researchers, authors, publishers, and institutions sets it apart from other research databases. The inclusion of Bulletin of NAS RK in the Emerging Sources Citation Index demonstrates our dedication to providing the most relevant and influential multidiscipline content to our community.

Қазақстан Республикасы Ұлттық ғылым академиясы "ҚР ҰҒА Хабаршысы" ғылыми журналының Web of Science-тің жаңаланған нұсқасы Emerging Sources Citation Index-те индекстелуге қабылданғанын хабарлайды. Бұл индекстелу барысында Clarivate Analytics компаниясы журналды одан әрі the Science Citation Index Expanded, the Social Sciences Citation Index және the Arts & Humanities Citation Index-ке қабылдау мәселесін қарастыруда. Web of Science зерттеушілер, авторлар, баспашылар мен мекемелерге контент тереңдігі мен сапасын ұсынады. ҚР ҰҒА Хабаршысының Emerging Sources Citation Index-ке енуі біздің қоғамдастық үшін ең өзекті және беделді мультидисциплинарлы контентке адалдығымызды білдіреді.

НАН РК сообщает, что научный журнал «Вестник НАН РК» был принят для индексирования в Emerging Sources CitationIndex, обновленной версии Web of Science. Содержание в этом индексировании находится в стадии рассмотрения компанией Clarivate Analytics для дальнейшего принятия журнала в the Science Citation Index Expanded, the Social Sciences Citation Index и the Arts & Humanities Citation Index. Web of Science предлагает качество и глубину контента для исследователей, авторов, издателей и учреждений. Включение Вестника НАН РК в Emerging Sources Citation Index демонстрирует нашу приверженность к наиболее актуальному и влиятельному мультидисциплинарному контенту для нашего сообщества.

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METHODS OF TEACHING COMPUTER SCIENCE
AT THE UNIVERSITY

Abstract. This article discusses the definition of teaching methods as a science, its object and subject, and features. The main components of the connection between the methodology of teaching computer science as a science and the main concepts of the educational process are also identified.

The main focus is on generalizing the experience of teaching the discipline "Informatics" to students of humanitarian universities and highlighting interdisciplinary connections.

The purpose of the article is to describe the intermediate results obtained during the study of the effective use of information technologies in the course of teaching students of a humanitarian university in the discipline "Informatics".

The structure of the e-course in the self-study support system is presented. The place of the discipline "Informatics" in the training programs of students of the 1st year of the bachelor's degree in the areas of "Economics" is highlighted, the types of tasks for independent work of students are described, and an example of the design of educational materials for the case in the discipline "Informatics" is given.

The main directions of improving the methodology of teaching the discipline "Informatics" are also outlined.

Keywords: methodology of teaching the discipline, student training, case study, independent work of students, humanitarian university, computer science.

Introduction. In the modern world, the competent use of information technologies affects the effectiveness of the professional activities of specialists in any industry, so the quality of training of future graduates of both technical and humanitarian universities for the use of information technologies is an urgent problem.

Employees of companies and organizations need to create complex documents in word processors, process numerical data using spreadsheets, store and process information using database management systems (DBMS), use presentation programs and electronic document management systems. This and other factors that influence the development of modern society determine the need for graduates of technical and humanitarian universities to develop an information culture and computer literacy at a sufficiently high level. Their formation begins at school in the lessons on the subject "Computer Science and information and communication technologies" and continues at the university.

The intensive development of information technologies determines the need for their effective use in the educational process in schools and universities for the implementation of high-quality training of specialists.

The relevance of the research problem is due to the need to improve the teaching methods of the basic discipline "Informatics", taking into account the features of the future professional activity of graduates in the areas of training" Economics", as well as the areas of development of information technologies. It is important to summarize the experience of teaching the discipline "Informatics" and related disciplines aimed at the formation of information culture and computer literacy of future university graduates. This experience is described in textbooks and scientific papers, in particular in [1, 2]. In

addition, it is important to offer new methods and means of teaching in the process of teaching them, taking into account the features of the future professional activity of graduates of humanitarian universities.

Research methods. Teaching methodology is a branch of pedagogical science that studies the learning process, the purpose of which is to achieve its greater effectiveness [1]. The methodology contains a set of methods, rules, and training tools.

The object of the teaching methodology is the interaction of the teacher and the student, in the process of which knowledge about the subject is transferred, skills and abilities are formed (programs, textbooks, textbooks, extracurricular activities, etc.).

The subject of the teaching methodology is the learning process and the regularities of this process, as well as the accumulated knowledge about the object (i.e., the scientifically based solution of problems that are related to the goals, content, principles, methods and techniques).

The teaching methodology is divided into 2 main parts, namely:

– general methodology, which considers the general principles of teaching;

– a private methodology that considers an individual approach to teaching the topic.

The main task of the teaching methodology is to reveal the patterns of learning, on the basis of which regulatory requirements are established for the teaching activity of the teacher, as well as for the cognitive activity of students.

Thus, the teaching methodology, which deals with the study of the goals, content, methods and means of teaching, is formed as an independent science. The main task of the teaching methodology is to reveal the patterns of teaching a particular subject.

According to M. P. Lapchik, the subject of computer science, as well as cybernetics, is formed on the basis of wide areas of its applications, and the object is formed on the basis of general laws inherent in any information processes in nature and society. Computer science studies what is common to all the numerous varieties of specific information processes (technologies). These information processes and technologies are the object of computer science [2].

The methodology of teaching computer science is a branch of pedagogical science [8]:

1. The object of which is the process of teaching computer science at school;

2. the subject is the design, construction, implementation, analysis and development of methodological systems for teaching computer science at school;

3. one of the main methods of teaching computer science is a pedagogical experiment.

Based on this, we can give the following definition of the methodology of teaching computer science – this is the science that studies computer science as an academic subject and the correctness of the process of teaching computer science to students of different age groups. The methodology of teaching computer science, in its research and conclusions, focuses on philosophy, logic, pedagogy, mathematics, computer science, psychology, as well as on the generalized experience of computer science teachers.

The methodology of teaching computer science is engaged in the development and research in accordance with the goals and content of teaching technical, software, educational and methodological, psychological and pedagogical and organizational support for the use of computer technologies in the school process and is an academic discipline [3].

If we consider the methodology of teaching computer science as a science, then we can see its connection with the main components of the concept of the educational process, which are a set of objects of learning and research.

Consider the main components:

1. teacher training activities;

2. educational activities of students;

3. organization of training.

The teaching process is a process of joint activity of the teacher and the student. All components of the educational process should be closely linked, because otherwise the educational process may be ineffective, and in some cases it becomes impossible.

The methodology of teaching computer science is related to the methodology of teaching mathematics, because the concept of an algorithm came from mathematics. On the other hand, many conclusions of various statements of mathematics have an algorithmic structure, and in the methodology of teaching

mathematics there are a number of tasks that are based on learning to determine the algorithmic component of the conclusion.

From the general didactics of the subject, the triune goal of teaching (training, development, education) follows, and it is also revealed in the materials of computer science. The methodology of teaching computer science is based on the system of didactic principles of general didactics, which require rethinking and concretization of the material of computer science.

The peculiarity of the methodology of teaching computer science is that computer science as a science and an academic subject is rapidly developing. In this regard, there is a need to constantly improve the content of training with the achievements of the development of science and technology [4].

We can safely say that the methodology of teaching computer science is connected with almost any science, as indicated by the global informatization of all branches of human activity and the penetration of computer science into all other sciences. With the transition of the system of general secondary education in Russia to specialized training, this relationship has noticeably strengthened. At the same time, the object of study in the course of methods of teaching computer science is not only the concepts and methods of computer science, the content, structure and specifics of which are taken into account "by definition", but also those sciences that will be more or less integrated with computer science.

Currently, the author of the article is improving the methodology of teaching the discipline "Informatics" to students of the 1st and 2nd courses of the humanities university, taking into account its fundamental importance for the successful implementation of professional activities of specialists in any industry in the information society [3].

One of these areas is the identification of interdisciplinary connections that are updated by students in the course of studying the discipline "Informatics" in order to develop teaching materials, tasks and tests that complement the tools already developed by teachers of the Department of Informatics and Mathematics to support independent work of students. One of these related disciplines is "Internet Information Resources", which is taught to students of the Faculty of Economics.

The disciplines "Informatics" and "Internet Information resources" are taught to students of the 1st year of humanities universities and are basic in terms of the formation of the information culture of students [4, 5].

These disciplines are prior to the disciplines " Information Technology in Economics "(taught in the 2nd year) and "Information technologies in accounting" (taught in the 3rd year). They are linked through the content and expected learning outcomes of the students.

This discipline is taught to students in the 2nd semester of the 1st year and the 3rd semester in the 2nd year and is aimed at developing the competence of OK-5 - "the ability to use the skills of working with a personal computer, software and network resources to solve social and professional problems" [6].

This article presents the interim results obtained by the author in the course of conducting research in the field of effective use of information technologies in the educational process of students of a humanitarian university. The presented work is devoted to the description of the author's methodology of teaching the discipline "Informatics" to students of a humanitarian university and, first of all, to the organization of independent work of students.

The selection of the content of the discipline "Informatics" is carried out, the study of the possibilities of traditional and humanistic teaching methods and pedagogical technologies to improve the effectiveness of teaching students is carried out. In addition, the author studies modern teaching tools.

Currently, the e-course consists of the following sections:

Topic 1. Introduction.

Topic 2. Information and information processes.

Topic 3. The composition of a personal computer. Hardware and software. Operating systems.

Topic 4. Processing of text information. Working in the MS Word word processor.

Topic 5. Working with tabular documents in the MS Excel processor.

Topic 6. Databases. Working with the MS Access database management system.

Topic 7. Computer graphics. Graphic editors. Create presentations using MS PowerPoint.

Topic 8. Materials for intermediate (tests) certifications and tests (control tasks).

In the course of teaching the discipline "Computer Science", the author noticed that students have difficulties in the course of completing tasks for independent work. These difficulties are primarily associated with insufficient assimilation of theoretical material and the implementation of basic tasks.

Given these circumstances, the use of the pedagogical technology "case study" (situational analysis), which refers to humanistic pedagogy [7], seems more appropriate.

In the course of teaching the discipline "Informatics", traditional teaching methods and the pedagogical technology "case study" were used together.

The author has developed materials for case studies based on the results of systematization of tasks performed by students in classes in the discipline "Informatics", starting from 2017.

Purposeful comparison of learning outcomes was not carried out, but the author noted that without the organization of training using case studies, students were worse at mastering the material of the discipline "Computer Science".

Part of the course materials, in particular in topic 6, is presented in the form of cases, which include materials for independent work of students-a description of tasks, examples of their implementation and requirements for the database element being developed - a data schema or its objects.

With this approach to teaching students, the formulation of tasks is not clear. At the same time, it is necessary to formulate requirements for the result of the task and provide possible options for completing the task.

In addition to the main materials of the electronic course, the author has developed a block for the implementation of measures for the current control of students ' knowledge and conducting intermediate certification. [8]

The teaching of the discipline "Informatics" using this technology in the first semester of the 2017-2018 academic year was carried out by the author of the work to four groups of students of the Faculty of Conflictology (a total of 67 students in four subgroups-we conditionally number them as № 1, № 2, № 3, № 4).

To teach students in the field of Economics, the pedagogical technology "case study" was not used, as students studied the basic concepts of the discipline "Computer Science" and mastered the programs MS Word and MS Excel.

After completing the tasks in the "MS Access" section, the file of the developed database was uploaded by students to the electronic course in the discipline "Computer Science" for verification, and then the student received feedback about the task completion or the need for its completion.

We will analyze the data obtained as a result of the students ' case studies in the "MS Access" section. In the subgroup of group No. 1 there were 17 people, in the subgroup of group No. 2-20 people, in the subgroups of groups No. 3 and No. 4-15 people each.

The data was processed for students who uploaded the task to the student self-study support system.

In subgroup # 1, 14 students (82%) uploaded the task on time, in subgroup # 2-11 students (60 %),

in subgroup # 3 - 6 students (40 %),

in subgroup # 4 - 10 students (67 %).

The material for this task was posted in an electronic course and organized in the form of case studies. It should be noted that students had to modify the database mainly because of the incorrect development of the data schema due to the desire to simplify the execution of tasks or avoid the need to independently develop an information-logical model of the subject area.

For comparison, we present data on the implementation of the task for the development of a database for a group that did not use the pedagogical technology "case study". It was a subgroup of 20 students. [8,9]

In conclusion, we will highlight some areas of development of the methodology of teaching the discipline "Informatics" for students in the areas of training " Economics»:

- development of tasks aimed at forming students 'ideas about the interdisciplinary connections between the discipline "Informatics" and other disciplines;

- development of test tasks and materials for assessing students ' knowledge;

- improvement of the electronic course on the discipline "Informatics", placed in the system of support for independent work.

The methodology of teaching computer science is an educational discipline that develops and researches teaching technical, software, educational-methodical, psychological-pedagogical and organizational support for the use of computer technologies in the school process, as well as which is closely related to philosophy, logic, pedagogy, psychology and mathematics.

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ЖОҒАРЫ ОҚУ ОРЫНДАРЫНДА ИНФОРМАТИКА ПӘНІН ОҚЫТУ ӘДІСТЕМЕСІ

Аннотация. Мақалада оқыту әдістемесінің ғылым ретінде анықтауы, оның пәні мен міндеттері, сонымен қатар ерекшеліктері қарастырылған. Информатиканы ғылым ретінде оқыту әдістемесі мен білім беру процесінің негізгі түсініктері арасындағы байланыстың негізгі компоненттері ашылды. Негізгі басты назар гуманитарлық жоғары оқу орындарының студенттеріне «информатика» пәнін оқыту тәжірибесін қорытуға және пәнаралық байланысты бөліп көрсетуге аударылады. Мақаланың мақсаты - гуманитарлық университеттің студенттерін «Информатика» пәні бойынша оқыту процесінде ақпараттық технологияларды қолданудың тиімділігін зерттеу барысында алынған аралық нәтижелерді сипаттау. Өздігінен оқуды қолдау жүйесіндегі электрондық курстың құрылымы көрсетілген. 1 курс студенттеріне арналған оқу бағдарламаларында «Информатика» пәнінің алатын орны көрсетілген, студенттердің өзіндік жұмысына арналған есептердің түрлері, сонымен қатар жобалаудың мысалы келтірілген, және «Информатика» пәні бойынша оқу материалдары. «Информатика» пәнін оқыту әдістемесін жетілдірудің негізгі бағыттары да көрсетілген.

Түйін сөздер: пәнді оқыту әдістемесі, студенттерді дайындау, кейстер, студенттердің өзіндік жұмысы, гуманитарлық университет, информатика.

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МЕТОДИКА ПРЕПОДАВАНИЯ ИНФОРМАТИКИ В ВЫСШИХ УЧЕБНЫХ ЗАВЕДЕНИЯХ

Аннотация. В статье рассматриваются вопросы определения методики обучения как науки, ее предмет и задачи, а также особенности. Выявлены основные составляющие связи методики преподавания информатики как науки и основных понятий образовательного процесса. Основное внимание уделяется обобщению опыта преподавания дисциплины «Информатика» студентам гуманитарных вузов и выделению междисциплинарных связей. Цель статьи – описать промежуточные результаты, полученные при исследовании эффективности использования информационных технологий в процессе обучения студентов гуманитарного вуза по дисциплине «Информатика». Представлена структура электронного курса в системе поддержки самообучения. Выделено место дисциплины «Информатика» в программах подготовки студентов 1 курса бакалавриата, описаны типы заданий для самостоятельной работы студентов, а также пример оформления учебных материалов к кейсу по дисциплине «Информатика». Также обозначены основные направления совершенствования методики преподавания дисциплины «Информатика».

Ключевые слова: методика преподавания дисциплины, подготовка студентов, кейс-стади, самостоятельная работа студентов, гуманитарный вуз, информатика.

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