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Teaching Medical Colleges Students Using Application Information Systems in Future Professional Activity

Key words: *information system, invariant part, variable part, medical informatics, medical college, professional activity, educational process.*

Annotation: *the article analyzes the current state and problems of the use of medical information systems in the professional work of a health worker; the main types of professional activity of the health worker and their development related to the use of information systems; ways of improving the methodical system of training a junior medical worker for the use of information systems in their professional activities are formulated.*

The modern stage of the development of society is characterized by informatization of all spheres of life and human activity. The rapid development and implementation of information technologies and, in particular, of information systems for various purposes, provided effective access to huge information resources, as well as the ability to store, process and exchange a large amount of information (1).

The information system is an organizationally ordered set of documents and information technologies, including the use of computer facilities and communications that implement information processes.

Training in the use and development of information systems is an important part of the information training of many specialists, including engineers, economists, lawyers, teachers, health workers and others.

Training in the field of information systems, as a rule, includes invariant and variation parts. The invariant part is connected with the basic questions necessary for the development of general cultural literacy and the corresponding information education. The variation part should reflect the specifics of the specialist's work by the help of information technologies.

Our research was conducted on the example of information training for students of medical colleges.

The emergence and development of various medical information systems has provided the health worker with additional opportunities in professional activities in the form of the following advantages: reducing the time spent on maintaining current documentation, drawing up reports, using decision support mechanisms; facilitating compliance with standard protocols for treatment and screening; providing instant access to archival medical records; reducing the time spent on contacts with the laboratory and diagnostic service, etc.

Today, in almost all regions of the Republic of Uzbekistan, automated information systems operate on the basis of medical organizations, hygiene and epidemiology centers, medical information and analytical centers, the Bureau of Medical Statistics, and territorial compulsory medical insurance funds (CMI). In the treatment and prophylactic institutions, the accounting of medical care under the CMI program, as well as the personified registration of certain categories of citizens entitled to state social assistance in the system of providing necessary medicines, is practically completely computerized. Therefore, in the context of rapid informatization of healthcare, the problems of transition to a qualitatively new level of training future healthcare workers in the use of information technologies in medical diagnostic and management activities became acute.

To solve these problems, an additional course "Medical Informatics" was introduced at the Siyob Medical College in Samarkand, Uzbekistan. At the same time, it was assumed that the existing system of training of students of junior courses of medical colleges provides for the equalization of knowledge of students in the field of general computer science, and the course of medical informatics will become a logical development of the program of medical specialties in the formation of basic knowledge of modern computer technologies in application to medicine and public health. It is the course "Medical Informatics" which presupposes the training of students in the application of computer applications in solving problems of medicine and public health.

As a rule, teachers independently develop a program of the course of medical informatics, proceeding from the technical, software and methodological support of the college, nevertheless, it should contain the main sections prescribed in the state standard.

Despite the fact that many medical colleges have accumulated certain experience in the use of computer applications in educational practice, there are a number of problems:

- the lack of a harmonious and complete theoretical base devoted to the design, development and implementation of medical information systems;
- insufficient number of educational and methodical manuals on the use of information systems in the educational process;
- inadequacy of high-quality software (in most cases due to high cost).

In the State Standard for the specialties "Nursing affairs", "Pharmacy" and "Medical-prophylactic affairs" the following types of professional activity of the health worker are identified: preventive; diagnostic and therapeutic; organizational and managerial; educational upbringing; research.

We have disclosed the activities of a health worker within each of the above types of his professional activity in terms of the application of information systems (Table 1).

Table 1

Activity of a health worker within the scope of his professional activities in terms of the application of information systems

№	Types of professional activity	Activities related to the application
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		information systems
I.	Prophylactic	<p>1) Activities on the use of information systems in conditions of the shortage of time and qualified professionals.</p> <p>2) Combining all information flows into a single system for predicting the development of diseases in the city, region, republic.</p> <p>3) Formation of a database on epidemiological surveillance.</p>
II.	Diagnostic and curative	<p>1. Activities on the use of information systems in medical and diagnostic processes for diseases of various profiles and for different categories of patients, including emergency situations.</p> <p>2) Activities on information support and / or automation of the diagnostic and therapeutic process, carried out with direct contact with the patient's body.</p> <p>3) Automation of all or most of the technological process of medical workers of various specialties and providing information support when making diagnostic decisions.</p>
III.	Organizational and managerial	<p>1) Activities on the use of information systems both for solving the tasks of managing a medical and preventive institution, and for solving the tasks of managing the entire health care system.</p> <p>2) Use of statistical information medical systems designed to collect, process and obtain data on basic medical and social indicators.</p> <p>3) Use of information systems for separate directions: mutual settlements in the system of compulsory medical insurance; first aid and emergency situations; specialized medical care; drug provision.</p>
IV.	Educational-upbringing	<p>1) Ensuring the informatization of the technological process of teaching, research and management activities of research institutes and colleges.</p> <p>2) Finding and issuing medical information at the user's request.</p>
V.	Research (advanced training)	<p>1) Activities involving the expansion of professional contacts with colleagues from various educational and scientific-methodical institutions.</p> <p>2) Activities on modeling medical and biological processes, the course of the disease, the effects of medicines, etc.</p>

In connection with improvement educational process in medical colleges in conditions information, are activated research in areas design and introduction new forms and methods training (1-3).

Today all more value acquires active methods training, which stimulate students independently find methods solutions emerging before them tasks. In scientifically-methodical research special role assigned method training projects (M.A. Aripov, A.A. Abdukadirov, R.X. Juraev, E.S. Pulat, N.I. Taylakov and etc). Precisely this method us was put in basis techniques training application information systems.

Method of training project - this system training at which students acquire knowledge in process planning and performance constantly complicate practical jobs - projects.

In its study R.Juraev notes, what method training projects assumes (2):

- independent choice solutions task and personal motivation performance project;
- creativity, associated with staging problem and seeking ways solutions, what activates mental activity apprentice;
- manufacturability activity, what promotes preparation apprentice to subsequent professional activity;
- dialogic nature activity, which manifests as in course group forms training activity, so and in form communication with teacher, who therein case performs role consultant;
- collective nature training activity, allowing students unite on interests;
- ensure diversity species role activity, obligation and responsibility at performance jobs;
- promotes development communicative skills;
- practical orientation on obtaining results;
- integration of knowledge from various subject areas.

So, method projects is means create in course training conditions and situations activity, maximally approximate to real, promotes mastering ways activity, components independent, cognitive, communicative and information competence. Therefore, basic form training, used at building developed techniques training application information systems, should become practical classes, on which we offer use method projects step-by-step formation required knowledge and skills.

On lecture lessons method projects follows use in combination with method demonstration, what will allow clearly demonstrate possibilities application various medical information systems.

Modern medical information system should be aim on complex automation college and combine several interrelated subsystems, such, as electronic history disease (EHD), schedule working time staff, automated workplace (AW) of medical worker, statistics and much another.

Analysis questioning medical workers' various institutions in Samarkand city and areas, revealed existence large quantity used medical information systems.

On base fundamental pedagogical principle reflection subject-matter areas future junior specialist in learning objects we instruct that base components techniques training application information systems.

Held experiment revealed, what education on this methodology students steel more thoroughly analyze text task, consciously use medical data at work with information systems, exercise

search data on base with viewpoints significance there for medicine, better design medical task with application information systems.

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