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TO THE PROBLEMS IN THE UNIFIED SYSTEM OF SPECIALISTS' EDUCATION

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К ПРОБЛЕМАМ ЕДИНОЙ ПОДГОТОВКИ СПЕЦИАЛИСТОВ

В настоящее время в подготовке врачебных кадров для здравоохранения сложились все предпосылки для перехода на качественно новый уровень организации методического обеспечения каждой дисциплины. Оптимальной методической формой является модульное обучение на основе принципов функциональных систем с системообразующим фактором в виде профессионального стандарта.

Возможности модульного обучения наиболее применимы на постдипломном этапе. При этом в подготовке врачей-специалистов необходимо ориентироваться на трехэтапную систему обучения — довузовскую, дипломную и постдипломную. Модульное обучение необходимо оптимально сочетать с традиционным топографо-анатомическим этиопатогенетическим подходом, что наилучшим образом отвечает требованиям подготовки высококвалифицированного врача-специалиста.

Ключевые слова: модульное обучение, методическое обеспечение, системообразующий фактор, модульно-системный подход.

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The actual education system needs to be reformed. We have to progress to a new level of educational work. An optimal way is module education, as a functional system with professional standard as its backbone factor. However, benefits of module education are useful most of all at the post-graduate stage. Therefore, in

education of doctors we have to use 3-stage system (under-graduate, graduate and post-graduate stages) with different approaches (topographo-anatomic and functional). This methodology is according best of all to contemporary requirements for high-qualified doctors and creating a necessary conditions for their further professional growth.

Key words: module education, backbone factor, methodological support, module-systemic approach.

Social and economic changes develop most dramatically when contain humanitarian part, especially in high school and healthcare. Undoubtedly, globalization carrying various forms of integration is the dominating trend of the civilization today. This phenomenon appears most apparently in education and medicine, where humanitarian aspects are in balance with natural sciences and special medical knowledge.

The need of holistic approach to the problems of education and science is caused by rapidly increasing amount of information to be interiorized. One of possible decisions of this problem would be the connection of science and education forming unite educational environment. It would allow not only to create the methodology of assimilation of information but also to resolve certain social and economic problems, particularly, to train enough of staff in various occupations.

However, according to dialectics of cognition, there is an inevitable "dark side" in any positive trend. When every step in solution of problem is associated with the consideration of principally new aspects of phenomena mathematic approach lose its usual priority. In such situations the dialectic analysis could not be clarified by mathematic schematization (Kolmogorov, 1972). This principle is especially important when dealing with complex systems such as medical and biological processes. Indeed the excessive schematization of higher education could affect its dialectic and humanitarian basis.

The transformation of term "to educate" into "to inform" has been made gradually. As a result, the main intention of teaching has displaced to insertion and keeping in memory large amount of special information. Nevertheless, thinking is not a rigid store of information but a flexible tool of cognition and execution of specific functions, which main task is the development of clinical thinking. This is especially true for the high-education, which is the concentration of universal knowledge and rules of clinical thinking. Therefore, we should not substitute them by the increase of amount of information aiming to put some innovations in high education.

The Bologne concession (1999) reflecting the intention to the unite European educational environment does not comply the real situation in education. Russia's entrance into this environment might be difficult as a result of significantly different level of social, economical and educational development of European countries. But this process is a good motivation for revision of certain conservative approaches in Russian higher medical education. The most obvious example is the invention of module education. Some people define educational module as extended amount of information without the definition of such extension.

One task of module approach is to integrate the information into the relatively autonomous organizational blocks — modules, which content and size may vary depending on didactic aims and requirements of professional standards [1].

In the system of high education module is an independent didactic unit having a specific purpose, methodological guidance and the control of students' final knowledge. However, there is any place neither for the nature of this unit nor for it content nor for its underlying aim nor its backbone factor in this definition. In case of technical determined systems module is more defined in its shape and content in comparison with medicine, where we have certain difficulties. Thus, module education should be discussed in terms of functional systems defining clearly a backbone factor, which features would change at different stages of training.

To make graduates' skills meeting professional standard three types of modules are traditionally used: cognitive, operational and mixed, which consist of according forms of educations (Fig. 1). Nonetheless, such separation of modules has more theoretical

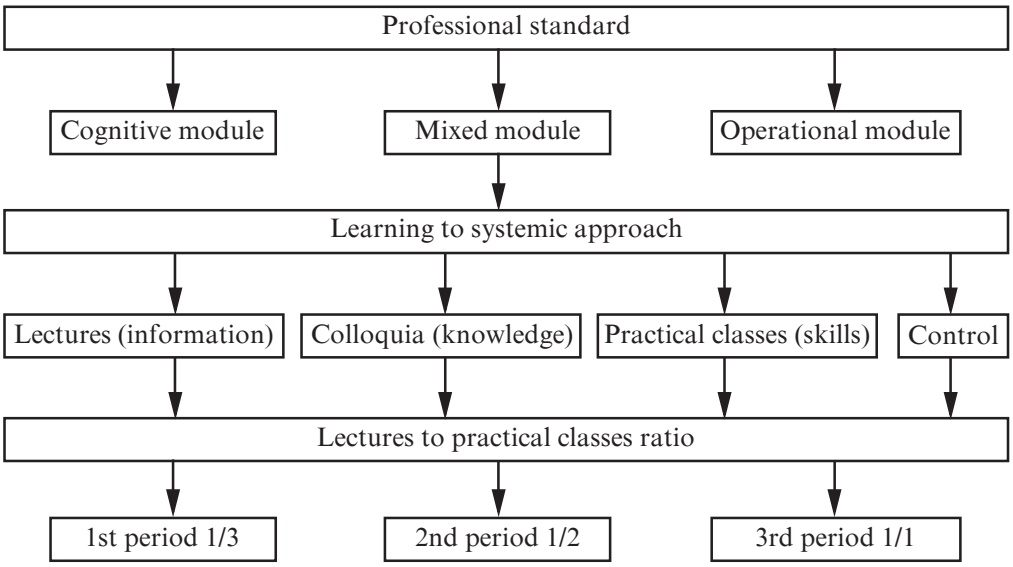

Fig. 1. Module object-oriented didactic system

rather than practical value. Each form of education pursuits the concrete aim: lectures present information, colloquia form knowledge, practical classes train skills. After all it leads to educational standard. Graduate transformation of information into knowledge and skills combined with effective control would increase the effectiveness of education system.

The optimal distribution of time consumed by definite forms of education is determined by amount and features of provided information and skills to be trained. As the duration of training at the cycles of postgraduate training increases, the priority shifts from lectures to practical classes. It should bring clinical thinking and operational skills to practice.

The primary task of module is the interdisciplinary integration. On the one hand, module includes different forms of information and educational techniques. On the other hand, being a structural unit it defines layout of these forms of education. The difficulty in implementing module system into medical education is in determining of functional system, backbone factor and feedback. These entities unfortunately are often being reduced to the voluntary integration of anatomic or functional units without naming of the features of their mutual relations and final positive result, i.e. backbone factor.

Meanwhile, a system is a complex of selectively involved components where their interactions and mutual relations aim to obtain positive final result (Anokhin, 1978).

Another serious problem is an "occasional" substitution of functional system by a syndrome. At this point we have to consider the definition of a syndrome. According to it, a syndrome is a complex of symptoms based on unite pathogenesis. It is quite far from the entity of functional system and its backbone factor. This substitution eliminates the advantages of module education. Moreover, development and implementation of module is a kind of selection and integration of relevant information. It is particularly true for high school.

Regarding conventional separation of educational process into three groups we have to emphasize the role of conventional forms of training, such as lectures, colloquia, practical classes. In these conventional forms the content of education transforms from anatomic approach into functional. It allows to integrate the interdisciplinary information making easier of increasing amount of information.

Anatomic approach is based on the comparison of present morphological and functional data with the average normal values. The layout of tactics and treatment is con-

structed considering the deviation founded. It leads to the inevitable delay of diagnostics and treatment. In spite of this fact, anatomic approach may be useful at the undergraduate stage of education.

Functional approach requires the prediction of possible deviation. This approach should have priority in postgraduate training. It would give new direction in education as well as in clinical work. Besides, the construction of module might be a kind of filter selecting the evidence-based scientific data as a basis of training. Such careful selection would allow the reduction of time required for mastering each discipline.

It seems to be sensible to keep the structure of modules. Cognitive modules should have lectures to practical classes ratio 1/1, operational — 1/3, and mixed – 1/2.

It's obvious, that at the moment the specialization and integration in education are not balanced. The number of specialists with poor knowledge of general medical and biological conformities to natural laws increases dramatically. For this reason, module education is a sensible measure at the postgraduate training.

We admit that the training of medical students is overloaded. This is a consequence of confusion of term "awareness" and "knowledge". At the same time, higher education is the result of natural necessity of adoption of schemes of typical biological processes and rules of thinking rather than the intention to assimilation of vast amount of information. In the universities with humanitarian component we have to consider the ethical imperatives and ethnical identity of student in the aim of construction of educational complex [2].

The concept of modernization of the Russian high education claims the necessity of its update and improvement, as well as the implementation of innovative methodical tools directed to the formation of confident professional competence.

The primary aim of methodological backing of modernization is creation of conditions for implementation of educational and professional standards. Its secondary purpose is the development of educational content and achievement of necessary quality of professional standard. It includes development of optimal combination of tools for education and control.

The experience of our chair suggests that methodical system being used is suitable for students as well as for teachers. The elements of our methodical system are as follows: legal staff, didactic background, aids of education, tools for control (Fig. 2) [3].

So, legal background includes the following documentation: educational standard, laws, standards of didactic equipment, syllabus, list of recommended textbooks and workbooks, timetables.

Didactic background consists of issues on technique of teaching discipline (including lectures). Tools of teaching include textbooks and handbooks, clinical cases, practical guidelines, devices for demonstration of movies, online resources.

Tools of control are formed by examination questions, tests, and interviews.

The didactic system of our chair is an open functional system aimed to pragmatic outcome, which depends on inner interaction of its components as well as its environment (Fig. 3). The didactic system is also a module but the module of higher level. Moreover, it contains potential to creation of new junctional disciplines by the integration of

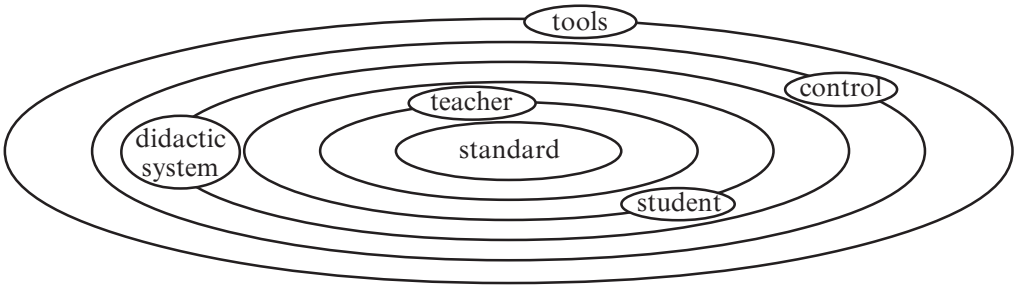

Fig. 2. Original didactic system of the chair

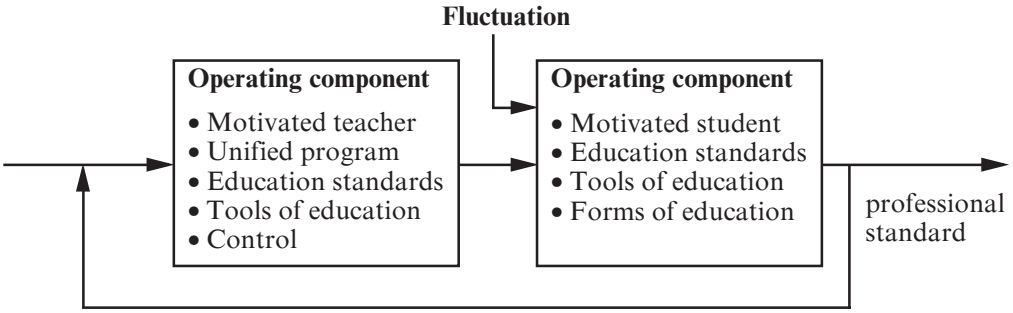

Fig. 3. A blueprint of interaction between the components of educational process

fundamental and clinical ones. It would allow the integration of information and intensify a study.

In order to comply the Bologne convention, didactic complex has different levels of functioning and is a mobile mechanism of regulation of market of specialists. An operating and an operated components of didactic complex are formed by tools of teaching. These components mutually adds one another and also can swap. This provide high quality of education and protection of bureaucracy in education.

Considering gained experience and satisfactory effectiveness of new approach in high education the unite system of continuous professional education with different priorities at each stage and aiming to professional standard should integrate three stages:

— before university. At this stage student should be given the motivation to obtain medical education and gain medical speciality;

— undergraduate stage. The anatomo-physiological and ethiopathogenetical approaches dominate at this stage. Students also should study the common rules of thinking. As a result, students will gain the qualification of general practitioner;

— postgraduate stage. Its main feature is functional approach to typical pathologic processes. The result of this stage is the increase of qualification a specialist. The implementation of this concept would be better in frame of unite didactic system.

We have to provide the link between general education and professional training during all three stages. At undergraduate stage we should use psychological and philosophic issues of choosing occupation. At the undergraduate stage we have to perform the training of essential qualities of a general practitioner. At the postgraduate stage the process of education is enriched with motivating techniques. Having finished the education, specialist would promote the prestige of university as well as medicine at all. This step-by-step way the unite educational environment would form.

Thus, we have to concede the necessity of integration of open didactic system in high and professional education. This integration allow the adaptation to continuously changing conditions in science and demands of healthcare. Three-stage system of continuous high professional education based on the module and functional approaches complies best to the achievement of the professional standards. Besides, it is optimal for implementation of principle of continuous professional education.

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