



USING OF THE MODULAR TRAINING IN THE HIGHER EDUCATION SYSTEM

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ANNOTATION

In this article discusses the technology of modular training. The author uses concrete examples to prove that the use of modular training contributes to improving the effectiveness of the training session.

KEYWORDS: *module, didactic materials, pedagogical technologies, innovation.*

DISCUSSION

Currently, a number of developed countries have introduced and effectively used various new pedagogical technologies and their various methods. One of these technologies is the technology of modular training. As you know, the word "module" comes from the Latin word "modulus", which means "norm, measure". In education, the module study of the discipline divides the studied material into parts, and an exact system is developed for studying the material.

Modular technology is a person-oriented pedagogical technology. It is aimed at optimizing and ensuring the integrity of the learning process, improving students' knowledge and developing the educational sphere, managing the learning process and providing broad opportunities for the implementation of learning goals. Another advantage of this technology is that as an integration process, it is inextricably linked with the content of learning, implemented through the following set of technologies: problem-algorithmic, programmable, step-by-step formation of mental activity, full assimilation.

Modular technology has the following advantages:

- The compactness of educational material and the ability to divide it into blocks of modules;
- Integrated planning of training sessions;
- Organic coherence of learning stages;

- increasing students' interest in learning;
- Self-control and evaluation of student performance;
- The transition of the teacher's position from information and monitoring functions to consulting and directing functions;
- Compliance with the pace of learning and individual characteristics of students;
- Guarantee of the planned learning results of students (learning results);
- Variability of module components in accordance with the learning goals.

The use of modular technology is recommended when performing various pedagogical tasks (searching for a new one), together with a variety of applications to the content of training, as well as with the use of individual modules on the application of labor methods. In addition, this technology is focused on the formation of self-learning skills. It is necessary to divide the learning process so that it is interesting, stimulating to independent study of the material and the full manifestation of all the abilities of the student.

The teacher should use these technologies intelligently when building a didactic process, rationally defining the educational elements of the topic being studied based on the complexity and time frame. The process of using new teaching technologies in the classroom must be organized so that active participation of all students in the group



that is in the process of the training is one part of the students self-study academic material, then the rest of the group for full discussion. The teacher is the organizer, the leader, controlling training. The student should develop their own qualities in educational activities, freely express their thoughts on the topic of learning. Being very diverse, new pedagogical technologies provide a huge selection of methods for studying educational material based on the topic and objectives of the lesson.

The basis of modular pedagogical technology is a training module, which is compiled in accordance with the age, level of knowledge and degree of activity of students during the educational process. The training module can be given to students individually or in a group, depending on the creative abilities of the teacher. The training module contains: an element of learning activity, i.e. the number of elements necessary for students to learn, the didactic purpose of the module, tasks on the training material, indicators of task completion and the allocated time.

Let's consider some well-known features of module allocation: functional, elementary, organizational, technological, etc.

A module that is separated by function is often associated with multi-stage professional training. Each stage is a module or group of modules. This approach was first used at the University of Budapest, where specialization took place in two modules, economic and pedagogical, and the system was supplemented by a pedagogical module and an international relations module.

The technological approach was considered at technical universities in the United States. The module here is of a technological nature and is understood as a closed unit of the educational process.

You can also consider the concept of a module as a training module, which is a logically complete form of the content of the discipline, including cognitive and progressive aspects, the assimilation of which should be completed by the appropriate form of control of knowledge, skills and abilities formed as a result of mastering this module by the trainees.

The module contains cognitive and professional characteristics, so we can talk about the cognitive (information) and educational-professional (activity) parts of the module.

The first task is the formation of theoretical knowledge, the second function is the formation of professional skills on the basis of acquired knowledge.

You can see that the concept of module includes certain parts of the curriculum of courses, without specifying them. Analyzing the point of view of the authors, we can see that the concept of module is multifaceted.

The content of the module in this case consists of a number of elements.

1. Element composition (training elements). They define the educational content of the module.

Educational element - all objects of science that are selected for the purpose of study. The training elements are:

1) Objects, objects, things of a certain area of reality;

2) Phenomena, processes and interactions between objects;

3) Methods of human influence on these objects or phenomena, i.e. skills and abilities to operate with them in practice.

1.2. The main elements-the development of which is the purpose of training (to learn such and such a concept, learn to identify faults, learn the geometry of the cutter, etc.);

1.3. Auxiliary elements that accompany the main educational elements and facilitate their assimilation. They are used to update students' knowledge and skills, to provide hints and illustrations, to generalize and consolidate knowledge in practice, and to monitor educational activities.

2. Group educational elements.

2.1. Information training elements - a set of specific knowledge (concepts, representations) formed within a particular discipline (worldview ideas, concepts, generalizations, design and practical examples, knowledge of graphic images of the objects being studied, diagrams, diagrams, knowledge of methods of scientific knowledge and methods of practical activity, knowledge of laws, laws, theories, concepts, etc.).

2.2. Operational and intellectual learning elements - a set of mental operations performed on the studied objects for the purpose of mastering them and forming the basis of dialectical thinking formed by students (recognition, merging features into more complex ones, description of characteristics, explanation and display of properties, features of objects, formulation, decomposition (parsing an integral object into its component parts), structuring (establishing logical interdependence between elements and parts of the object), transformation, modeling, design, construction, schematization, forecasting, diagnostics, algorithmization, coding, solving creative problems, etc., specification, detail, illustration, control of performance characteristics of qualities, generalization, classification, etc.).

2.3. Operational and practical training elements - a set of General and professional skills formed by students: calculations related to technological equipment, design, Economics and production organization; measuring objects (electrical, optical, technological); graphic objects (reading drawings, kinematic, hydraulic, electrical, process diagrams, maps), making sketches and working drawings, detailing, drawing graphs and tables, processing materials, knowledge of equipment



and its management, commissioning, assembly and installation, organizational, communication.

2.4. Organizational and methodological elements.

These include everything that provides direction and regulation of students' actions: goals, forms of organization of educational activities, methods and means of training, means of control and correction, prescriptions, requirements, rules, algorithms, criteria, indicators of the quality of educational activities, etc.

Modular formation of the course makes it possible to redistribute the time allocated by the curriculum for its study by separate types of educational process, expands the share of practical and laboratory classes, as well as independent work of students. There is a need for new forms of lectures, in which, along with fundamental training, the student would receive the necessary skills and knowledge in the field of general methodology for the design and operation of equipment, the development of modern progressive technologies.

With a comprehensive review of the content of training modules, there is no duplication in the study of the subject, it is possible to reasonably introduce elements of scientific research and research laboratory work into the educational process.

In addition, the visibility of the course structure shows promising directions for their improvement and allows you to scientifically plan the work of the entire teaching staff. A modular approach to training will allow more fully meet the needs of a creative person in educational activities, since there will be a conscious interest in obtaining certain knowledge; the ability to change the specialization or get several specializations; change the levels of claims (bachelor, master), force or extend the study period as a whole with a known final goal; quickly respond to market conditions, individualize the learning process, co-create with the teacher, reduce the factor of dissatisfaction with the individual in education.

The introduction of the new system will automatically cancel the traditional credit weeks and inter-semester exams, since the student will work on an individual schedule and will be able to integrate information on a fundamentally new system, which will combine basic, special, professional knowledge and skills. At the same time, there will be no unnecessary overload of disciplines.

The modular structure increases the motivation for learning, since the student is interested in getting information, attending lectures and laboratory practical classes. It decides the issue of step-by-step control itself, moreover, it is interested in it as a certain step on the way to the final goal. The assessment of knowledge is usually rated according to the individual integral index. As a result of this assessment of knowledge, students' interest in

learning increases, and it becomes possible to accelerate the study of the discipline, which will immediately give the learning process an individual character.

There will be no stressful situations inherent in the examination system; the process of knowledge control will turn into interesting conversations, discussions on pressing problems of science.

Thus, the modular system of higher education and the intensification of the information and active learning process associated with its introduction, the system of knowledge control and professional aptitude can significantly increase the efficiency and quality of training of specialists, and ensure the purposefulness of creative activity of the individual.

Undoubtedly, the introduction of modular training will require a certain organizational restructuring of the educational process. It will concern planning the work of teachers, preparing the laboratory base for front-line work, forming a contingent of students taking into account the capacity of laboratories, developing appropriate methodological support, organizing control tests of knowledge. But the emergence of these problems should not deter the introduction of a new form of education in universities.

In conclusion, it should be said that the use of modular technology creates a positive interest in the study of new learning content, as well as develops the ability to search, acquire life experience, and overcome learning difficulties. Along with the modern development of science and technology, it is natural to see changes in the field of education. In this regard, when transferring data to a new generation, along with practices of training needs change, upgrade, according to the abilities of the student, classroom environment and focus on increasing students' interest in learning process. This is the main principle for achieving the quality and effectiveness of education.

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