



## MODULAR LEARNING IN HIGHER EDUCATION

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<b>Received:</b> 24 <sup>th</sup> March 2021 <b>Accepted:</b> 4 <sup>th</sup> April 2021 <b>Published:</b> 23 <sup>th</sup> April 2021	The article Considers effectiveness of moodle learning for students in higher education. Modular learning is actively used in the practice of teaching all subjects. It is based on an activity-based approach to learning: the student consciously and firmly assimilates only the educational content that becomes the subject of his active actions.
<b>Keywords:</b> Module, training, teaching, activity, individual, steam room, group, in pairs of shift composition.	

Modular training is a way of organizing the educational process based on block-modular presentation of educational information. The essence of modular training is that the content of training is structured into autonomous organizational and methodological blocks - modules, the content and volume of which can vary depending on didactic goals, profile and level differentiation of students, students' desires for choosing an individual trajectory of movement along the training course.

Modules can be required and optional. The combination of modules should provide the necessary degree of flexibility and freedom in the selection and assembly of the required specific educational material for training (and independent study) of a certain category of students and for the implementation of special didactic and professional goals.

A necessary element of modular training is usually a rating system for assessing knowledge, which assumes a point assessment of students' progress based on the results of studying each module.

A module is an integral set of skills, knowledge, attitudes and experience (competencies) to be mastered, described in the form of requirements that the student must meet upon completion of the module, and representing an integral part of a more general function. The module is significant for the world of work. Each module is assessed and usually certified.

The modules themselves are formed as a structural unit of the curriculum for the specialty:

- as an organizational and methodological interdisciplinary structure;
- in the form of a set of sections from different disciplines, united on a thematic basis by a base;
- or as an organizational and methodological structural unit within the framework of an academic discipline.

The content of training is presented in information blocks, the assimilation of which is carried out in accordance with the goal. The didactic goal is formulated for the student and contains not only an indication of the volume of the studied content, but also the level of its assimilation. In addition, each student receives written advice from the teacher on how to act more rationally, where to find the necessary teaching material, etc. The form of communication between teacher and student is changing. It is carried out through modules and plus personal one-to-one communication. Modular learning is based on the theory of developmental learning, the foundations of which were laid by L.S.Vygotsky. Educational activities should be organized in different forms - individual, pair, group, in pairs of replacement composition.

The training material is divided into thematic blocks, each of which fits into the time frame of a two-hour lesson. To improve the assimilation of the topic, the teacher follows the rigid structure of a modular lesson: repetition, perception of new things, comprehension, consolidation of what has been learned, control. Each stage begins with an indication of the goal and the order of actions; ends with control. The plan of a modular lesson can be as follows: motivation, independent work, work in a small group (4-6 people), work in the whole class, reflection. The left column indicates the time allotted for the completion of each educational element. After completing the assignment, a grade is put on the score sheet. Homework is selected depending on the number of points scored per lesson. A modular lesson allows you to use the entire arsenal of teaching methods and forms, i.e. is essentially an integrative technology.

Modular learning has emerged as an alternative to traditional learning. It has absorbed everything that is progressive that has been accumulated in pedagogical theory and practice. Modular learning is based on the main concept of the theory of the gradual formation of mental activity.

A module is a target functional unit that combines educational content and technology for mastering it. The module includes:

- target action plan;
- bank of information;
- methodical guidance for achieving didactic goals.

The module can be considered as a training program, individual in content, teaching methods, level of independence, pace of student activity.

The essence of modular training is that the student independently achieves specific goals of educational and cognitive activities in the process of working with the module. The tasks of the teacher are to motivate the learning process, to manage the educational and cognitive activities of students through the module and to consult them directly.

Modular learning technology opens up great opportunities for individualization of learning. In didactics, the principle of an individual approach involves taking into account such characteristics of the student that affect his learning activity and on which the learning outcomes depend. These features primarily include learning ability, learning skills, learning and cognitive interest.

The implementation of an individual approach in modular training is possible in several directions [1, p.57].

The first direction is the level-by-level differentiation of education. The content of training can be represented by three levels of difficulty - A, B and C. Level A corresponds to the minimum level of assimilation of educational content, is designed for a student with low learning ability, low level of educational skills, who has gaps in knowledge of the passed material. Level B is for students who, with a relatively low learning ability, achieve good learning outcomes, compensating for the insufficient development of abilities for individual mental operations with diligence, organization, and the use of rational techniques in learning. Level C is an in-depth version of the content of the material, which is designed for students with a high learning ability, a positive attitude towards learning and a high level of self-organization.

The second direction is taking into account the individual pace of mastering the educational material. Students work at an individual pace. With the rapid assimilation of certain educational elements, schoolchildren can freely move from one level of complexity to another, higher, depending on the self-assessment of their capabilities. This is one way to positively motivate learning.

The third direction is individualization through the organization of help and mutual assistance. The modular program provides for tasks, the implementation of which requires pair, group, collective forms of organizing activities that contribute to the development of communication skills.

The fourth direction is the organization of individual control. Entrance control determines the student's readiness to work at level A, B or C. Exit control corresponds to the minimum level of knowledge acquisition.

One of the requirements for modular learning in terms of its individualization is the variety of educational elements offered to the student in each modular lesson. Each type of learning element is designed to activate certain thought mechanisms: memory, perception, thinking, etc. the use of tabular, illustrative, film-video UE allows you to build a visual representation of an object or process. The text, as a carrier of educational information, is used most often both in a traditional school and in modular teaching. The strict dosage of the volume of the textual UE in the module is its distinctive feature. The individual pace of studying the material by students is determined by the speed of reading and reading comprehension [2, p. 365].

The verbal methods prevailing in the traditional teaching process are often not used in innovative teaching. The low efficiency of verbal methods is due to the fact that the human brain works 4-5 times faster than the fastest speech, so listeners from time to time "turn off" - they begin to think about their own. 40-50% of the information is captured by ear. By frequent repetition of questions, individual conclusions and provisions, teachers wean students to listen. Modular learning, on the other hand, teaches you to listen. verbal UE has its own characteristics. First, this is the setting: why the information is given, what task will follow further on the basis of the information received. Secondly, the information will be received, but there will be no repetition. the information is immediately followed by the execution of the task.

When starting to develop a modular lesson, it must be remembered that it should take at least 2 academic hours, because in such a lesson, it is necessary to determine the initial level of knowledge and skills of the student on the topic under study, give new information, work out the educational material and conduct final control. The following algorithm can help to compose a lesson module:

- Determining the place of the modular lesson in the topic;
- Formulation of the topic of the lesson;
- Definition and formulation of the goal of the lesson (in this case, this goal is integrating) and the final learning outcomes;
- Selection of the required factual material;
- Selection of methods and forms of teaching and control;
- Determination of ways of learning activities of students;
- Division of educational content into separate logically completed educational elements (EE) and determination of the private didactic goal of each of them;

Each educational element is a step towards the achievement of the integrating goal of the lesson, without mastering the content of which the goal will not be achieved. There should not be a lot of training elements (the maximum number is 7), but the following are required:

EE-0 - defines an integrating goal to achieve learning outcomes;

EE-1 - includes tasks to identify the level of initial knowledge on the topic, as well as tasks to master new material;

EE-n - (n is the number of the next educational element) includes the final control of knowledge, summing up the results of the lesson (the degree of achievement of the lesson goals is assessed), the choice of homework (issued differentially depending on the success of the student's work in the lesson), reflection (assessment of oneself, one's own work taking into account the assessment of others).

-Composition of the module for this lesson;

-Preparation of the required number of copies of the text of the lesson (the development of a modular lesson should be for each student).

Starting to work with a new module, it is necessary to conduct an input control of the knowledge and skills of students in order to have information about the level of their readiness for work. If necessary, you can carry out the appropriate correction of knowledge. It is also important to carry out current and intermediate control after studying each educational element (self-control, mutual control, verification with the sample). These types of control allow you to identify gaps in the assimilation of knowledge and immediately eliminate them. After completing work with the module, the final control is carried out, which should show the level of assimilation of the entire module and also assumes appropriate revision [3, p.98].

An important criterion for building a module is the structuring of the student's activities in the logic of the stages of assimilation of knowledge:

- perception;
- understanding;
- comprehension;
- memorization;
- application;
- generalization;
- systematization.

In conclusion, we can say that the introduction of modules into the educational process should be carried out gradually. At the initial stage, you can use a traditional system with elements of modular training. In high school, the lecture system is fully combined with the modular one. The whole system of methods, techniques and forms of organizing educational and cognitive activities of students fits very well into modular training. In short, modules can be used in any training system and thereby enhance its quality and efficiency

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