

Medical Education

# Learning and Teaching Support for Modular-Rating Educational System

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## Abstract

The main purpose of the modular system is to change organizational foundations of the pedagogical process in higher education to those that would ensure its substantial democratization and the conditions for a real change in the student's role in learning (from the object to the subject of this process), provide the educational process with the necessary flexibility, introduce the principle of teaching individualization.

The regulation on the organization of the educational process in higher educational institutions determines scientific and methodical support that includes the State Standards for Specialties (Course Description, Educational and Professional Program), the curriculum, the syllabus for all normative and elective disciplines, discipline-specific teaching materials, the programs of practices of various kinds, textbooks, manuals, instructional and methodical guidelines, tasks for final, current and state control, etc.

The modular-rating and credit-modular educational systems require a detailed development of the system of learning and teaching support considering students' individual characteristics to form a methodological culture of thinking of general phenomena and patterns of developing the physical world, as well as the ability of interdisciplinary synthesis and a deep understanding of scientific and professional tasks. The role a teacher plays in the system of such training is to motivate, determine the level of knowledge, consult and inform students, while students transform from passive listeners to active participants of the educational process. Such training enables students to study at their own pace, considering their own abilities and temperament.

The teaching and methodical complex on the discipline is the system of normative, methodical and didactic documents that determine the objectives of learning, the content of an academic discipline, didactically and scientifically substantiated sequence, methods and means of the formation of knowledge, skills, abilities, professional and civic qualities in students.

## Keywords

learning and teaching support; modular-rating learning; credit-modular learning; student; teacher

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Innovations in teaching are associated with generic social processes, global problems, integration of knowledge and forms of social being. Pedagogy of the new time is characterized by innovativeness [3].

Specific features of innovative learning are its openness, ability to foresee based on regular value reassessment, readiness for constructive actions in updating situations [1].

Innovative processes in the educational system

indicate a qualitatively new stage of the interaction and development of academic and pedagogical creativity and the processes of using its results. It is characterized by a tendency to fill up the gap between the processes of creating pedagogical novations and the processes of their perception, adequate assessment, acquisition and application, as well as to overcome the contradiction between the spontaneity of these processes and the possibility and

necessity of their conscious management.

The use of the credit-modular and modular-rating systems in higher education pedagogy has become such innovative process.

The main purpose of the modular system is to change organizational foundations of the pedagogical process in higher education to those that would ensure its substantial democratization and the conditions for a real change in the student's role in learning (from the object to the subject of this process), provide the educational process with the necessary flexibility, introduce the principle of teaching individualization. To implement this project, the processes ensuring the educational system in a higher educational institution should be considered [4].

The regulation on the organization of the educational process in higher educational institutions determines scientific and methodical support that includes the State Standards for Specialties (Course Description, Educational and Professional Program), the curriculum, the syllabus for all normative and elective disciplines, discipline-specific teaching materials, the programs of practices of various kinds, textbooks, manuals, instructional and methodical guidelines, tasks for final, current and state control, etc.

Social and psychological support forms the system of social and psychological factors to maintain stable social and psychological environment and organizational culture of the educational establishment [2].

Financial and economic support forms both the financial and business activity of an educational establishment in the system of business and economic relations within the national ones.

Material and technical support forms the system of material and technical support for all kinds of educational activities carried out. Thus, scientific and methodical support forms the system of scientific concepts, knowledge and skills in a certain field necessary for the formation of the professional's scientific world outlook, while learning and teaching support forms the system of the student's learning activity and teaching activity through didactic, pedagogical and educational methods, forms, means, etc.

The modular-rating and credit-modular educational systems require a detailed development of the system of learning and teaching support considering students' individual characteristics to form a methodological culture of thinking of general phenomena and patterns of developing the physical world, as well as the ability of interdisciplinary synthesis and a deep understanding of scientific and professional tasks. The role a teacher plays in the system of such training is to motivate, determine the level of knowledge, consult and inform students, while students transform from passive listeners to active participants of the educational process. Such training enables students to study at their own pace, considering their own abilities and temperament [5].

For teachers, the implementation of the modular-rating system means the development of an algorithm to create learning and teaching support for a certain discipline. The teaching and methodical complex on the discipline is the system of normative, methodical and didactic documents that determine the objectives of learning, the content of an academic discipline, didactically and scientifically substantiated sequence, methods and means of the formation of knowledge, skills, abilities, professional and civic qualities in students. It is divided into 7 structural units:

- model for mastering a knowledge base;
- standard academic program;
- academic program;
- syllabus;
- methods of active learning;
- methodical guidelines, learning and teaching materials, electronic textbooks and manuals;
- list of recommended literature, online resources.

The model for mastering the knowledge base of the discipline studied consists of the list of the knowledge base elements with the determination of the level of mastering each element. The elements include:

- concepts, terms, facts, symbols, judgments;
- tendencies, properties, theories, criteria, laws;
- rules, principles, norms, methods, processes, algorithms, means.

To master knowledge means to be able at least

to:

- reproduce the elements of the knowledge base;
- use the elements of the knowledge base when solving discipline-specific tasks;
- use the elements of the knowledge base to acquire new knowledge and solve new tasks under new condition of unusual situations.

The next stage of algorithmization is to create the syllabus based on already developed model of mastering the knowledge base and academic program (standard or individualized) that consider students' knowledge and skills required to successfully complete the module, methods, forms, kinds of learning activities, as well as forms, levels of control and student's rating hiding both the student's academic performance and extracurricular activities. The structure of the teaching and methodical complex on the discipline provides for the development of resource materials for students' independent work where the teacher determines the content, extent, structure, kinds, forms, reporting period (week, month, term, etc.) Specification of this type of academic activity will help both teachers and students increase the quality of mastering knowledge of an academic discipline, as well as form the students' conscientious attitude to learning and humanize the educational process [7].

An important structural component of this algorithm is the preparation and introduction of the methods of active learning in the educational process. Using these methods, the teacher will be able to change the student from a passive recipient of information to an active participant of the educational process [6].

Learning and teaching materials, teaching guides (electronic textbooks and manuals), textbooks, list of recommended literature and online resources appropriate and relevant for an academic discipline, developed according to modern standards using the latest information and technology, are very important constituents as well.

## Conclusions

Thus, the development and formation of the algorithm to create the teaching and methodical complex

on the discipline, as one of the most important components of information and methodical support for the educational process using the model for mastering the knowledge base and specification of didactic tasks allow solving the following tasks:

1. To consciously select the forms and methods of teaching according to the target goal.
2. To specify and standardize the requirements for students' knowledge of a certain extent of the material studied.
3. To choose the pace and level of mastering the material studied considering individual characteristics of learners.
4. To choose the appropriate forms and methods of academic performance control at various levels of mastering knowledge.

It is important to note that planning of students' learning activities according to the algorithm described above envisages the possibility of developing a base of control tasks of various types that would provide an adequate assessment of students' knowledge, skills and abilities according to each level of mastering the knowledge base elements.

## Conflict of Interest

The authors stated no conflict of interest.

## Financial Disclosure

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