

РОЗДІЛ 2. ТЕОРІЯ ТА МЕТОДИКА НАВЧАННЯ  
(З ГАЛУЗЕЙ ЗНАТЬ)THE EFFICIENCY OF MODULE-RATING SYSTEM FUNCTIONING  
IN A HIGHER EDUCATIONAL ESTABLISHMENTЕФЕКТИВНІСТЬ ФУНКЦІОНУВАННЯ МОДУЛЬНО-РЕЙТИНГОВОЇ  
СИСТЕМИ У ВИЩОМУ НАВЧАЛЬНОМУ ЗАКЛАДІ

*In recent years one can see the process of introduction of a credit-module system in Ukraine. This is due to many factors: the entry of Ukraine into the Bologna process, the compliance of programs with European norms, and the increasing competitiveness of students. Modern political, economic and cultural changes in society have a significant impact on the educational processes. The process of Ukraine's integration into the European educational space requires higher education institutions to work together with foreign universities and to bring the education system in line with European norms.*

*However, the question of the effectiveness of the modular-rating system in the conditions of higher education is not sufficiently highlighted in professional publications. There is a need for further study of this problem.*

*The purpose of the article is to study the efficiency of the functioning of the modular-rating system in higher education*

*The content of the concept of "module", "credit", "credit-module system" is exposed in the article, the advantages and disadvantages of the credit-module system are considered. The article examines the effectiveness of the functioning of the credit-module system in higher education.*

*The main benefits of modular training are as follows:*

*provision of methodically substantiated harmonization of all types of educational process within each module and between them;*

*the flexibility of the structure of the modular construction of each particular course, which also ensures the high adaptability of the modular system itself.*

*The main disadvantages of modular training are as follows:*

*the complexity of manufacturing modules and preparation for conducting classes;*

*the introduction of modular training requires a significant organizational restructuring of the traditional educational process: the preparation of the appropriate educational material base; the optimal composition of student groups taking into account the possibilities of the educational and material base; development of the necessary methodological support; organization of tests of knowledge.*

**Key words:** *credit, module, credit-module system, educational process, rating.*

*Останніми роками відбувається впровадження в Україні кредитно-модульної системи. Це зумовлюється багатьма факто-*

*рами: входженням України до Болонського процесу, відповідністю програм європейським нормам, підвищенням конкурентоспроможності студентів.*

*У статті розкривається зміст понять «модуль», «кредит», «кредитно-модульна система», розглядаються переваги та недоліки кредитно-модульної системи. Вивчається ефективність функціонування кредитно-модульної системи у вищій школі. Сучасні політичні, економічні та культурні зміни в суспільстві впливають на процеси у сфері освіти. Процес інтеграції України у європейський навчальний простір вимагає від вищих навчальних закладів спільної роботи із закордонними вишами, а також приведення системи навчання у відповідність до європейських норм.*

*Модульне-кредитне навчання почало застосовуватися для організації навчального процесу у вищій школі в Україні понад 15 років тому. Цей тип навчання посідає чільне місце в організації навчання у вищій школі за кордоном вже тривалий час. Його застосування дало змогу зробити навчання студентів більш індивідуальним, систематизувати їхню роботу, підвищити пізнавальну активність студентів.*

*Основні переваги модульного навчання полягають у такому:*

*забезпеченні методично обґрунтованого узгодження всіх видів навчального процесу всередині кожного модуля і між ними;*

*гнучкості структури модульного побудови кожного конкретного курсу, що забезпечує також і високу адаптивність самої модульної системи як щодо набору абітурієнтів, так і щодо випуску студентів вишу (в разі зміни кон'юнктури на ринку фахівців).*

*Основні недоліки модульного навчання:*

*1) труднощі організації вигодження модулів і підготовки до проведення занять;*

*2) впровадження модульного навчання вимагає значної організаційної перебудови традиційного навчального процесу: підготовки відповідної навчально-матеріальної бази; зміни планування роботи викладачів; оптимального складу (в кількісному відношенні) студентських груп і потоків з урахуванням можливостей навчально-матеріальної бази; розробки необхідного методичного забезпечення; організації контрольних перевірок знань.*

**Ключові слова:** *кредит, модуль, кредитно-модульна система, навчальний процес, рейтинг.*

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**Formulation of the problem.** Contemporary political, economic and cultural changes in society have a significant impact on educational processes. The process of integration of Ukraine into the European edu-

cational space requires higher education institutions to work together with foreign universities, as well as to bring the educational system in compliance with European norms.

Module-rating education began to be used in the organization of the educational process in higher education in Ukraine more than 15 years ago. At the same time, this type of study has been at the forefront of the organization of study at higher education abroad for a long time. The use of module-rating education made it possible to make students' studies more individual, to systematize their work, and to increase students' cognitive activity.

**Analysis of current research.** The issues of functioning of the module-rating system in higher education institutions, joining the Bologna process are studied by such scientists as O. Timets, N. Sidorchuk, O. Vasyuk and V. Kustov, T. Veretenko, M. Golovan, and Y. Musyka.

**Highlighting previously unresolved parts of a common problem.** However, the issue of the effectiveness of the modular rating system of higher education conditions is not sufficiently covered in professional publications. There is a need for further study of this problem.

**The purpose** of the article is to study the efficiency of functioning of the modular rating system in high school

**Presenting the main material.** The word "module" (from Latin. *Modulus* – "measure") has different meanings in the field of mathematics, science and architecture, but in general, it means a unit of measure, magnitude or coefficient. In pedagogy and methodology, the module is considered as an important part of the whole system, without which the didactic system does not work.

Modular learning involves the rigid structuring of educational information, the content of training, and the organization of students' work with logically completed learning units (modules). As a rule the form of control is exam. However, unlike the topic, the module assesses everything – tasks, work, class attendance, starting, intermediate and final level of students. The module clearly defines the purpose of training, tasks and levels of study of this module, skills and abilities. In modular training, everything is pre-programmed – not only the sequence of study material, but also the level of its mastering and control of the quality of mastering the material.

Modular learning is a well-established learning technology built on evidence-based data that does not allow the impromptu learning, as it is possible with other training methods.

As a rule, the course includes at least three modules, with a separate module being a theoretical unit and practical work and final projects.

Modular training is the most commonly used rating of knowledge and skills. The rating of knowledge allows characterizing the quality of training in this specialty with a high degree of accuracy.

How is the rating system implemented in practice?

Modular training programs are formed as a set of modules. In determining the overall score, the results of the rating are included in it with the appropriate coefficients, which are set by the authors of the course.

In unit training, each task is evaluated in points and its rating and timing are established, i.e. the basic principle of rating control is to control and evaluate the quality of knowledge and skills, taking into account the systematic work of students.

Upon completion of the module-based training, a total assessment is determined, which is taken into account when determining the results of the final control of the subject.

When conducting final control, the exam questions should be generalized, reflect the basic concepts of the course, and not repeat the questions of modular control, and students should know these exam questions in advance.

The basis for the introduction of the credit-modular system in Ukraine is: Ukraine's entry into the Bologna process, integration into the European Higher Education Area, implementation of distance education in Ukrainian higher education institutions. Why is this system implemented in Ukraine? To achieve European standards in education, the competitiveness of Ukrainian education in the European labor market, the need for a common system of educational qualifications, an incentive for both teachers and students to improve the objective assessment of the quality of knowledge, ensuring transparency in the higher education system and compliance of Ukrainian qualifications to European requirements.

The functions of the modular-rating system are as follows: ensuring the mobility of students and teachers in the learning process and simplifying the transition from one university to another. The second function is to determine the amount of student work done. The amount of all student credits indicates what the student is capable of.

Prerequisites for the development and introduction of a pedagogical process of modular rating technology of teaching were the contradictions between the frontal forms of learning and the individual way of learning, as well as the individual speed of educational and cognitive activity of each student; between the need for differentiation of education and the uniformity of content and technology of learning, and Ukraine's accession to the Bologna Process.

Modular rating technology is based on the synthesis of two interrelated technologies: module training and rating system of knowledge control and assessment.

In its original form, modular learning appeared in the late 1960's and spread rapidly in English-speaking countries. The essence of it was that the student could almost independently work with the individual curriculum proposed to him, which includes a tar-

geted lesson plan, a bank of information and methodical guidance for achieving the set goals. The teacher's functions ranged from information-controlling to advisory-coordinating.

Special mention should be made of the European Credit Transfer System (ECTS). Credit is a contingent unit that characterizes the amount of academic work completed by a student in all its forms: attending lectures and seminars, tests and examination work, practice, individual work, etc. The academic year in European universities lasts from 36 to 40 weeks and includes 60 credits.

It is divided into modules that have a certain number of such units (usually 5–6 credits), which allow you to estimate the amount of material studied by students in academic disciplines, regardless of the university. Thus, credit is a quantitative characteristic of the learning process. In addition to the quantitative, there is also a qualitative characteristic of the educational process within the Bologna system. Since students of European universities participating in the Bologna Process have the opportunity to start their studies at one university and continue at another (for example, if there is a better department), the conversion of internal assessment system is required to determine the level of knowledge in such a transition. This is why a 7-point ECTS rating scale was developed: A, B, C, D, E, FX, F – where the first 5 are considered sufficient to get credit points and the last 2 are insufficient. This is the so-called rating system.

The Bologna evaluation system was implemented in Ukraine in 2005. In order to streamline and facilitate the assessment process, the European Credit Transfer System (ECTS) was also introduced. The system helps to convert and understand the student's grades and performance when entering universities abroad. The only condition is that the student's annual workload should be at least 60 credits. The system is based on the principles of mutual trust and accurate fulfillment of the conditions of evaluation of ECTS credits and assessments (1 credit corresponds to 8 hours of teaching activity).

In addition to the transfer (conversion) function, the credit-modular system also has a cumulative function (in full ECTS stands for European Credit Transfer and Accumulation System). This function is that a student can complete a course (or just a few modules of a course) in one discipline, then transfer to another discipline or faculty and finish it, and then continue to study from that module or course from which he has transferred to another specialty. The accumulated credits on the studied modules remain. In theory, the number of such modules or courses completed is unlimited and the student can study for an infinitely long time.

ECTS is currently the only relatively successful system in the European Higher Education Area. In general, the Bologna system has several advantages (first of all – freedom of choice). There are, of course,

disadvantages in the European higher education system, but they are much smaller than the benefits that came after the Bologna Declaration was signed.

The main advantages of module training are the following:

1) ensuring methodologically based coordination of all types of educational process within and between each module;

2) the flexibility of the structure of the modular construction of each particular course, which also provides high adaptability of the modular system itself, (in case of changes in the market of specialists);

3) implementation in the dialectical unity of integration and differentiation of the content of training by grouping problem modules of training material, providing course development in full, short and in-depth variants, which helps to solve the problem of level and profile differentiation in the process of teaching.

The main disadvantages of module learning are the following:

1) the complexity of making modules and preparation for classes;

2) the introduction of modular training requires considerable organizational restructuring of the traditional educational process: preparation of an appropriate educational and material base; changes in the planning of teachers' work, development of necessary methodological support; organization of tests of knowledge;

3) the use of computers and rating of students' knowledge is required to reduce the time when processing data of control modules, which requires a great deal of professionalism from the teacher.

The combination of traditional and innovative approaches in teaching allows to smooth many disadvantages of the pedagogical process.

Modular learning involves rigid structuring of educational information, content of training, and organization of students' work with logically completed learning units (modules). The module is the same as the topic of the course. However, unlike the topic in the module, everything is measured, everything is evaluated: tasks, work, class attendance; starting, intermediate and final level of students. The modules provide students with an informed achievement of a certain level of previous readiness for each subsequent meeting with the teacher. Thus, in terms of modular learning technology, the interaction of the teacher and the student is carried out on a fundamentally new basis.

When designing a module, it is taken into account that each module should give a certain amount of knowledge, to form the necessary skills. After studying each module, students receive teacher's recommendations for their future work. By the number of points received by students, he can assess his knowledge.

The rating system is a technology of continuous (cumulative) assessment of the learner's

knowledge. Rating system of knowledge assessment – a system of accumulation of units (points) of knowledge throughout the academic period, since depending on the number of points obtained for each completed type of educational activity, the student upon completion of the course receives an adequate cumulative assessment for diligence, learning activity and level of mastering material, that is, the rating system is aimed primarily at enhancing students' motivation to master educational programs through a higher differentiation in the evaluation of their educational work.

**Conclusions.** Thus, it can be said that this system has more advantages than disadvantages. This is implemented both in accordance with European norms, and in greater competitiveness of students studying under the modular rating system. The transition to the system provides the opportunity to train professionals capable of constantly updating scientific knowledge, who are able to quickly adapt to changes in the market, who can continue their education abroad on the basis of a certain completed cycle. The results of the use of the module-rating system indicate its advantages: intensification of the educational process, improvement of the quality of students' preparation, systematic presentation of the material,

establishing student feedback, psychological relief of students at the end of the semester.

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