THE MODERN EDUCATIONAL PROCESS BASED ON CREDIT MODULE LEARNING TECHNOLOGIES

Mukhammedov Shavkat Mazhidovich
Researcher of the Department of Physics, The faculty of Physics and Mathematics, Bukhara State University
UZBEKISTAN

ABSTRACT

The article analyzes the advantages of using a credit-module system in developed countries of the world and its application in the education system of Uzbekistan when teaching disciplines. Scientific conclusions are given on a scientific and practical basis. The advantages and disadvantages of learning in a credit-module system are described, scientific and methodological recommendations are given. Organization of a formal process based on the use of a credit module system increases the level of independence of students and opens up additional opportunities for self-realization for them by increasing their motivation through successful training to achieve specific goals and solving problems of future employment.

Keywords: Educational system, credit-module system, teaching methods, new educational technology, physics, engineering, university.

INTRODUCTION

The Decree of the President of the Republic of Uzbekistan "On the State Program for the Implementation of the Action Strategy in Five Priority Areas of Development of the Republic of Uzbekistan in 2017-2021" emphasizes the implementation of measures to improve and improve the quality of higher education, improve the quality and efficiency of standards of teaching and assessment of the quality of teaching [1]. And in the Decree of the President of the Republic of Uzbekistan № 5847 "On Approval of the Concept for the Development of the Higher Education System of the Republic of Uzbekistan until 2030" on October 8, 2019, it is emphasized that the credit-module organization of the educational process is defined as a technology that ensures the integration of qualitative and quantitative programs with access to the formation of personal and professional space. [2].

The maximum success in the modernization of the education system can be achieved only if all the program settings put in the educational policy are able to absorb the maximum possible from the positive potential accumulated by world experience. And therefore, before the higher education system of the Republic of Uzbekistan, the issue of modernizing the educational system remains relevant. Moreover, step-by-step work is underway to bring the national higher education system of Uzbekistan closer to the European system. A striking example of this can be attributed to the Government Decree “On measures to radically improve and increase the efficiency of the personnel training system at the Tashkent University of Information Technologies. In accordance with this decree, a credit education system has been introduced at the university and its branches, starting from the 2018-2019 academic year. At the Tashkent Institute of Irrigation and Agricultural Mechanization Engineers, starting from the 2018-2019 academic year, a credit system has been introduced into the master's specialties. From the 2020-2021 academic year, a credit-module system will be introduced in 35 universities of Uzbekistan. [2].

Materials and Methods

Professional development is viewed as a systemic phenomenon that meets individual personality traits and is provided with educational modules that organize the content of educational programs. Moreover, each module forms a specific function of the promising professional activity of a graduate of a higher educational institution.

The module organization of training acts as a meaningful basis for the credit-accumulative system of accounting for the labor intensity of the discipline in the learning process, solving the problem of matching the student's personal need for vocational education with international (European) standards for the qualifications and degrees. [3]

The following definitions of the concepts - "credit" and "credit training system" are given as basic ones.

Credit - a unit of measurement of learning outcomes achieved by a student for a certain time at a specific level.

Credit system is a subject-based educational model based on the requirement to complete a certain amount of educational work, expressed in credits in order to obtain a professional qualification or degree.

There are different models of the credit organization of the educational process. The analysis of the most significant American system of accumulation of credits (US Credit System), British system of accumulation and transfer of credits (Credit Accumulation and Transfer Scheme - CATS), European system of credit offsetting (ECTS). obtaining qualifications and degrees.
Russian experience in the implementation and use of loans shows that research is being conducted in the following areas:

- determination of a set of competencies in relation to the specialization of the future employee,
- recalculation of labor costs of curricula in credits,
- development of regulatory documents that ensure the organization of the educational process on the basis of loans,
- comparison of Russian and European educational programs in the context of a credit-module education system,
- identifying possible problems of transition to a credit-module training system and finding ways to resolve them,
-development of competence models for bachelor engineers and master engineers,
- development of state standards of a new generation based on a competent approach.

The transition from the traditional point-rating system of education to credits (credit) units, first of all, affects the issue of developing new principles for constructing curricula and the content of existing educational standards of higher education. In the transition to a credit education system, it will be necessary to take into account the principles of the Bologna Declaration in terms of introducing a system of credit units, as well as the possibility of a significant increase in the volume of the university contingent. [3]

Research conducted within the framework of the joint project "586292-EPP-1-2017-1-PL-EPPKA2-CBHE-JP INTRAS: Intelligent Transport Systems: New Master's Programs Based on ICT in Uzbekistan" with European Universities showed a revision of curricula, directions and specialties developed on the basis of current educational standards can be summarized as follows: [7]

• the use of three forms of the curriculum in each direction (specialty): basic, individual and work plans.

• it is possible to combine the cycles "Humanitarian and socio-economic disciplines" and "Mathematical and natural-scientific disciplines" into a single cycle "General education disciplines", for the development of which a certain number of credit units are allocated;

• it is possible to introduce a new cycle of disciplines - advanced, for students who successfully master the current certification in all disciplines of the individual curriculum and who want to specialize in a certain area of knowledge, as well as for more in-depth training;

According to the degree of compulsion and sequence of mastering the program, the curriculum may include three groups of disciplines:

a) studied necessarily and strictly consistently in time;

b) studied necessarily, but perhaps not consistently;

c) studied at their choice.

The concept of a credit unit (hereinafter - c.u.) is introduced, which determines the total labor intensity of educational work in the curriculum. Based on the experience of other countries moving to a credit-module system, it follows: 1 credit = 30 hours of total labor intensity for mastering the discipline.

In the total labor intensity of mastering the educational program, it is necessary to allocate on average up to 40% of the study time in the bachelor's degree for the student's independent work. For an average student of 1-2 courses 1 c.u. means 30 hours of total labor intensity for each discipline, including 2 hours of contact work with a teacher - lectures, seminars, practical, laboratory, graphic, etc. and 1 hour of independent work.

The higher educational institution is responsible for all methodological support of the educational process. In particular, for each direction (specialty), the faculties must prepare:

- programs for each discipline, taking into account credit units;

−materials for classroom work: texts of lectures, plans of seminars, multimedia accompaniment of classes;

- materials for independent work of students: homework sets, self-control materials, topics of essays and term papers, educational materials in the electronic library of the university;

- materials for monitoring students' knowledge: written control tasks, tests, exam tickets for each discipline;

- materials for conducting practices: contracts with organizations, plans and programs for conducting practices, forms of reporting documentation.

If we talk about the pace of transition to a new system of credit units, then it should be recognized that deviations from the current “linear” scheme should be introduced gradually, without “revolutions” and violation of the integrity and quality of education.

Positive grades, upon receipt of which the course (course work, practice) is credited to the student as passed, are grades A, B, C, D and E.

Students who have received positive marks in all courses of the main educational program during the semester are considered to have successfully completed the main educational program and continue their further education in accordance with the schedule of the educational process.

A student who has attended an elective course or wrote a term paper in addition to the main educational program (on a compensatory basis), in case of receiving an F or FX grade for them, is not considered a debtor.

A student who has received an FX assessment for the course (coursework, practice) of the main educational program is obliged, after consultation with the relevant teacher, to successfully complete the required minimum amount of educational work stipulated by the curriculum within the timeframes set by the curriculum, and present the results of these works to this teacher. If the quality of the work is found to be satisfactory, then the final FX grade is raised to E and the student is allowed to further study.

If the quality of academic work remains unsatisfactory, the final grade is reduced to F and the student is either submitted for expulsion, or can listen to the unwritten course again during the current semester on a compensatory basis. If the missed course was an elective course, then the student on a compensatory basis can take an alternative course from the courses offered by the curriculum of this group. [6]

In the higher education system, a credit hour serves as the basis for scheduling, calculating the average score - GPA, for determining the workload of departments, teachers and students, tuition and teaching fees, thus regulating the multilateral activities of universities.

The credit education system increases student mobility, since credits received at one university are credited to another, and students can move from one university to another without losing credits; this practice also makes possible the connection between interrupted and recovered learning. It is academic mobility, which will provide an opportunity for Uzbek students to continue their studies at leading foreign universities without going through complex bureaucratic procedures, that has become one of the main catalysts for the transition of the Tashkent University of Information Technologies named after Muhammad al-Khwarizmi to the credit education system.

Meanwhile, in different countries where the credit education system is used, it has undergone changes and has its own unique characteristics. In particular, its distinctive feature in Spain is the very definition of "credit". So each credit corresponds to ten hours of classroom studies, and the amount of credits collected is usually judged on the success achieved by students. Credits are earned by students separately for theoretical and practical courses, they can also be earned by performing, in addition to classroom studies, and other types of educational work.

The introduction of a credit education system in Uzbekistan will significantly improve the quality of training of local specialists, as well as attract leading industry specialists from foreign educational institutions and enterprises to conduct lectures and seminars. University students will be able to independently choose the disciplines they are interested in, which will be the next step towards the development of an individual approach to education. In addition, in order to ensure the intensification of the learning process based on the experience of the best foreign educational institutions, completely new curricula will be developed, taking into account the needs of both the local and international labor market. lesson schedule assessment of students 'knowledge, determination of teachers' workloads, etc. This system makes it possible to realistically assess the activities of the teacher and student, and provides freedom of learning. [8]

The module educational and methodological plan for a specific specialty and level of professional education is divided into a number of specialized parts of the humanitarian, general technical, natural science and professional orientation, which, in turn, include various sets of educational disciplines. In particular, they can be represented by a set of disciplines compulsory for study in a specific specialty, additional disciplines at the choice of students in the framework of the study of the specialty, as well as disciplines at the choice of students, the study of which is not mandatory in a specific specialty. As part of module programs for the study of educational disciplines, complexes of training modules are presented, which contain the necessary didactic content for each thematic unit of the subject area of the studied disciplines, a system for managing the actions of students to study it, methodological recommendations for the study of each thematic unit of the subject area, as well as a level control system the knowledge of the students of the didactic content of each thematic unit of the subject area of the studied disciplines.

The module programs for the study of educational disciplines have fundamental differences from traditional training programs. First of all, in module programs for the study of educational disciplines, the time of classroom training and the time of independent study of thematic units of the subject area of educational disciplines are clearly regulated. This approach frees the teacher from performing a significant part of information functions.

In the general case, the scheme for the formation of module programs for the study of educational disciplines includes a number of components, namely:

- specific goals and objectives of training;
- the full set of requirements for the level of competence of students at the end of the study of educational disciplines;
- the main characteristics for each module of the discipline: a list of thematic units of the subject area, brief didactic content for each thematic unit, educational and methodological plans for lectures, seminars and practical (laboratory) classes, topics of coursework and test assignments, a schedule for their implementation and delivery;
- brief characteristics of the main organizational and methodological forms and methods of teaching and control of the level of assimilation of new volumes of knowledge by the trainees contingent;
- description of the system for assessing the level of knowledge by the trainees contingent;

Almost any number of modules can be included in module programs for studying educational disciplines. Their number, as a rule, is determined depending on the volume of didactic content characterizing the subject areas of various disciplines, as well as its structuring into separate modules. In the educational and methodological plan, the number of modules within the programs of studying various disciplines is divided into one or several academic periods of study.

At the same time, the process of studying educational disciplines according to module programs in each academic period should provide for an intermediate or final control of the level of knowledge of students. [3]

CONCLUSION

The organization of the educational process based on the use of credit-module learning technologies increases the level of independence of students and opens up additional

opportunities for self-realization for them by increasing their motivation to learn. In addition, credit-module learning technologies allow each student to assure guaranteed volume of new knowledge in accordance with the basic requirements of new educational standards. Thus, the module design of the educational process fills it with individualized teaching methods, contributes to an increase in the level of independence of students, and also allows you to correctly dose the educational and cognitive load of each student and monitor the level of assimilation of new volumes of knowledge in the learning process. that credit-module learning technologies are one of the innovative forms of using modern information tools for the development of pedagogical technologies. Their use in the practical activities of universities for the preparation and training of qualified specialists contributes to the assimilation of a larger volume of new knowledge by the contingent of students due to: the lack of conditioning of the organization of the educational process from temporal, spatial, household, social and a number of other factors; development of independent forms and methods of teaching; increasing the motivation of trainees through successful training to achieve specific goals and solving problems of future employment; ensuring the implementation of the knowledge gained in practice.

REFERENCES

1. Указ Президента Республики Узбекистан “Стратегия действий по пяти приоритетным направлениям развития Республики Узбекистан в 2017 — 2021 годах” г. Ташкент,7 февраля 2017 г.,№ УП-4947
2. Указ Президент Республики Узбекистан ”об утверждении концепции развития системы высшего образования республики Узбекистан до 2030 года”.г. Ташкент,8 октября 2019 г.,№ УП-5847
3. Каххаров.С. К.,Рахматов И.И.,Мухамедов.Ш.М.Особенности построения образовательного процесса на основе модульных технологий обучения в Узбекистане. Вестник науки и оброзавания, научно методический журнал.№18(96).Ч.2.сентябрь 2020.с 33-36
4. Рахматов.И.И., Мухамедов.Ш.М. Олийтаълимда кредит модултизимиданфойдаланишнингилмийасослари.Тошкентдавлат педагогика университетиилмийахборотлари. Илмийназарий журнал, 6-сон. 2020.Б 85-89.
5. Рахматов.И.И., Мухамедов.Ш.М.Организация системы модульно-кредитного обучения в техническом ВУЗе.«Инновационғоялар, ишланмалар амалиётга: муаммолар ва ечимлар» мавзусидамасофавий онлайн Халқароилмий-амалийанжуманматериаллари. Андижон.2020.27-28 май.Б 122-125
6. ХудолейГ.С,Стебеняева Т.В. Модульное построение образавательного процесса. Журнал Педагогические науки.Выпуск №3(57)март.2017
7. Salahdin A. Usmanov, PhD, associate professor, Jizzakh Polytechnic Institute-Features Implementing European Credit and Module System at Higher Education Institutions of UzbekistanDecree of the President of the Republic of Uzbekistan “On the Strategy for Action for the Further Development of the Republic of Uzbekistan” [Internet] Available at: http://lex.uz/docs/3107042
8. Resolution of the Cabinet of Ministers of the Republic of Uzbekistan "On measures to fundamentally improve the system and increase the effectiveness of training in the Muhammad al-Khwarzmiy Tashkent University of Information Technologies" [Internet]Available at: http://www.lex.uz/docs/3833199.
9. Юцявичене П. А. Теория и практика модульного обучения. Каунас, 1989. 271 с.
10. Данильсон Т. С., Румбешта Е. А. Модульно-деятельностный подход в обучении физике // Вестн. Томского гос. пед. ун-та. № 7. 2009.

С. 35–38
11. Насырова, Э.Ф. Модульное обучение студентов университета в системе кредитно-зачетных единиц / Э.Ф. Насырова // Вестник Томского государственного педагогического университета. 2011. - № 6 (108). - С. 18-20
12. M.F. Atoyeva. Interdisciplinary relations in physics course at specialized secondary education. The Way of Science. – Volgograd, 2016. – №9 (31). – P.22-24.
13. M.F. Atoyeva. The significance of periodicity at teaching physics. The Way of Science. – Volgograd, 2016. – № 10 (32). – P.62-64.
14. M.F. Atoyeva. Use of Periodicity in Teaching Physics. Eastern European Scientific Journal. – Düsseldorf-Germany, 2017. № 4. –P. 35-39.
15. M.F. Atoyeva. Didactic foundations of inter-media relations in the training of university students. International Scientific Journal. Theoretical & Applied Science. p-ISSN: 2308-4944 (print) e-ISSN: 2409-0085 (online). Year: 2020 Issue: 06 Volume: 86, P. 124.
16. M.F. Atoyeva, R. Safarova. Pedagogical integration as a means of forming professionally important qualities among students of a medical university. Academicia. ISSN: 2249-7137 Vol. 10, Issue 8, August 2020. Impact Factor: SJIF 2020 = 7.13 ACADEMICIA: An International Multidisciplinary Research Journal https://saarj.comэ.
17. M.F. Atoyeva. Pedagogical Tests As An Element Of Types Of Pedagogical Technologies. The American Journal of Applied Sciences, 2(09), (TAJAS) SJIF-5.276 DOI-10.37547/tajas Volume 2 Issue 9, 19.09.2020. ISSN 2689-09. 92 The USA Journals, USA www.usajournalshub.com/index.php/tajas 164-169. Имп.5.2.
18. Farkhodovna, A. M. (2020). The problems of preparing students for the use of school physical experiment in the context of specialized education at secondary schools. European Journal of Research and Reflection in Educational Sciences, 8 (9), 164-167.
19. Каххоров С.К, Рахматов И.И., Мухамедов Ш. Особенности построения образовательного процесса на основе модульных технологий обучения в Узбекистане. Вестник науки и образования, научно-методический журнал.№18(96)Ч.2.сентябрь 2020.С.33-37.