

Digital Technology of Organizing an Independent Educational Process for Students Based on the Credit-Modular Teaching System of Higher Educational Institutions

Choriqulov Rustamjon

Base doctoral student of Navoi State Pedagogical Institute

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ABSTRACT

This article presents the importance of independent study hours of students in the credit-module system introduced in higher education institutions, modern approaches to the organization of Independent Education of students and recommendations for their application. It also provides information on the e-learning resources and tools necessary for effective organization of independent hours of education for educators, the importance of the E-information educational environment in the organization of Independent Education of students.

Introduction

A credit-modular system is an assessment model based on the process of an educational organization and a set of Modular Technologies and a measure of credit. Its implementation is a complex and systematic process. The credit-module system attaches importance to two main issues:

1. to ensure the independent work of students;
2. evaluation of student knowledge on the basis of ratings ¹.

Credit education technology is a method of organizing an educational process in which students have the opportunity to individually plan the sequence of their educational trajectories. The essence of credit training technology is to take into account the labor intensity of educational work in loans, which characterize the volume of materials being taught. One of the main tasks of credit education technology is to increase the role of independent work of students².

¹ Abdykarimov B.A., Andasova B.Z. Organization of independent work of students on the credit education system, electronic resource.

² Pidkasisty P.I. Independent cognitive activity in learning. –M.: Pedagogy, 1980. –240 p.

The purpose of introducing credit technologies into the educational process of higher educational institutions:

- Organization of the educational process on the basis of modules;
- determination of the cost of one subject, course (credit);
- assessment of student knowledge based on Rating scores;
- to give students the opportunity to draw up study plans individually;
- increase the share of Independent Education in the educational process;
- ease of training programs and the possibility of changing them depending on the demand for a specialist in the labor market³.

The above is not only teaching on the basis of innovative educational technologies, but also teaching students to independently study and learn, to react in a new way to education, to acquire necessary and deep theoretical knowledge, and to form practical skills based on the demand of the labor market. Simply put, this system is aimed at the professional development of the student.

Independent work of students is one of the main reserves for improving the quality of education and training future specialists. In this regard, the problem of the correct and effective organization of independent work of students in the conditions of the implementation of the credit education system is very relevant.

Thus, the introduction of credit-module technology in universities requires a radical revision of the organization of the educational process at the university, as well as changes in the teaching technology itself and their methodological support, and allows you to focus on improving the independent work of students⁴.

Literature analysis and methodology

The formation of the credit module system is associated with the US education system. Initially, it was created with the aim of liberating educational processes and was used to determine the student's weekly academic load. In 1869, Charles William Eliot, President of Harvard University, a prominent American educational devotee, first used the term "credit hour". Thus, in 1872, Harvard University created the U.S. credit system (USCS), and in 1989, the European credit system developed the rules of the new credit module system and called it the European credit transfer system (ECTS).

The analysis of the existing scientific psychological and pedagogical literature shows various approaches and an ambiguous definition of the concept of "independent work of students" in the credit-module system. The independent work of students is considered as a form of educational and scientific knowledge, a form of Organization of teaching, a teaching method, a creative way of thinking and a teaching tool⁵.

There are many classifications based on different criteria: didactic targeting (B. P. Esipov); by sources of knowledge (E. Ya. Golant, W. P. Strezikosin); by type of tasks (M. G. Garunov, I. Ya. Lerner, P. I. Pidkasisty); by composition (I. E. Unt); by multilevel classification (O. A. Neilson).

³ Esipov B.P. Independent work of students in lessons. –M.: Uchpedgiz, 1961. –239 p.

⁴ Garunov M.G. Improving students' extracurricular independent work is an important condition for effective training of specialists. –Tyumen, 1981. –53 p.

⁵ Tangirov Kh.E. The use of electronic educational resources for individualization in the process of teaching algebra in schools // European Journal of Research and Reflection in Educational Sciences. Progressive Academic Publishing, UK. 2019, Vol. 7, No. 3, -pp. 43-48.

Thus, the classification of independent types of work depends on the pedagogical purpose, the nature of the student's activities, the type of independent work, the degree of independence, as well as the specific features of the academic discipline, which are determined by their specific goals and content⁶.

Discussion

The independent work of students is their work on a clear list of supervised topics in the form of tests, exams, colloquiums, abstracts, essays and lectures, allocated for independent study, provided with educational and methodological literature and recommendations. The entire volume of self-study work must be confirmed by tasks that require the student to work independently every day. The hours of independent work of students include advice on the most complex issues of the curriculum, homework, reports and other types of assignments. The content of independent work of students must be reflected in the work program and curriculum of science⁷.

Independent work of students is a way for a student to actively, purposefully acquire new knowledge and skills without the direct participation of teachers in this process.

Organizational measures that ensure the development of independent working skills of students, the upbringing of their creative activity and initiative, as well as the normal functioning of independent work of students in general, should be based on the following conditions:

- independent work should be clear in the direction of science;
- independent work should be accompanied by effective, constant monitoring and assessment of its results.

In order to effectively organize the independent work of students, a teacher with a higher education must know and purposefully adhere to the principles of its organization (the principle of systematicity and consistency; the principle of activity; the principle of an individual approach; the principle of existence; the principle of appearance; the principle of scientifically based time calculation and assignment doses)⁸.

Independent work in higher education is a specific tool for organizing and managing independent activities of students in the educational process, a means of self - organization and self-education for students in mastering the methods of professional activity.

To carry out independent work, the following must be provided:

- information resources (references, tutorials, Individual Assignment banks, training programs, program packages, etc.);
- methodological materials (instructions, manuals, workshops, workbooks, etc.);
- control materials (tests, situational tasks);
- material resources (laboratory, measuring equipment, etc.);
- temporary resources; tips; ability to choose an individual educational path (educational programs through optional subjects);

⁶ Toshpulatov H.B. Forming the ability of students to create algorithms for repetitive processes // INNOVATION IN THE MODERN EDUCATION SYSTEM: a collection of scientific works of the International scientific conference (22nd JUNE, 2022) –Washington, USA: "CESS", 2022. Part 19. -pp. 300-304

⁷ Toshpulatov H.B., Qamarov N. Formation of algorithmic thinking among students in school informatics and information technologies // Proceedings of the republican 41st multidisciplinary scientific distance online conference on the topic "Scientific research in Uzbekistan: Periodic conferences", June 30, 2022. -Tashkent: "Research", 2022. -pp. 132-133

⁸ Garunov M.G. Improving students' extracurricular independent work is an important condition for effective training of specialists. –Tyumen, 1981. –53 p

- the opportunity to bring to the surface theoretical and practical results (conferences, Olympiads, competitions) obtained independently by the student⁹.

Analysis and results

Independent work of students involves reproductive and creative processes in student activities and can be carried out on three levels:

- 1) reproductive activity (assimilation and reproduction of educational material, independent educational work performed according to the model: solving problems, filling out tables, diagrams; the purpose of this type of work is to strengthen knowledge, develop skills);
- 2) reproductive and practical activity (mastering educational material on the basis of one's own experience, testing the material in practice, activity, during independent work, drawing up a plan, abstracts, comments);
- 3) creative activity (the student must independently choose the tools and methods of the work performed, critically evaluate the educational material and use it for effective thinking and activities; coursework and dissertations are completed to such an extent)¹⁰.

The following conditions are of great importance for the correct and effective organization of independent work of students:

- preparation of teachers for the effective organization of independent work in the credit education system;
- the presence of an educational and methodological complex for each subject, including a description of the course in print and electronic form, forms and means of monitoring the level of independent development by the SRS student, indicating the content and deadlines for their implementation, a reference for the entire period of study for the student;
- availability of educational, didactic and educational materials, provision of the library with the necessary literature;
- choosing a form of independent work of students, depending on the goals and objectives of the educational discipline, the level of complexity and the demand for practice; the main goals of self-help assignments should be understandable to students, educational assignments should include elements of innovation, be accessible and include algorithms for their implementation;
- provision of computer and telecommunication equipment;
- independent work of students should be carried out taking into account the individualization of tasks, as well as taking into account the level of training and inclinations of each student;
- the use of innovative technologies (set of technical means). provide students with free access to various sources of information and create optimal conditions for the use of electronic learning tools);

Conclusion

In conclusion, in modern higher education practice, various methods and techniques are used to improve the effectiveness of the independent work of students. Among them, the following can be noted: teaching students independent methods of work; the formation of self-regulation of students' cognitive activity; motivation for independent work by demonstrating the need to

⁹ Sarsekeeva Zh.E. On the question of the essence of the concept of independent work of students // Bulletin of KarSU. Pedagogy series. –2004. –No. 2 (34). –pp. 61–65.

¹⁰ Tashpulatov X. Object-oriented programming as an effective means of developing algorithmic thinking of students // Science and innovation. –2022. –T. 1. –No. B8. –pp. 2268-2275.
<https://doi.org/10.5281/zenodo.7445283>

assimilate educational material for future educational and professional activities; stratification and individualization of tasks for self-employed workers; formation of cognitive activity of students, etc.

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