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**Features of credit and modular technology of the organization of  
educational process in Kazakhstan universities**

According to the regulations of the Lisbon convention (1997) and the Bologna declaration (1999) already from 2003 — 2004 academic years in a number of higher education institutions of Kazakhstan as an experiment the credit system of training was entered. Implementation of a credit system of training was caused by integration of a national education system of the Republic of Kazakhstan into world educational space, and also need of creation of conditions of convertibility of diplomas of the specialists who graduated from higher education institutions RK and a demand in the labor market [1].

The name “credit technology” comes from the word “credit” (credit — trust, lat.), indicating in this case the unified unit of volume of study of the studying student. The credit technology is, in fact, revolution in system of higher education which is designed to increase the level of self-education and creative development of knowledge on the basis of individualization, selectivities of an educational trajectory within a strict regulation of educational process and accounting of amount of knowledge in type of loan.

In the twentieth century it was created a lot of options for the use of credit points system in the educational process in the various countries of the world. The most famous of them - the European (European Credit Accumulation - ECA), UK (Credit Accumulation and Transfer System - CATS), the US (US Credit System - USCS). However, in the last 15-20 years came to the fore precisely the European system of transfer and accumulation of credits - ECTS. Works on its creation began in 1989 in the framework of “ERASMUS” program, producing the exchange lecturers and students between European universities. The essence of this system was in helping a management of higher education institutions to understand and legally competently to reflect in education documents results of training of their students abroad. It was succeeded to achieve it with the help of entering of special

units - the credits charged for development of separate parts of the educational program. By 2000 ECTS gained distribution more than in 30 countries of Europe; the number of the educational institutions applying it - more than 1000. After signing of the Bologna declaration it became clear that this system rather well corresponds to ideology of the undertaken educational reform, and it is decided to be used in case of creation of the innovative educational programs which are based on competence-based and modular approaches. Today, 40 participating States of the Bologna Process assess ECTS as one of the important tools for the reforms [2].

Implementation of credit technology of training in higher education institutions of Russia and Kazakhstan began to be performed in an experimental order at the beginning of the 21st century. However, as showed the analysis of the state documents in the field of education, so far the credit technology of training in Russia and Kazakhstan has a number of the specific characteristics caused by distinction of approaches to its organization. In the Russian education system, the transition to the new technology of training and years later is voluntary and carried out on a pilot basis. In Kazakhstan, the experiment is completed, and in 2010, all universities passed to credit technology of training, which is reflected in state documents. In the Law of the Republic of Kazakhstan "About Education" definition of the concept "credit technology of training" (article 1) is given, and one of tasks of an education system is implementation and effective use of new technologies of training, including credit, remote, the information and communication, promoting rapid adaptation of professional education to the changing requirements of society and the labor market (article 11). *The credit technology* is the educational technology increasing the level of self-education and creative development of knowledge on the basis of individualization, selectivities of an educational trajectory within a strict regulation of educational process and accounting of amount of knowledge in type of loan.

The transition to credit system of education began with the system development process, organizational and methodical documents defining:

- principles of the educational process with the use of credits (the curriculum);

- regulations of educational process- regulating methods of the pupils certification;
- method of calculation of an academic load of teachers (list of pedagogical loading).

Credit education system involves changing the position of the student and the teacher in the learning process. At the entered system the student from passively perceiving party turns into the active participant of educational process. In certain cases he becomes the teacher's partner in the course of knowledge acquisition. Also the role of the teacher who is not so much an information transfer source now changes, and teaches the student to obtain information, to reinterpret it, to be able to use further knowledge in practice. The credit system provides the organization of students on independent, active mastering system of knowledge, abilities, skills, on accumulating of creative experience, on development of their educational cognitive activity, professional and informative requirements, interests.

According to the credit technology requirements of each discipline are invited to explore a set of interrelated and arising from one another problems that the student must learn under the guidance of a teacher mostly independently. The role of the teacher in this case is reduced to the formulation of the problem, the rationale of its relevance and practical significance, and to the general management of cognitive and creative activity of students. This technology requires a sharp decline in the mandatory group lessons of students with the teacher in the classroom. Respectively the number of hours, taken away for independent work of the student and his individual work with the teacher increases. Also nature of control of assimilation of knowledge of students changes. Its main purpose is to evaluate the effectiveness of the active search and cognitive activity of the student.

The advantage of the credit system of education is that it requires continuous improvement of pedagogical skills, advanced training of organizers of educational process, exchange of the best practices. At this system is necessary ensuring educational process with methodology and practice of development and optimum use of the modern information technologies (MIT) focused on realization of the psychology and pedagogical purposes of training and education.

This process initiates:

- improvement of mechanisms of management of educational process on the basis of creation of library of data of scientific and pedagogical information, information and methodical materials and telecommunication networks;
- improvement of the methodology and strategy selection of content, methods and forms of organization, training, corresponding to tasks of development of the identity of the student;
- creation of the methodical systems of training focused on development of intellectual potential of the trainee on formation of abilities to independently acquire knowledge, to carry out educational and research activity, various types of independent activities for information processing. Thus, theoretically now each student has the right to participate personally in formation of the curriculum, that is an educational trajectory for the entire period of training. And ideally before him the freedom of choice of the disciplines given in the curriculum should to be opened. For an estimation of score the rating system is used. Accounting of labour input of study is carried out not in time parameters (class periods), and on amount of the taught material (credits). The academic year consists of theoretical training, mid-term final controls. The academic year is divided into two semesters or three trimesters. It allowed the introduction of the summer term duration up to 10 weeks for the accelerated (additional) training and the elimination of differences in the curriculum.

The university sets the passing score (GPA) in the transferring from course to course. Average score (GPA) — the weighted average assessment of level of achievements of the student according to the chosen program (the relation of the amount of works of the credits for a digital equivalent of points, final assessment on discipline to a total quantity of the credits for a current period of training). If the student by the State order didn't gain necessary quantity of the credits provided by the working curriculum, he has the right to repeated studying of courses on a paid basis. Each student should be provided with guide for the entire period of training and educational complex for each discipline (Syllabus). Knowledge measured at point scale alphabetic system.

*The credit system as the educational program: pluses and minuses [3, 4]*

*The advantages* of this technology of training is the fact that students have the right to choose as a discipline, and a teacher. In addition, the student is working on its final assessment during the semester, doing independent work, regularly attending classes, passing attestation, as actively involved in the practical sessions, respectively, the examination assessment is not final, it is only part of the rating control.

According to students of different universities of Kazakhstan, *to the negative sides* of this training system is the fact that students are in university building most of the day: part of the day they carry out independent work, and the second part of the day attend classroom training. It is explained by depth of studying of discipline, and almost every discipline is designed to study for one semester, in addition to foreign language. For example, if earlier discipline Kazakh (Russian) language, mathematics, economics were studied during two semesters, now the duration of their studying is reduced to one.

Also, by the students it expressed discontent concerning transfer of students enrolled in a credit system and graduate students enrolled in the old program, to the unified organization of academic hours, which is equal to 50 min. Unlike familiar for a long time “couple” (1 h.20 min.), students are obliged to sit generally 1 hour 40 min., and 10 min. are allocated to them for a break that especially isn't pleasant to students. During this short break is not possible to have time to go into the dining room. The class period (50 min.) is also inconvenient for many teachers. During this time they don't manage to explain completely a lecture subject, to interview students, to hear their opinion. Many subjects, such as sociology, according to teachers should not have been introduced for the freshmen. After all, this discipline should be studied only after its fundamental principle - philosophy. Also negative side of a credit system, according to students, is availability of so-called “windows in the schedule”, not all group chooses one discipline and the more so one teacher therefore there are difficulties in creation of the schedule.

After studying the standard of training on credit technology, we can see that the Kazakh (and even more, Russian) language is given smallest attention to it studies is provided only in one semester, but foreign (English) language - increased attention. Discipline of “Physical Education” is presented in the standard as an additional type of training and has no form of control.

Financial problem of implementation of an innovation: that the credit technology was completely realized in system of the higher education, it is necessary to improve material and technical resources, i.e. additional equipment of universities, in particular departments, the equipment and additional computer classes. Today not every university cannot afford it.

Kazakhstan is the first Central Asian state to become a member of the Bologna Process and a full member of the European Higher Education Area. Leading universities of Kazakhstan signed the Great Charter of Universities (including our university, al-Farabi Kazakh National University). To date, Kazakhstan’s educational programs have been brought into line with the International Standard Classification of Education 2011 (ISCED 2011), which assumes the existence of an applied bachelor's degree in the education system.

The three-level model promotes the recognition of Kazakhstani degrees abroad, opening up new opportunities for training and employment. Comparability of degrees allows to expand cooperation of high schools, to develop joint and two-degree educational programs. In particular all educational programs for bachelor, master and doctoral studies of the faculty of chemistry and chemical technology of al-Farabi KazNU are accredited by ASIIN (Germany) [5]. The faculty trains specialists in 2-degree programs with the Belgorod University, the Chinese University of Oil, Taipei Universities, Saitama (Japan), the D.I. Mendeleyev Russian Academy of Chemical Technology, Ufa Oil Technical University. The undergraduates are trained at the universities of Lyon-1 (France), Valencia (Spain), Poland, Romania, etc. This year, 7 Masters of the second year of study (specialty petrochemistry) under the student exchange program went for 1 semester to Spain

(Valencia) and France (Lyon). Such trips to study abroad would be impossible with the existence of the old system of education.

The advantages of introducing innovations in education are absolutely obvious.

*References:*

[1] <http://bologna.ntf.r>.

[2] Болонский процесс в Казахстане, Караван, 2007, 12, 19.

[3] Танатова Б., Молодежный клуб,

<http://www.provko.kz/news/2005/10/23/10.htm>.

[4] Сасыкова Л.Р., Аубакиров Е.А., Ташмухамбетова Ж.Х. О развитии и становлении химической науки и химического образования в КазНУ им.Аль-Фараби, Высшая школа Казахстана, 2017, №.2, с.62- 64.

[5] Sassykova L.R., Zhumakanova A.S. Intensification of training in chemical disciplines of specialization in the conditions of credit system of education, Известия НАН РК, серия химии и технологии, 2017, №1, 16- 21.