Natalia Ridey, Svetlana Palamarchuck, Denis Shofolov

The introduction of credit-module and module-rating tech-nology education in Ukraine

2013

Natalia Ridey, Svetlana Palamarchuck, Denis Shofolov
National University of Life and Environmental Sciences of Ukraine, Ukraine

The introduction of credit-module and module-rating technology education in Ukraine

Introduction

Research concepts and categorical apparatus of learning technologies and pedagogical techniques involved by M. Choshanov, P. Mytchela, B. Lyhachov, V. Bespalko, V. Monahov their characteristic features can be considered – a process of bilateral interconnected teachers and students, a set of methods and activities, design and organization of the process and the availability of comfort. In terms of the educational process combines management activities of teacher and student governments own teaching and learning plan in an integrated system of management training future specialists in organizational management and structural and functional interaction between all participants. Technology training according T. Shamovoyi, T. Davydenka, H. Shybanova [*Management…* 2008] – a process common system of student and teacher on the design (planning), organizing, and adjusting the orientation of the educational process in order to achieve concrete results while providing comfortable conditions for stakeholders, includes dedicated purpose, scientific ideas that are its basis in the system of teacher-student interaction (level control), the criteria for evaluating the results, and pending the results achieved, regulatory requirements for use.

Modern learning technologies are characterized by: a specific focus Pedagogical Concept, methodological and philosophical orientation position by developers (they are distinguished both translational and developmental) technological chain operating activities regulated by targeted communication guidelines with expected results; functionality and coordinated actions caused the teacher and student in the optimization of individual personality and technical capabilities of differentiation, constructive dialogue programmability for operational phases and elements of technology in planning and reproducing medium statistics on teacher practice and ensuring achievement of the planned results of all students; regulated diagnostic procedures, substantial criteria compliance indicators and means of measurement results. Credit-module and module-ranking technology education as a pedagogical innovation are actively in the national higher education system and provide system-functional update of the pedagogical process. Didactic nature of modular technology in structure learning

content for organizational and methodological semantic units (modules). Module (greek.modulus-measure) – logically completed part of the theoretical and practical knowledge and skills of a discipline. Modular training offered in the Modular instruction Dzh. Rasselom American scientist who laid the conceptual approaches and characteristics of the learning process and learning „modules". The special features of modular training T. Tukort summarizing the experience of researchers P. Yutsyavychene, V. Aleksyuka, M. Choshanova include: a clear structuring of the course for semantic modules, compulsory assimilation of each module students; variability study – mobility of individual educational the trajectory student and the free choice of its election, the adaptation of the educational process to the individual needs and capabilities of students, flexibility of learning management [Turkot 2011]. Structural elements of the semantic module include: didactic purpose algorithm acts as students at the agreed program, course material is structured in specific educational components, scientific and methodical, information, logistics process, practical learning, diagnostic controls the quality of education and self-awareness of learning material.

1. The main material

Purpose – analysis of experience of credit-module and module-rating technology education in Ukraine. Objectives – to explore domestic and foreign educational scientific and methodological studies to determine the source characteristics of modern technology, establish the consistency of the credit rating of modular training and evaluation in the implementation of the European Credit Transfer System in Ukraine. Tools and establishing internationally effectiveness of the educational services are credit system that can determine the quality and extent of the overall complexity in education. First time credit system of study (or a system of credit hours) used in the USA in the late 18 th century. Harvard President Charles Eliot introduced the concept of „credit hour" as a measure of learning time, structured learning process and the characteristics of the knowledge of students and establishment subject disciplines in credit hours. Credit hours is the only time spent on discipline, it reveals its complexity. ECTS technology is didactic foundation (basis) of the European Credit Transfer System. Credit-module system implemented according to the recommendations of the Ministry of Education and Science of Ukraine in higher educational institutions of III–IV levels of Accreditation (prescript of Ministry of Education of Ukraine of 30.12.2005, № 774). The National University of Life and Environmental Sciences of Ukraine based on the Provisional Regulations on the organization of educational process in the credit system (Ministry of Education prescript, the Ukraine of 23.01.2004, № 48) and the previously developed the Regulation on credit-modular system of education at NAU and amendments thereto (prescript University of 13.11.2006, № 604 of 10.12.2007 and № 701), and a positive practical experience of this educational system at all qualification levels

for all areas and specialties has updated by Regulation (prescript of the Rector 03.04.2009, № 784) [*The organization*…]. This situation reveals the principles of credit-modular training and methodological approaches to the acquisition of semantic modules disciplines (from 2 to 4 per semester), the ratio of classroom and self-study students (under 50/50 academic load), the total workload (classroom-theoretical, practical, independent and individual work of students and control measures) are measured in European credits (1 ECTS = 36 hours) and must be a multiple of 0,5, and be at least 60 credits per academic year. ECTS training system combines a scoring evaluation is based on the programmed control and accumulation of rating points for various types of teaching and learning of students in the period of study. System evaluation of learning outcomes of students does not alter the traditional four-point system, and to adapt it to the European and ensure its flexibility and objectivity to promote systematic and active work with students to obtain education, to encourage competition between them and reveal their creativity. Training rating (from English. Rating – appraisal) – is an integral indicator of the quality of student learning outcomes, revealing the characteristics and the prevailing level of competency (knowledge, abilities, skills, abilities, aptitude, qualities) in the development of the discipline, including systematic operation own teaching and learning of students.

Ranking score is determined as a sum of grades got by a student for his theoretical and practical knowledge, doing his individual work, his answers during colloquiums, the diagnostic results during testing on practical classes and examinations, and for other types of educational-cognitive activities. In other words, student's raking for retention of the material (i.e 100 grades) consists of the raking for training activity (up to 70 grades for retention of content modules) and of raking for test results (up to 30 grades).

Raking evaluation covers the retention of studied subjects, doing different kinds of practical training, graduation paper defense, state exam pass. Negative results are possible in the case of delayed pass of module tests, practical training reports, course papers, individual tasks, etc., that is resulted in demerit grades. Vice verse, for the first prices in academic competitions, students' scientific project competitions, authorship in scientific works and inventions, projecting and designing of useful models and equipment, programming, a student by the decision of department staff can get additional performance grades. Student's individual raking on the studied subject is the sum of all raking grades together with additional and demerit grades.

The maximum of additional grades can't be more than 20, and is awarded to a student by the decision of department staff for doing such types of work which are not proved by the curriculum, but favour the improvement of student's knowledge. The raking of demerit grades can't be higher than 5 grades and minuses from the grades for studying. The students who have 60 and more grades for training activity can not to pass the exam and get their mark automatically

according to their grades interpreted into the systems of national and European evaluation. Thus, student's raking on the subject mostly equals his raking for training activity.

Students can increase their individual raking and improve the evaluation results after semester attestation which is required for students who have the raking lower than 60 grades. Semester attestation can be passed by students who have not less than 60 grades for their modules and have the raking for training activity not lower than 42 grades. If they don't have this necessary minimum, they have to increase their raking before the examination session, in other case they can be not allowed to pass the exam and will have the academic failure. If a student has no allowance to pass the exams because of reasonable excuses, he has two-week term of individual make up work (according to the schedule).

After semester finishing, it is determined student's semester raking which shows his progress in all subjects and the results of his creative work. This raking is the reason of scholarship accounting for him, his transfer to the following course, financial rewards, assignment for probation or internship to tengineerhe leading state and foreign institutions (which include partner universities).

Raking on other types of program work include evaluation of: course papers and projects (0.5 ECST credit – 18 or 1 ECST credit – 36 hours); studying, studying and investigating, manufacturing and predegree practices (each of them has time sheet in credits and hours separately for each course and specialty); state attestation – exam, making and defense of graduation works (projects) by bachelors and masters (which respectively have 1ECST credit – 36 hours, 5–7 ECST credits – 180 hours for agrobiological, natural and economic specialties), 252 hours for engineer, technical and specific specialties; 7–9 ECST credits – 252, 324 hours, 9–10 ECST credits – 324, 360 hours for analogical specialties.

Recommendations for raking calculation are presented below.

Student's semester raking $R^{(i)}_{CEM}$ (i = 1, 2, ..., n; where n is the number of semesters) is an average quantity which is the part of devision of the sum of the product of numbers – the raking for the subjects, course papers (projects) on their values in credits on the ECST credit sum for the semester of the relevant specialty:

$$R^{(i)}_{CEM} = \frac{\sum_{j=1}^{m} R_j K_j}{\sum_{j=1}^{m} K_j}$$ (1) where R_j is the raking on

the subjects, course papers (projects); K_j is the volume of the studied subjects, defended course papers (projects) in ECST credits; m is the number of the subjects, course papers (projects) in semester.

Student's year raking (for definite course) $R^{(1)}_K$ as an average quantity is defined by the part of the devision of the sum of the product of numbers – raking for semesters of the separate subject and raking for practical training on the ECST credit volumes for the first and the second semesters and practical training – on the sum of ECST credits for the first course of the relevant specialty:

448

$$\text{...}\tag{2}$$

where $R_{\text{нп}}$ is the raking for practical training; $K_{\text{нп}}$ is the volume of practical training in ECST credits.

Student's raking for definite courses are defined analogically, but for the senior courses instead of raking for practical training it is taken the raking for manufacturing training.

Integral (final) student's raking R for the whole studying period is an average quantity which is calculated by:

$$\text{...}$$

$$\text{...}\tag{3}$$

where $R^{(j)}_{k}$, $R_{\text{ДЕ}}$, $R_{\text{ПП}}$, $R_{\text{ДПР}}$ are the raking for the course years, state exam, predegree practice and diploma projecting; $K^{(j)}_{k}$, $K_{\text{ДЕ}}$, $K_{\text{ПП}}$, $K_{\text{ДПР}}$ are the volumes of ECST credits for the course years, state exam (1.0), predegree practice and diploma projecting respectively; p is the number of course years.

Each of abovementioned kinds of work is estimated according to the 100 grade scale and is interpreted into national and European estimation systems, is noted down into the academic record book, individual studying plan, record of students' raking, the integrated marks sheet and official transcript. Raking estimation of students' knowledge for the studying period helps to determine their integral (final) raking, which is considered while recommending students for further studying on other stages (degrees) in state and foreign universities, employment in partner institutions and self-sustained employment.

Summary

The analysis of the accumulated state and foreign experience demonstrates the essential advantages of raking estimation, namely: improvement of students' educational, cognitive, scientific and research work motivation; forming of constructive competence (knowledge, learning skills, abilities), developing of individual characteristics, skills, initiatives; providing efficient management system of educational service quality; introduction of the system of pedagogical monitoring and audit of student's and teachers' educational and cognition activity productiveness; prevention of psychological, reflexive and outer risks in educational process during the session periods; improvement of competitive ability of graduaters and their correspondence to the job market; regulations of financial rewards of educational process.

Literature

Management of educational systems (2008): Textbooks/T.I.Shamova, T.M. Davydenko, G.P. Shibanova; under red. T.I. Shamovoy., M.: Univ. „The Academy", 384 p.

Turkot T.I. (2011), *Pedagogy High School: Study Guidefor university students*, K.: Condor, 628 p.

The organization of the educational process in a research university, the monograph, V. Lysenko, Ridey N.M., O.V. Zazymko and others., under the general editorship Melnychuka D.O., K.: Publishing Center NUBiP Ukrainy, 612 p.

Abstract

In the article the analysis of the introduction of credit-modular and modular-ranking technology education in Ukraine and worldwide. Established consistent credit rating modular training and evaluation in the implementation of of the European Credit Transfer System in Ukraine.

Key words: educational process, module, credit-modular technology, modular learning credits.