

Experience in the Short-term Educational Engineering Program Realization at Kabardino-Balkarian State University

KABARDINO-BALKARIAN STATE UNIVERSITY N.A. H.M. BERBEKOV
A.B. KHURANOV, A.S. KSENOFONTOV

One of the priorities of higher professional education for future ten years is a life-long learning, as it was noted in press-release of the Conference of European Ministers, responsible for higher education (Louvain-la-Neuve, Belgium 28-29th April 2009). It involves degree gaining, broadening knowledge and comprehension, getting new skills and competence, personal professional carrier promotion. Life-long learning implies that qualification can be obtained through flexible methods of learning, including sort-term and in-place training.

At Kabardino-Balkarian State University (KBSU) one of such methods is further education of KBSU college postgraduates in accordance with the short-term program of higher professional education (HPE). Successful strategy of extended engineering training involves basic principles and procedures of previous college engineering training acceptance. Higher professional short-term

engineering educational program mastering is realized at KBSU in conformity with:

- Higher educational establishment of professional training standard regulations, authorized by Russian Federation Government Decree from 14th February 2008, № 71;
- Order of Russian Federation Ministry of Education from 1 3th May 2002 № 1725 «About conditions affirmation of basic educational professional programs mastering in short period»;
- Russian Federation Ministry of Education Letter, from 23rd May 2001, №14-55-307 «Methodological instructions in developing basic educational programs for those who continue higher professional education or obtaining second higher professional education».

BSU has done a great work in developing such a continuous enginee-



A.B. Khuranov



A.S. Ksenofontov

In the article the following issues are considered:

- engineering professional specialist sort-term training in accordance with the program of higher professional education, among the college postgraduates who master the program of secondary professional education.
- regulatory system and methodological support.

Successful results are shown in terms of Kabardino-Balkarian State University n. a. H. M. Berbekov

ring education. HPE program developing foundations, mastered during short-term training (STT), for those who have secondary professional engineering education, are the state educational standards (SES) of higher and secondary professional education (SPE) as a part of state requirement to the content and level of postgraduate preparation in SPE and HPE specialties of engineering and technical profile, as well as KBSU curriculum. [3].

In terms of short-term education program implementing at KBSU, individual curriculum (for the group of students) was developed and approved on the basis of existing standard educational program considering former secondary professional engineering education.

Developing short-term professional educational programs combines:

- comparative analysis of specialists with secondary and higher engineering profile education professional functions (competence characteristics);
- comparative analysis of state requirements to the content and level of postgraduates' preparation in SPE and HPE specialties, current curriculum and subject programs in the system of secondary and higher professional engineering education;
- higher professional education content development in accordance with secondary professional education.

Factors influencing standard educational terms shortening:

- re-assessment of humane and socio-economical subjects;
- re-assessment of mathematical and common science-natural subjects;
- re-assessment of close context common professional subjects;
- educational and industrial training terms shortening.

Contents of higher and secondary professional education vary in several educational items:

- equal in title subjects of SPE and HPE can differ in assignment and their equal academic hours volume can have different application in

higher and secondary educational establishments;

- proportion of theoretical and practical training differs in SPE and HPE (in SPE practical and theoretical training either equal or theoretical part amounts 60%, in HPE theoretical training dominates over practical and amounts 80%);
- significant part in HPE (about 50%) is taken by common scientific subjects: humane subjects, socio-economical, mathematical and common science-natural subjects, but in special secondary educational establishments this is only a science basis;
- peculiarity/specific character of academic activity (volume of the class work in SPE structure is higher than in HPE structure).

University has developed teaching support, teaching materials, examination test materials, individual schedule, academic ranking, tutorial hours for students' autonomous work.

College students willing to continue education according to HPE program, have entering benefits - not participating in common entering competition. They can also undertake free pre-entry courses.

Total amount of students studying according to the higher professional engineering program is 959 for the period of 2005-2010. Proportion of short-term educational programs to total amount of standard educational programs provided by KBSU in all engineering, science-natural and humane subjects, amounts 25%.

At present KBSU provides the following methods of engineering subjects teaching according to short-term HPE program on the base of college postgraduates acceptance (Table 1).

University has two forms of short-term engineering programs mastering:

- 1) training in separate groups according to special schedule, academic ranking and consulting hours of the student self-work;
- 2) training in a group with the standard teaching period.

Training in separate groups is a basic form of the short-term HPE learning due to the student enrollment.

The type of student enrollment for the six years in separate educational full time programs is shown in Table 2.

It's obvious that the amount of students choosing the short-term programme has decreased in comparison with the previous years.

We consider it is the result of the following:

- moving from full- to part-time training;
- Russian Federation Military Forces Draft;
- Voluntary University leaving.

The main educational quality indexes are the academic progress and the number of dismissed students. Academic progress for the last three years in percentage is presented in Table 3.

Student academic progress for the period of 2007 - 2010 in standard edu-

cational programme is 67,7%, in short-term educational programme - 63,4%.

The amount of the dismissed students studying according to the short-term educational programme for the period of 2007 - 2010 is 86, that is 2,2 times less of the amount of the dismissed students studying according to the standard educational programme.

Major problems of the higher professional engineering short-term programme learning at KBSU are:

1. Enrollment decrease due to the natural decline in population; moving from full- to part-time training; Russian Federation Military Forces Draft; voluntary dismissal; college postgraduate unwillingness to continue training according to the short-term HPE programmes, due to the training time (two or three years) shortening.

2. Complete lack of short-term training methodological support.

3. Decreasing of the present short-term training ways due to:

Table 1
Short - term engineering educational programmes in 2010-2011

SPE subjects	College	HPE subjects	Department
- Automation of technological processes and production; - Computer complexes, systems and network; - Micro- and solid-state electronics; - Technical service and electronics repair.	Polytechnic college of KBSU	Micro- and solid-state electronics, Home electronics	Microelectronics and Computer technology
- Computer complexes, systems and network - Computer and automation system	KBSU Polytechnic College KBSU College of Economics and Information Technologies	Automation system of data processing and control. Computer and automation system software	Information Technologies and Management
- Construction and building operations	KBSU Municipal Engineering College	Industrial and civil engineering	Engineering Technology

Table 2
Sort-term HPE enrollment for the past 6 years

Nº	Subject	Year					
		2005	2006	2007	2008	2009	2010
1	Micro- and solid-state electronics	47	45	67	71	40	38
2	Home electronics	48	49	41	38	26	15
3	Automation system of data processing and control	42	36	13	0	0	0
4	Computer and automation system software	25	41	61	67	64	52
5	Industrial and civil engineering	0	0	10	11	6	6
Total		162	171	192	187	136	111

Table 3
Academic progress in professional engineering HPE programmes

Nº	Program	Training	2007/2008 academic year		2008/2009 academic year		2009/2010 academic year
			Winter term	Summer term	Winter term	Summer term	Winter term
1	Micro- and solid-state electronics	STT*	52	42	49	86	67
		ST*	74	65	75	58	53
2	Home electronics	STT	77	88	82	62	75
		ST	73	70	69	47	47
3	Automation system of data processing and control	STT	68	-	-	-	-
		ST	50	28	44	42	58
4	Computer and automation system software	STT	35	29	49	34	63
		ST	46	35	58	36	66
5	Industrial and civil engineering	STT	55	25	57	21	42
		ST	71	27	78	65	35

STT* - short-term training

ST** - standard training

- moving to the 3rd generation standards of HPE and SPE;
- approval of new SPE discipline range and HPE specialization;
- approval of Standard Higher Educational Provisions by the Decree of Russian Federation Government of 14th February 2008, №71.

Standard Higher Educational Provisions (section III, item 36) stated that: «...a person having secondary professional education of the definite profile can get higher professional education according to the short-term or accelerate Bachelor programmes...», and further: «...obtaining the short-term higher professional Master programme education is not permitted».

By the experience in the short-term training of those having the secondary professional education and undertaking higher professional engineering programmes, can be said that:

- in some disciplines, the academic progress of students undertaking HPE STT is higher than of those who undertake the standard term education, and for the last two years HPE STT postgraduates;
- succeed better than school postgraduates;

- rating which reflects practical training academic progress of the students undertaking HPE STT is also higher than those who undertake standard term education, as secondary professional education aims to develop practical skills and this correlates with the 3rd generation of the State Educational Standards;
- the amount of students who failed to learn one or more subjects of HPE STT is lower than the amount of failed students taught by the standard programme;
- the results of HPE STT State Attestation Commission proved to be good, as the postgraduates show deep knowledge in their professional field application at the state examinations, worse they learn disciplines of natural science and subjects requiring deep theoretical knowledge; quality of their graduation qualification paper is also higher; HPE STT postgraduates are easily employed and have good references.

Drawing a conclusion we can say that the high professional education short-term engineering specialist training programme shows positive results followed by the regulatory system improvement and can be suggested in two-stage HPE system.

REFERENCES

1. Bologna process: Training results and competence building approach (Enclosure 1) / Under the editorship of Ed.D.professor V.I. Baidenko. - Moscow: Research center of professional specialists training quality management problems, - p. 536, 2009.
2. Order of Russian Federation Ministry of Education from 13th May 2002 № 1 725 «About conditions affirmation of basic educational professional programmes mastering in short period»/ <http://2002-2.xof.ru/lib/?tm=126&vp=akt21548>.
3. A.A. Shebzukhov, M.A. Shebzukhova, Шебзухов А.А., Шебзухова М.А. Actual problems of further students rating system improvement and ways of its solving in KBSU //Actual problems of students rating system. - Nalchik, 2010. - pp. 3-10.
4. A.S. Ksenofontov, A.A. Moskalenko, New technology application for high professional education quality rising // Problems of regional management, economics, law and innovational education technology: VI International workshop conference. Innovational education technologies in university education practice. - Taganrog: Published by Science Educational Establishment of Higher Professional Training, Taganrog Management and Economy Institute, 2009 - pp. 16-19.