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S.N. Alexeyeva, candidate of economic sciences, assistant professor

FSBEE HE «Penza SAU»,

O.M. Nazarova, candidate of pedagogical sciences, assistant professor

FSBEE HPT «Penza state university»

S.Yu. Dmitriyeva, assistant professor

FSBEE HE «Penza SAU»,

FACTORS OF EFFICIENCY OF EDUCATION AT THE INSTITUTION OF HIGHER EDUCATION

The article deals with review and analysis of the main factors of education efficiency at the institution of higher education in Russia. The authors give a brief assessment of the current state of higher education in Russia. The problems of training specialists in the agrarian sector are touched upon in the article. Each of the factors of training effectiveness is properly formulated and presented in an understandable form. The main methods of the development of professional knowledge and skills are determined in detail.

Key words: *institution of higher education, factors of training efficiency, assessment of training efficiency, forms of training, training methods, process of training.*

The higher education system is one of the most important social institutions of a society, and the level of professional training of future specialists directly depends on the formation and the actual students' satisfaction with studies at the university. Studying at the university is a hard work; it requires the student's perseverance, dedication, hardworking, independence and creative attitude to studies.

In this regard, there is a task to examine real social processes in the system of higher education, their peculiarities and development trends. Nowadays, in Russia there are 424 university students per 10 thousand of the population, which is estimated as the highest figure for all years of existence of both Russia and the USSR.

Table 1 presents the number of higher educational institutions in Russia and Penza region. Based on this it can be concluded that the number of universities in Russia over the past five years has been reduced by 15% and the number of their students – by 24%. There observed a similar tendency in Penza region. In 2013 the tendency for further optimization in the number of educational institutions of higher education was actual.

Table 1 – The number of educational institutions and number of students

Period	The number of educational institutions		number of students (thousand)	
	Russian Federation	Penza region	Russian Federation	Penza region
2009-2010	1114	22	7418,8	62,7
2010-2011	1115	20	7049,8	58,9
2011-2012	1080	19	6490,0	54,2
2012-2013	1046	18	6073,0	50,8
2013-2014	969	-	5646,7	-

So, the total number of educational institutions of higher education has decreased and amounted to 969. Accordingly, the number of state and municipal educational institutions of higher education has decreased by 31, and private educational institutions – by 46. [8] With regard to the agricultural universities their number in Russia is 59. At present, there is a lack of agricultural specialists, despite the fact that agriculture is an important strategic direction, ensuring food security of the country.

This is due to the Russian education reforms that require training specialists that are able provide transformations not only in technology, information systems but also in the organization of production, in management of production teams and commercial structures. The new social situation is following: it does not only make people study and re-study, but also requires to changes the system of values, attitudes, beliefs, it puts forward the requirement – to become a person of a new social type, new personality, who will be dominant in Russia in the near future.

In order to evaluate the effectiveness of professional training and to achieve its increase, it is necessary to know what determines the success of professional education, what factors determine its effectiveness. The main of these factors are:

the compliance of study programs with the requirements of the present and future needs of the organization; correct formulation of educational goals; the teaching forms; teaching methods; the consideration of the characteristics of adults in training; motivation to study.

At present, the main incentive is wage as the main source of income and maintenance of a certain standard of living, a means of ensuring the reproduction of labor power. The low level of wages of workers in agricultural production, reduction of motivation, the imperfection of the system of material incentives have been noted by quite a number of economists [1].

Professional training should be a comprehensive and continuous process consisting of several stages. The first and key stage of this process is determining the organization's needs in professional training. In practice, the following methods can be used for determining training needs: certification and preparation of individual development plan; testing; evaluation of information about the employees present at the office of personnel management; the analysis of short-term and long-term plans of the organization and its subdivisions and determining what level of skills and professional training is necessary for their successful implementation; supervision of staff in the workplace – "field research"; analysis of the sources of the problems lowering the effectiveness of the work; identification of internal and external factors influencing the work of the staff; systematic survey, questionnaire, interviewing the leaders; the collection and analysis of requests, wishes and suggestions from employees and line managers in the field of their professional training; the analysis of the development strategy of the organization (transfer of the general points of the organizational strategy to the language of professional training).

Based on the analysis of identified needs the office of personnel management should formulate the specific objectives of professional training properly. This process is very important, because the degree of achievement of goals determines the effectiveness of education [2,3].

Effective professional education largely depends on people who are involved

in it. In this respect, the organization can choose between the following options: ability of the organization to train its employee independently; to conduct training personnel in the workplace, involving the experienced staff as teachers and coaches; opportunities to use their own training center; use some or all of these options in combination.

There is no one universal method of teaching – each has its advantages and disadvantages. Their choice depends on a number of factors: the goals and objectives of training; the urgency of training; financial funds available; the availability of instructors, materials and facilities; the participants (their skills, motivation, level of training); qualifications and competence of teachers and other factors. When choosing teaching methods it should also be taken into account what is left in the trainees' memory: 10% of what is read; 20% of what is heard; 30% of what they saw; 50% of what they had heard and seen; 70% of what is heard, seen and discussed; 80% of what they said themselves; 90% of what they do themselves.

There are a lot of methods of developing professional knowledge and skills. All of them can be divided into three groups: teaching methods used in the workplace; teaching methods used outside the workplace; methods that are equally suitable for each of the first two options.

An important step in the process of determining the effectiveness of professional training is to establish the evaluation criteria.

For many years in the international practice of professional education the model of Donald Kirkpatrick has been used for its evaluation. The model describes four steps and, accordingly, the levels of training results evaluation:

1. Response: how training participants liked teaching
2. Learning: what facts, techniques, and technology of work were learned as a result of training.
3. Behavior: how behavior of the participants in the in the workplace changed in the result of training.
4. The result: the results for your organization measured through cost

reduction, timing, quality improvement, etc.

In the late 80's-early 90-ies, the specialist dealing with human resources G. Phillips proposed to introduce a fifth level of evaluation: return on invested capital (RIC), which is calculated by the formula:

$$\text{RIC} = \text{financial training results} / \text{training costs}$$

Measuring training effectiveness is divided into after-training and long-term results. The first one measures the effect of a training program directly after its completion, the second – after a certain period of time. To get a comprehensive picture of the effectiveness of training, it is advisable to use both after-training and long-term evaluation. The latter gives the opportunity to assess the long-term effect of the training program. [7]

Let's consider training specialists for agro-industrial complex (AIC) system. The system of training was built on the basis of getting a certain amount of knowledge, which over time loses their significance. In developed countries the students are taught mainly to develop thinking, skills and abilities to do a specific thing favorable for the enterprise in the conditions of tough competition of competitive producers. The personnel staffing situation in the agricultural sector of our country is now quite tense: statistics suggests that farms enterprises are staffed by specialists with the diploma of higher education only by a third from the requirements, with the diploma of secondary education – by half. The present head of an agricultural enterprise is highly skilled and educated person who masters multiple specialties and combines a lot of qualities. He is a farmer, agronomist, manager, marketer, businessman with a clear entrepreneurial orientation, applying modern information technology – all in one person.[5]

The results of the evaluation of the effectiveness of training must be brought to the attention of the trained, their direct managers and top management of the organization. Ideally, the evaluation of training should confirm the appropriateness of professional training and demonstrate what results for the organization it enabled to achieve. This information should be further analyzed and used in developing and conducting similar training programs in the future. This practice

allows you to continually work on improving training efficiency and eliminate the causes of its inefficiency.

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440064, Penza, Prospect Stroiteley 156A flat 118.

Telephone: 89273680695

Alekseyeva Svetlana Nikolayevna

fesun2008@yandex.ru

Author card

Alekseyeva Svetlana Nikolayevna

Candidate of economic sciences

FSBEE HE «Penza SAU»

Assistant professor of the department «Organization and information support of production»

Address of workplace 440014, city Penza, Botanicheskaya st., 30

Home address 440064. city Penza, Prospect Stroiteley 156A flat 118.

Telephone of workplace (8412)-628563

Mobile telephone 89273680695

fesun2008@yandex.ru

Author card

Nazarova Olga Mikhailovna

Candidate of pedagogical sciences

FSBEE HPT «Penza state university»

Assistant professor

Author card

Dmitriyeva S.Yu.

FSBEE HE «Penza SAU»

Assistant professor of the department «Philosophy, history and foreign languages»

Address of workplace 440014, city Penza, Botanicheskaya st., 30

Home address 440014. city Penza, Vyazemsky st., 35 flat 25

Telephone of workplace (8412)-628272

Mobile telephone 89273708629