

Practice-Oriented Model of Professional Education in Russia

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ABSTRACT

The relevance of the chosen problem is caused by the necessity of finding a model of qualitative growth of specialists training in conditions when cuts in expenditure of the state budget allocated to education occurs annually. Besides, the development of technology inevitably leads to the expansion of the list of subspecialties employers need. The imbalance of demand and supply of labour in the labour market takes place in Russia today. This is due to consequence of inconsistencies between the structures of workforce development in the field of education and the structure of needs of the industries. With this purpose some new models of professional education have been investigated, one of which was dual (or practice-based) learning system. The aim of the study was to analyze and to form the basic principles and proposals on legal regulation of practice-based model of professional education. Methodology: empirical, comparative-historical, system analysis, structural-functional, statistical methods, and scientific methods of cognition are used in the study. Besides the dialectical method of cognition, which allows to consider the phenomena in their interrelation and development is used. The paper formulates the basic principles, benefits of practice-oriented model of professional training, the concept of social partnership in the field of education and forms of implementation of the model. Formed principles and proposals for improving the legislative framework in practice-based learning will help to implement this training model, which allows to overcome the imbalance of staffing requirements on the labour market.

KEYWORDS

Practice-oriented (dual) training, social partnership, core business, quality of education, the principles of the dual training

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Introduction

According to Rosstat, as of 1 August 2016, applying the criteria of the International labour organization 4.4 million people who had no work or profitable occupation and who look for a job and who are ready to start it in surveyed week are related to the unemployed. The total number of the unemployed classified according to the criteria of the International labour organization, 4.1 times exceeded the number of unemployed officially registered at state establishments of Federal employment services. At the end of July 2016 945 thousand unemployed were registered at state establishments of employment service (The report of Rosstat "Employment and unemployment in the Russian Federation", 2016). According to the International labour organization

- the proportion of the young unemployed under 25 is 28 %;
- the proportion of individuals who do not have any experience is 30,4 %.

According to the survey of the Ministry of labour and social protection of the Russian Federation only 8.0% of employer's representatives believe that the graduates of educational institutions are ready to perform their job responsibilities in general, if they correspond to their graduate degree. According to the business community 58,3 % of the graduates of educational institutions need to obtain some skills to apply the knowledge successfully. While 26.5% of the graduates requires a fairly long period of adaptation in the workplace.

Soviet planning and distribution system of training solved the problems of balance between business staffing needs and training in universities.

With transition to market relations there was a break of these ties. Fierce competition encouraged business development. Engineering and technology were developing dramatically while education lagged behind global process. Material-technical base of educational organizations could not to keep up with business needs.

Russian President Vladimir Putin believes that fundamental task in the field of training is to involve to the saving of that problem not only universities, technical schools, but businesses, primarily large and medium as well. "If an entrepreneur is thinking long term and forming the long-term development strategy, he has to be actively engaged with the school. It is not only investing in the construction of new facilities, although this is very important. We need to talk about companies, to create laboratories, to organize clubs and extracurricular activities, to create educational complexes" (The proceedings of the General Council on "improving the system of General education in Russia", 2015).

Methodological Framework

During the study the following methods were used: theoretical methods (analysis; synthesis; specification; generalization; method of analogies; modeling); empirical methods (studying the experience of educational organizations, studying regulatory and methodological documentation; pedagogical supervision); and historical-comparative methods (comparison of Russian and international processes of education combined with analysis of historical experience), system methods (systematization of the principles of



social partnership and elements of the learning system), structural-functional methods (structuring model of dual training), statistical methods (comparison with use of statistical data).

The experimental base of the research

More than 100 educational organizations in 13 regions of the Russian Federation were chosen as experimental base of the study. The educational organizations and more than 100 partner companies were involved in the System project "Training of the personnel that meets the requirements of high-tech industries on the basis of dual education".

The stages of the research

The research was carried out in three stages: at the first stage theoretical analysis of existing methodological approaches in education was carried out, the legislative framework of the dual education system of Germany was examined, separate elements of this system were emphasized, the problem, goal, and methods, the plan of an experimental study of the professional training system in Russia were defined.

At the second stage the experience of the pilot sites (educational institutions and their social partners) were studied, a basic set of principles of social partnership in professional education of Russia were identified and substantiated; the historical experience of professional education was studied. A new conceptual apparatus used in the process of education and interaction with enterprises was defined as well at the second stage.

The third phase completed the experimental work, theoretical and practical insights were clarified, and the obtained results were generalized and systematized.

Results and Discussions

Analysis of experimental database

The System project "Training of the personnel that meets the requirements of high-tech industries on the basis of dual education" has been implementing since December 2013 at the initiative of the Agency for strategic initiatives. Nowadays it involves 13 regions in Russia. The project covers more than 100 schools and more than 100 enterprises. More than 16,0 thousand students and nearly 3,5 thousand tutors are taking part in the project.

President of Russia Vladimir Putin noted that "the dual education system involves the combination of learning and practical work; of course, this is probably what you need to do using a new modern-base, modern methods and modern equipment. If the equipment of 1938 is used, it will not bring benefits" (The materials of the Supervisory Council of the Agency for strategic initiatives, 2013).

The dual education is a type of professional education that combines the practical part of the training in the workplace and the theoretical part based in an educational institution.

The main objectives of the project were:

— implementation of models of the dual training system in the pilot regions;

- involvement of enterprises in financing and implementation of programs of professional training;

- development of models and formats of network interaction of educational institutions and enterprises in the process the training.

The project's ultimate outcome is to be:

- professional education-oriented focused on an employer;

- development of a forecasting staffing needs system;

- increase of education funding from businesses;

- variability of individual educational programs;

- development of a system of independent assessment of the quality of graduates and teaching staff;

- significant increase of manpower quality and of the prestige of working professions as a result of the development of new forms of education.

Comparative analysis of international experience

Germany is believed to be the pioneer of the dual system in education. Distinctive feature of this system in Germany is that the companies themselves provide enrolment for training programs. However, not all companies are allowed to conduct training in the dual system. German companies undergo a competitive selection process, similar to the Russian system of accreditation.

Students enrolled in the dual system spend about 70-80% of the time learning at work (3-4 days a week) and only 20-30% (1-2 days per week) in College. The curriculum is comprised of: 1/3 -general education and 2/3-specialized subjects. The training period varies from 2 to 3.5 years. Companies bear the main costs of training.

A young person is free to choose any of 400 specialties from the list. There are both technical specialties (mechanic, junior production technologist, electrician), and humanities (bank clerk, insurance agent, executive assistant). Students conclude contracts with employers, who are required to assign tutors from among experienced employees. At the end of the course a graduate receives both diploma and an employment practice certificate from the company-employer. Both documents are interrelated and are only valid together.

According to the survey of the Federal Institute for professional education (BIBB) (Northern, 2013), which was attended by 1,400 companies, 97% confirmed that they were "satisfied" and "very satisfied" with this system.

The main burden of training lies on the companies that spend on professional education of their employees more than 40 billion Euros annually. This amount is more than the costs of the state universities. The student involved in the professional education recoups the cost of the enterprise for 2-3 years.

Historical and legal analysis

The German experience is certainly very interesting, but is it a possible option for the Russian education system? The principle of cooperation of educational institutions and enterprises, patronage of educational institutions, development of the tutor system in the workplace, support of young specialists: were determined in the RF law "On national education" in 1974:"enterprises,



institutions and organizations create necessary conditions and educational-production base for the professional training of workers in manufacturing and control over their learning». Statutory Provision about basic enterprise (association, organization) of technical schools is still force (in part not contradicting the current legislation). It was approved by the decree of the USSR Council of Ministers of 22 February 1985, No. 178.

The main task of the joint work of the base enterprises and professional educational institutions in the Soviet Union was to train skilled workers and retrain them in accordance with the requirements of socio-economic and scientific-technical progress and modern production. A company was entrusted with the following issues:

- the need of construction of new and reconstruction of old schools, repair MTB;
- donation of equipment, machinery, landfills, provision of consumables, designing of new teaching equipment, laboratories, workshops, etc.;
- the embedding of students in self-care workplaces with payment at the appropriate rates;
- wide involvement of tutors, veterans and advanced workers, workers and technical specialists to work with students;
- development, production and installation of training equipment, training installations, the design and outfitting workshops, laboratories, classrooms, and polygons;
- providing scientific and technical information, professional literature;
- participation in the development of programs, theoretical, practical training;
- professional guidance of students, including financial costs of this.
- enrollment based on the needs and possibilities of a material base including financial costs.

Forms of social partnership

The implementation of the dual training project has allowed to define the main forms of social partnership in the field of education.

Participation in management of educational process

Expert Council for secondary professional and basic professional education of the State Duma Committee on education includes representatives of educational institutions from all Federal districts, representatives of the all-Russian associations of employers, representatives of the Russian pedagogical science, the non-state sector of professional education, deputies and officials of Executive power of subjects of the Russian Federation. Councils for the modernization of professional education have been formed. In many regions of Russia targeted programs of the professional schools development are being implemented under the Chairman of the governors.

It should be noted that a working group under the Administration of the Krasnoyarsk region, the Coordination Council on personnel policy under the Governor of the Samara region, the Supervisory Board for the modernization of

professional education in the Tambov region, the chamber of Commerce in Perm Krai is working in regions.

The main activities of these structures are: the formation of proposals for the improvement of professional training in accordance with employers requirements; development of the recommendations for improvement of educational-material base and methodological support of educational process; preparation of proposals for the development of regional normative legal documents directed on improvement of professional training; creation of recommendations on other matters concerning educational activities and organization of educational process in the public system training and educational structures of the enterprises.

Councils of employers serve four basic functions: define the requirements for qualification of personnel; form an agreed order on training of specialists for the industry; select the best students to provide educational loans; evaluate the quality of training of qualified personnel in the region. The main customers for training are the anchor businesses, sectoral councils of employers, municipal authorities. The Department of internal and personnel policy of the region acts as a customer for social budgetary spheres.

All professional education institutions sign long-term and short-term contracts on training personnel for the sectors of the regional economy, on improvement of professional training, on passing practices, on enrollment according to professions demanded by the enterprises of the region.

Employers, as customers of the personnel, define the parameters of the program of additional professional education in the form of three "points": of the trajectory of its creation and implementation: when you establish a planned educational results (a list of professional competencies with indicators and criteria of their evaluation) and the preparation of specifications assessment documents at the program of additional professional education in general; in the process of development and approval examples of topics comprehensive project tasks for each module and final qualifying works under the program of additional professional education in general, on the basis of real production and management problems of the enterprise during the procedure of putting the final grade when the quality of training of the graduates is identified as a measure of achievement of learning objectives.

Some businesses (e.g. the company OOO Volkswagen group Rus. in Kaluga region) sign agreements with students. The agreements contain items with the obligations to provide food, overall, tutors, a monthly scholarship, the amount of the minimum wage. The school in its turn provides the necessary supplies and vehicles for training. Eventually about 87% of the graduates of GAOU SPO "Kaluga College of information technology and management" get a job.

Formation of professional competences

The formation of the modern system of qualifications has become an inevitable necessity dictated by the labour market. The development of professional standards, i.e. the characteristics of the qualifications necessary to employees to make a certain type of professional activity is given into the hands of employers and their associations.



Updating educational standards in accordance with professional competencies

The second stage in the development of professional qualifications can be called the actualization of the Federal state educational standards (hereinafter – GEF) and programs in accordance with the new qualification system, newly adopted professional standards.

The national Council for professional qualifications under the President of Russia together with the Ministries of education and science and labour and social protection of Russia developed and adopted a number of normative documents on regulation of the issues of mainstreaming of the GEF. Such as, "Guidelines for updating existing Federal state educational standards with regard to accepted professional standards"; Interdepartmental regulations of interaction of participants of the process of development and updating of the Federal state educational standards of professional education in accordance with professional standards from February 24, 2016 and others.

The procedure for updating the GEF approved in these documents, suggests the participation of representatives of employers and their associations at the stage of development of new and updating of existing standards in the Federal educational-methodical associations (hereinafter – FUMO) established by the Ministry of education and science of Russia for these purposes. Currently in the system of secondary professional education 47 FUMOs operate on various large groups of professions and specialties. For example, Federal educational-methodical Association in the system of secondary professional education on the integrated groups of professions, specialties 12.00.00 Photonics, instrument making, optical and biotechnical systems and technologies along with educational institutions consists of representatives of employers such as:

- The JSC "Krasnogorsky plant after S.A. Zverev";
- Department of training and development of staff of the United rocket and space Corporation;
- RMP "Medtech";
- Association of organizations of the military-industrial complex, producing medical products and equipment;

Further, the procedure provides obtaining the conclusion of the employers about the correspondence of the updated educational standards and professional standards. Only in case of positive conclusion these educational standards will be accepted for approval by the Ministry of education and science of Russia.

Updating the GEF has been started. It is scheduled for completion by September 2017 and will be continued in the future as the refining professional standards.

Contract target preparation in accordance with practice-oriented programs

Mechanisms for the implementation of educational programs have been changed, taking into account the flexibility and diversity of educational pathways and the labor market. First of all, it is practice-oriented educational programs for a specific employer, the creation of basic departments in educational organizations, the introduction of contract-target training of

specialists, realization of scientific research for companies located in the regions, formation of territorial-industrial clusters and more. The ratio of theoretical training and learning at the enterprise in the implementation of such programs varies in proportions from 50:50 to 10:90, respectively. Tripartite agreements "enterprise - educational institution – student" contract on target preparation allowed us to achieve high results of employment opportunity.

For example, the Samara company JSC "Kuznetsov", the leading Russian enterprise on development, production, technical maintenance and repair of aviation gas turbine, liquid rocket engines, gas turbines for land use in the gas industry, energy, concludes tripartite agreements with students and during the first year they are provided with basic theoretical training. With the students of the second year the company concludes an employment contract, paying a salary and scholarship. The student works in the enterprise in the first part of the day, and in the second part of the day training takes place in educational organizations. In the third year students have the opportunity to be promoted to the third category, and after passing the final project they have an opportunity to be promoted to the fourth category.

The basic departments

The basic departments created on the enterprises provide practice-oriented training. The basic departments have been created to accomplish the following tasks:

- organization and carrying out training sessions in the company's laboratories with students in accordance with the curriculum of educational institutions;
- preparation and realization of author's elective courses according to the enterprise specialization for the purpose of professional orientation of students and further employment at the request of employers;
- organization and realization industrial practice of students;
- supervision of diploma projects directly with highly qualified representatives of the enterprises;
- attraction of students of educational institutions to research and design work of the enterprises.

The priority direction in many regions of the Russian Federation is creation of basic departments. The departments were created in Kaluga, Samara, Nizhny Novgorod, Lipetsk, Sverdlovsk, Volgograd, Rostov, Chelyabinsk, Ulyanovsk, and Saratov regions, Tatarstan, Moscow, St. Petersburg etc.

Thus, the department "Hairdressing" has been created in GBOU SPO MO Krasnogorsk College in the division of "Training programs for skilled workers and clerks". The department was created on the basis of KRASNOGORSKOE Association of hairdressers and cosmetologists. The Association provides material and intellectual assistance in training of a Barber, besides it takes the responsibility for students' practical training and further employment in the region where they live.

Departments of structural subdivision of the University Enterprise Institute opened on the training grounds of OAO "Zavod "Avtopribor in the Vladimir region. The use of network forms takes place in realization of the educational program on a specialty "Technology of mechanical engineering" with



Gusevsky armature plant "Gusar", that provides a training workshop with modern equipment on the premises.

Co-financing of the educational process

Social partnership in education solves the problem of the new approaches to planning and financing of educational processes. The dual education system involves the joint funding of training programs for specific workplace by businesses interested in qualified personnel, and regional authorities interested in the economic development and high living standards in the region.

The business community understands the necessity of investing in educational process. The Federal target program of education development was financed by 45 regions of the Russian Federation in the period of 2014-2015. The regional programs were focused on 15 priority sectors in the economy and were financed -from means of the Federal budget - 2 176 million rubles, -from means of budgets of regions of the Russian Federation – 2 944 million roubles, - from the funds of the employers -3 117 million.

As you can see, the total budget from own employers' funds are about 5:3. Unfortunately, business is not very actively involved in educational activities because of the lack of motivation, especially in small and medium businesses. Several draft laws on amending tax legislation to provide some preferences to enterprises engaged in the educational process are currently being developed and discussed. However, we believe that financial motivation should not be the only incentive for business to invest in education. A range of motivational activities including moral and ideological aspects should be developed.

Training and production clusters

Besides, educational-production complexes for development of software in the Russian Federation are being formed on the basis of three - or four-party contracts. Cluster formation can also be attributed to one of the most important and effective forms of business involvement in the educational process. Formed by active educational-industrial clusters are designed to solve such tasks as:

- the consolidation of business resources, resources of the government and educational organizations in the development of the professional education system. It is important to note such form of learning as a network;
- the creation of a unified and effective system of continuing professional education on the training of workers and specialists of the regional economy, which gives the possibility of obtaining the necessary knowledge, skills, competences and qualifications throughout the period of employment;
- increase of prestige of working professions and mid-level professionals high-tech industries;
- monitoring and forecasting the needs of the labor market in quantity and quality of personnel to ensure compliance of qualifications of the graduates the requirements of the economy;
- formation of modern system of professional orientation and career development;
- strengthening and development of cooperation between educational institutions (school-SPO) and representatives of employers in the field of

training and skilled workers and mid-level professionals that meet the needs of the regional economy;

— the creation of joint specialized centers and temporary creative collectives for carrying out scientific research in the interests of both cluster members and enterprises and organizations.

A striking example of this form can be called the consortium "Scientific-production education cluster aircraft of Novosibirsk region", which consists of Novosibirsk aircraft plant after V.P. Chkalov (NAZ), feeder schools, universities and colleges of Novosibirsk: Novosibirsk state technical University (NSTU), Novosibirsk aviation technical College (STUMBLED), Novosibirsk aerospace Lyceum. At Novosibirsk aircraft-building Lyceum for the training of skilled workers an analogue of the factory floor with machines and communications corresponding to those in the enterprise has been created. As a result, students can master the full cycle shop.

Independent assessment of qualifications

A system of independent evaluation of education quality is being created nowadays in Russia. After Presidential Decrees and orders the Federal law of 03.07.2016 № 238-FZ "On the independent evaluation qualification" (in force from 01.01.2017) was adopted. The new law seeks to address the following goals and objectives:

- enhance professional mobility of workers; assessment of the quality of professional education and training;
- creation of conditions for employee participation in continuing education;
- strengthening the role of professional associations in the development of professional qualifications;
- the establishment and confirmation of conformity of qualification of the applicant with the provisions of the professional standard;
- improving the competitiveness in the labour market of persons who have passed independent assessment of qualification.

The law provides the formation of employers' voluntary system of evaluation of qualification in compliance with professional standards based on the confidence in the quality of this evaluation from the market. Councils for professional qualifications are being formed in the relevant sectors of the economy. The Councils will delegate authority for professional assessment. Centers assessment of qualifications will not be generated on the basis of educational institutions, i.e. it is assumed that it is the representatives of employers who are supposed to give an assessment. The certificate issued to the candidates after passing the professional exam will open more opportunities to the employee on the labour market.

Currently, the professional education system as earlier high school is being monitored. One of the criteria for assessing the quality of professional education should be an independent assessment of qualifications and active engagement of educational institutions with the business community, monitoring the labour market and staffing needs and training in new and emerging professions. .

Conclusion



According to the results of the conducted study the following conclusions have been drawn.

Analysis of German experience on the dual training project implementation in comparison with Soviet legislation has shown that social partnership was born in Russian professional education and developed its original way. Institute of dual education in modern Russia is partly based on Russian experience of the previous generation. However, according to activities of the pilot sites study it should be concluded that Russia has partly implemented a dual training system of Germany.

The study showed that during the implementation of the new, but long-forgotten old system of practice-based education the main principles and forms of social partnership in the education system have been developed. These principles have distinctive features in relation to other sectors and spheres of human activity. Social partnership is based on the following principles: mutual dialogue on the development of material-technical base of professional education institutions, co-financing of educational process, direct involvement in the management of education including formation of the basic professional educational programs; creation of joint structures for practice-oriented training of students, etc.

We consider that it is possible to give a definition of social partnership in the sphere of education, which is necessary to legislate. Social partnership in professional education is a system of relationships between economic entities, bodies of state power, bodies of local self-government, and professional educational organizations. The system is directed on meeting the labor market demand for qualified specialists.

The study of the experience in pilot sites demonstrated that the new system of practice-based professional education has several advantages, methodologically associated with market approaches to the functioning of Russian economy. One of them can be called a private-public system of management (SPO) i.e: the delegating of a number of important tasks and responsibilities to regional and Federal business unions.

An important element of social partnership in the sphere of professional education is the formation of professional competences by the users, i.e. employers, in the form of professional standards.

Another advantage of modern education modernization in the market environment is the actualization of the Federal state educational standards (hereinafter – GEF) and programs in accordance with the new qualification system and the newly adopted professional standards.

Another positive aspect of the modern development of professional education in the framework of social partnership after updating of the GEF should be called a change of mechanisms of realization of educational programs, taking into account flexibility and diversity of educational pathways and the labor market.

From the outcome of the results of the experiment it is possible to distinguish the following forms of social partnership:

- creation of basic departments of professional educational organizations in enterprises;
- implementation of contract-targeted training of specialists;

- co-financing of educational processes;
- execution of scientific research commissioned by companies located in the regions;
- formation of territorial - industrial clusters.

Summing up the results of practice-oriented (dual) training system we can come to the conclusion that it is possible to highlight obvious advantages in contrast to traditional system:

- under this system of training workers and specialists the main drawback of traditional forms and training methods - the gap between theory and practice eliminates;
- during this training the adaptation of the student to work in a team takes place; practical training for a particular employer creates a high motivation to acquire knowledge and skills in work, as the quality of their knowledge is directly related to the performance of official duties at the workplace;
- an educational institution working closely with the customer takes into account the requirements for future professionals during the training;
- an employer, a student and educational organization conclude a tripartite contract on practical training with further employment at this employer.

Recommendations

The conducted research shows that it makes sense to formulate legally the forms and principles of interaction of the business community with the educational environment to facilitate this cooperation, to eliminate bureaucratic obstacles, to reconcile and balance the interests of employers in the quality of training and education proposals. The results of the research can be used to broadcast the positive experience of practice-oriented (dual) training system throughout Russia, to consolidate the findings of the research to improve the legislative framework governing of professional education of Russia.

Disclosure statement

No potential conflict of interest was reported by the authors.

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