

Conference Paper

Developments of the Graduates' Competences for Modern Labor Market

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Abstract

In the context of the penetration of digital technologies into various areas of socio-economic activity, it is necessary to orient the education system towards a qualitative update of the goals and objectives of the educational process, the modernization of educational technologies, to the benefit of developing creative and social capital for future specialists. The authors investigate the program of providing the Russian labor market with demanding specialists with the necessary relevant knowledge, skills and capabilities. Furthermore the conditions for systematic improvement of the quality and possibility of continuing education of all categories of citizens due to the development of an open and accessible electronic educational environment are determined. Modern technologies, networking, scientific potential and experience of educational organizations, the best practices of online learning, existing online platforms and business projects become tools of such transformation. To achieve the goal of the study we chose the path of systemic interaction between universities, organizations of additional professional education and employers. It's necessary to identify main tasks facing each part in the process of forming the dynamics of improving the quality of educational processes. The objectives of the university will be the development of common competencies to ensure adaptation to the labor market in the context of society and the economy digitalization. The survey has shown that such qualities are formed by the structure of the educational process of the university and its corporate culture. The task of additional professional education organizations is to provide a target substantive professional orientation in order to prepare and develop practical skills. With modern qualified personnel, companies will be able to provide the specified pace of technological progress and competitive advantages, and to solve complex modernization tasks. Thus, the result that must be achieved in the process of educational activity is the training of a highly professional specialist, in demand on the labor market, with creative and social capital, able to approach professional activities from the perspective of a researcher and initiator, aimed at self-development and self-realization.

Keywords: digitalization, human capital, competency profile, labor market.

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1. Introduction

The innovative path of the Russian economy development along with sustainable development and intention to strategic superiority, as well as globalization processes, in particular in the education system, require effective use knowledge intensive, high-tech, import-substituting industries; knowledge-based economy; modern management tools; optimized “safety – competitiveness” systems in the controlled entity management.

The solution of these complex problems and the prevailing objective conditions determine the need for training specialists and the need for continuous updating of knowledge. There is also need for new approaches to the educational process that ensure the integration of diverse knowledge, including the art of different scale management in systems. On top of all of this such qualities of graduates as social intelligence [16], the ability to build relationships with contractors in specific situations, adaptability to changes, the ability to learn and relearn become high-demanded [9].

Information and telecommunication technologies nowadays are the driver of the knowledge-based economy development. Globalization of education and the formation of an integrated educational and research space is a worldwide trend. In the nearest future, a full-fledged open and accessible electronic educational environment should be formed, which will evolve into a modern information and intellectual space. The transition from the concept of “Education 3.0” to “Education 4.0” is facilitated by a number of factors [12]:

1. carrier market changes every 3-4 years;
2. need for quick changes to the graduate competency matrix;
3. focus on the development of creative and innovative thinking;
4. need to combine skills and competencies from different areas of knowledge, focus on interdisciplinarity.

All these factors provoke changes in the competencies profile [6] that is demanded on the carrier market. The importance of digital skills for work and social integration is growing, as well as market demands for personnel who have multidisciplinary competencies and a systematic approach to the problem, who are able to find various strategies to settle diverse problems and who can effectively interact with other specialists [14].

The graduate, as the employer expects, must have a broad and wide-ranging understanding of his tasks, and employees with different digital competencies in the company will provide her with a competitive advantage [3]. Traditional professions will also require

other approaches, encouraging employees to improve constantly their skills and getting new competencies.

The changing information landscape and the challenges of digitalization require a constant increase in human capital [11, 15]. As is known, the acquired education plays a key role in its development on the basis of individual specialized knowledge and competencies [2]. The general competencies of the XXI st century include cognitive and non-cognitive, socio-emotional and digital. Details on combining competencies into three large clusters are described in the study [1].

The quality of professional training in a specific field of activity determines the competitiveness of a specialist on the labor market. Today, lifelong learning is becoming increasingly important. Further training, retraining, the development of new competencies, the perfection of acquired skills, the practice of individual self-education, digital literacy is the necessary tools for improvement.

The tasks to be solved by specialists are becoming increasingly complex and high-level. In this regard, the training of specialists in demand on the labor market with relevant knowledge and skills can be provided through the interaction of science, education and business.

2. Methodology and Methods

1. In Russia, there is the problem of providing the market with the required qualified personnel. It figured out in a mismatch of the specialties offered by universities with labor market needs and inability of young specialists to fulfill effectively their job duties due to academic performance and lack of practical skills in applying the fundamental knowledge. The situation is not improved either by the fact that a high percentage of graduates of Russian universities go to work outside their specialty. At the same time, the skills acquired are lost during training, and respectively, the money that are invested in higher education is not spent optimally. But even those graduates who have started work in the speciality they had trained spend a lot of time on adaptation [4].

These factors negatively affect the indicators of socio-economic development of the country, the labor market, pose a threat to the modernization of the Russian economy, its transfer to the innovative path of development [17].

Modern higher education today is trying to follow the real needs of employers. Practice-oriented educational programs are a leading trend in the development of Russian education. New educational solutions affect all learning formats: full-time, distance, virtual and interactive. As demand for digital competencies grows, universities give

them greater importance in the process of training skills according to the requirements of employers [10].

The higher education in Russia is a multi-level specialized training system, which makes it possible to study on an individual trajectory. In this model, "Education 4.0." will act as a tool for the modernization of the training system, ensuring the formation of human resources of an innovative type.

2. The current strategic objective for higher education is to ensure that the acquired competencies correspond to the real professional needs of employers. The profile of the competencies demanded by the company is constantly being adapted to changing the environment, complicating business processes and the relationships between them [6].

To make the educational system more flexible to the effects of the external environment will help harmonization with the labor market. For this, it is necessary to create an optimal model for the cooperation of the resources of universities, business entities and organizations-partners of institutions of additional professional education (APE), based on the algorithm of integration of efforts in achieving mutually beneficial results. Such interaction will bring the quality of university training closer to the requirements of the employer on a changing labor market. And it is institutions of additional professional education that ensure the implementation of the principle of consistent improvement in the education system as the basis for lifelong education on a practical level. In addition, the development of basic departments will expand the possibilities of organizing practice and using partners' resources in the educational process.

Organizations of additional professional education are a recognized mechanism for updating knowledge and skills, which makes it possible to change the profile of activity or occupation. Additional professional education programs are variable, flexible, built on a modular basis with various technologies and training formats, are focused on a narrow specialization and development of new technologies, and meet the requirements of employing organizations.

Among other things, APE programs comply with professional standards, are implemented in as a continuing education programs and professional retraining programs and can undergo a public accreditation procedure.

As a result, these programs provide a subject-oriented professional training in practical skills development, including for a specific field of knowledge or a specific employer, for example, Gazprom, Rosatom, Transneft, etc.

For the purpose of design a new competency model for graduates should be implemented an interdisciplinary approach. The main forms of introducing this approach

should be: interdepartmental interaction, network education, cooperation with enterprises-employers, interaction with centers of scientific and industrial competence for the development and implementation of modern technologies in the educational process.

3. Network interaction is a promising form of interaction in the education sphere. Network interaction with the participation of the Additional professional education organizations should be carried out in accordance with the principles of practical orientation, mutually beneficial business cooperation and flexibility in mechanisms and forms of cooperation. Network interaction involves the joint implementation of strategic plans and activities between APE organization higher education institutions, scientific organizations, and representatives of the business community within the framework of their resources. An example of creating educational alliance university — organization of additional professional education — an employer is shown in Figure 1. A detailed interaction scheme is given in article [17].

3. Results and Discussions

Network educational programs should be targeted at specific groups and implemented within the framework of the concept of continuing education using modern information technologies.

The interaction between universities and organizations of additional professional education will make it possible to bring the quality of university training closer to the requirements of the employer in a changing labor market. The main advantages of APE organizations include:

1. Short-term cycle that meets employer requests and employee with participation in the employer process.
2. Great opportunities to use the production, technical and scientific base as an educational and practical laboratory.
3. Training is carried out directly by managers, highly qualified teachers, researchers.

Thus, as a result of the interaction of universities, the organization of additional professional education and the employer, all participants in the process get their advantages.

Universities enrich the educational process through practice-oriented programs of continuing professional education and the use of scientific, laboratory and production

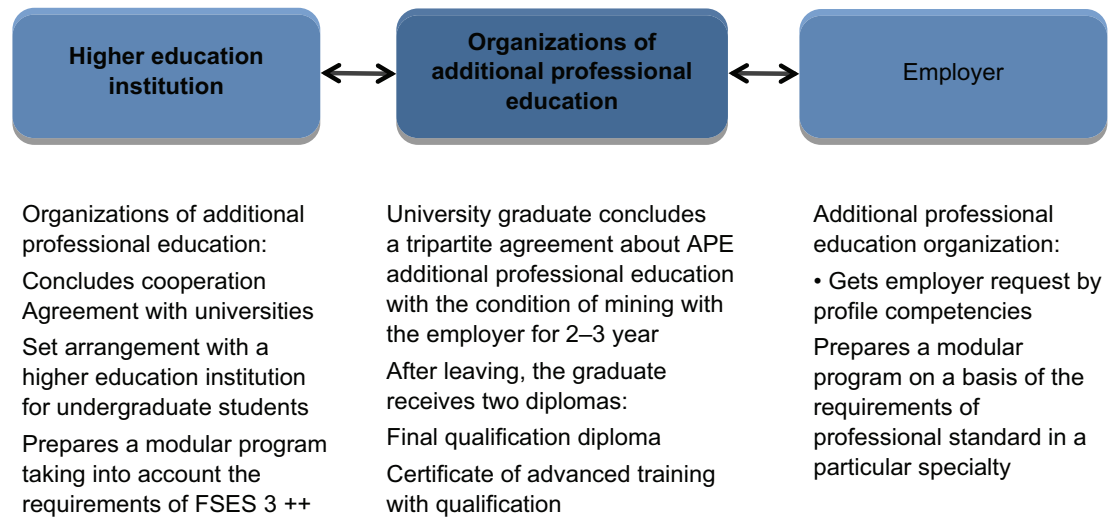


Figure 1: Creation of educational alliances with universities

facilities of these organizations. At the same time, the professional involvement of students through participation in joint events: internships, competitions, round tables, and research activities is increasing. For graduates expanding opportunities for professional employment.

Employer companies receive an employee who is already partially adapted to the work process with the presence of certain competencies acquired at the university, on the basis of which professional training and retraining will take place. In this way, the transfer of the skills most demanded by the market can be ensured [5].

The organization of additional professional education strengthens its presence in the educational market, the circle of partners and customers expands, which in turn provides stability and new opportunities for development.

The targeted training of students expands connection with the implementation of joint practically-oriented training programs covering all levels of education, including graduate school, as well as scientific guidance and counseling for applicants and graduate students.

4. Another problem of Russian universities is the students vocational adjustment. For the education system to be effective, serious adaptive reforms are needed in this area.

Corporate culture is a factor of social adaptation of a person, it is a specific effective management mechanism that performs stabilizing and creatively adaptive functions. [21].

Issues related to professional socialization and the process of adaptation to the social environment are especially relevant while joining a new organization. Successful adaptation means improving work performance, increasing job satisfaction and changing motivation. It assumes importance when a graduate move from training to professional activity.

The competition requires a model of social behavior of the graduate accompanied by greater social mobility, awareness of own responsibility for one's well-being. This requires significantly greater tension in the work, risk appetite, the desire for continuous training, and possibly retraining.

The design of mechanisms and the development of technologies for the creation of an effective corporate culture is of fundamental importance in terms of management tasks. On the one hand, corporate culture is an organizational-psychological environment for the functioning of the organization's employees. On the another hand, the system of organizational, socio-psychological and economic mechanisms of indirect management, solving the tasks of socialization, motivation, identification of employees with the organization, increasing the overall effectiveness of the organization.

An effective corporate culture of a university includes all the necessary socio-psychological mechanisms and can fulfill the function of forming a graduate adapted to labor market conditions in terms of professional and life values, motivation structure and skills that contribute to the effective process of adaptation to professional activity. The usage of socio-psychological mechanisms of corporate culture in professional training of the network generation, see the authors [19].

As for organizational mechanisms, the developed corporate culture already implicitly contains them at an informal level. At a formalized level, these mechanisms should act as organizational procedures that are a function of specific structural units. They must form optimal conditions for the effective operation of socio-psychological mechanisms.

Let's formulate the tasks, that if were settled would provide the graduate with the subsequent social adaptation.

- successful acquirement of a new set of social roles;

- formation of a professional motivation structure;

- formation of an adequate system of values;

- the formation of social knowledge in addition to professional one;

- the formation of skills that increase the overall effectiveness of human behavior in a market environment;

- formation of a system of social ties with the professional environment.

The methodology for solving these problems is associated with educational, scientific or social activities implemented as university studying course. All these issues and methods of solving are described in details in [7, 18]

The specifics of educational activities in a ordinary Russian university solves the problems of professional socialization only at the level of formation of a system of professional knowledge. To a lesser extent, it is aimed at the formation of skills and is practically not aimed at the formation of professional social roles, the structure of professional motivation, professional social connections, teamwork skills. There are no special organizational mechanisms providing a vision of a positive professional perspective, etc.

Modernization means the introduction of new, more effective elements of the corporate culture, taking into account all the previous advantages that will contribute to a more successful solution of the tasks set for the university. Elements of the corporate culture of many foreign universities — an example that can be used in the process of modernizing the corporate culture of a Russian universities, since it initially evolved as student-centric. It is this component that most often lacks the corporate culture of a modern Russian university.

For example, the ideology of Webster University is directly connected with its main goal — to provide a student with an educational foundation that meets the needs of a modern rapidly developing society. For this aim it is necessary to prepare the student for life by provided him with universal skills that can be applied in various professional fields. “We try to provide the student with not only theoretical knowledge but with practical, teaching him specific skills that he can successfully apply in subsequent work,” it is written in the corporate publication of the university [20].

4. Conclusions

Digital economy requires high-skilled personnel, and it is necessary for their training to modernize properly the education and training system, bringing educational programs in conformity with the needs of the digital economy. It also needed to introduce widely digital tools for educational activities and integrate them into the information environment, provide citizens with the opportunity to learn individual educational path throughout life — anytime, anywhere. And this study is dedicated to settle some of the issues mentioned above.

The new technologies implementation into existing teaching practices is becoming the key to success in the digital educational world. In the long run every employee will be forced to expand and supplement his competency matrix for new emerging tasks.

It is pointed out that subject knowledge remains relevant for technology and innovation, the success of which depends, among other things, on the ability to sell new developed solutions in a competitive environment [1]. Thus, future professionals must combine core skills with subject knowledge. It is this combination that can give a synergistic effect in further professional activity.

The purpose of this study was to determine the role of each partner in creating the optimal model for the cooperation of universities resources, business entities and organizations of additional professional education. Establishment of a mutually beneficial long-term partnership between organizations of additional professional education and representatives of the business community in the field of education ensures the training of highly qualified specialists who are oriented in related areas of activity and increase the competitiveness of graduates in the labor market.

The need modernization of the corporate culture of a Russian universities reconfirmed in this study by implementing the elements of the corporate culture of foreign universities.

The need has ripened for the formation of such an environment in which the principle of lifelong learning could be effectively implemented. This was made working through online technology.

In world practice, massive open online courses (MOOCs) have already become an integral part of the education system. Russia is at the beginning of this way. As a result, only the joint efforts of all participants in the educational process will allow, within several years, to make online learning a harmonious part of the existing educational system [13].

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