

The Trajectory of Personal Development: Modern Challenges to the Education System

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Abstract—Based on modern realities of the active introduction of modern information and communication technologies, the importance of digital skills and competencies is recognized by all subjects of labor relations. Educational institutions play the double role in this connection. On the one hand, teachers themselves should master basic and professional digital skills, on the other hand, they should prepare the basis for training, professional development and retraining of the majority of the population of the Russian Federation. Due to a large gap between the training of personnel in the system of secondary vocational and higher education and the needs of the market, the number of graduates who do not have the required skills and competencies is increasing. In this regard, a serious modernization of the education system is required in order to form a competitive human capital corresponding to the digital society.

Keywords—Personal development trajectory, competences model, digital economy, personnel training, career guidance.

I. INTRODUCTION

According to the goals of the Program "Digital Economy of the Russian Federation", one of the main directions of development is personnel training and modernization of the education system in view of improving and developing new information and communication technologies [1].

In this connection it is necessary to provide digital literacy of the population, to implement a strategy of continuous life-long education, to develop mechanisms for retraining, professional development and involvement in the digital economy for civil servants, teachers, specialists over 50 years of age, pensioners and disabled people [2].

The main constraining factors for the development of the digital economy are:

- lack of professionals in the field of information technology;
- insufficient user competence;
- "brain drain".

One of the main parameters determining the qualification of personnel is the digital literacy of specialists and the population on the whole, which includes: basic digital skills (the ability to use modern means of communication and digital devices, search for information, use Internet services, etc.), professional digital skills (required for specialists to perform labor functions in their field).

Higher educational institutions are entrusted with the task of developing a competence model that meets the modern needs of the labor market. The digitalization process, which has an impact on the labor market, has already determined the lack of qualified personnel with the required skills. Moreover, the rapid emergence of new specialities determines the shortage of appropriate personnel. In this regard, further education plays a special role in terms of professional development and retraining of employees.

The rapid renewal of production processes requires constant retraining of employees, so the education system should be activated and be not just in step, but three steps forward with the times. This need is caused by the training of personnel who meet the requirements of modern rapidly developing technological progress.

II. THE IMPORTANCE OF PERSONNEL TRAINING IN THE DIGITAL ECONOMY

Numerous domestic and foreign studies show that a greater increase in labor productivity is observed with an increase in the level of education. Most employers are aware of this and allocate significant funds on educating their employees. Moreover, for the modern generation Z, the main value is personal development, which is directly related to continuous education throughout the entire working life.

Professional development and retraining of employees is one of the directions in the long-term development strategies of most of large companies. Companies organize their own corporate training centers because the curricula of most educational institutions do not meet the needs of employers, and the education system is very inert and does not allow for quick adaptation to new realities.

The main task of the state strategic policy is to create conditions for maintaining competitive skills and knowledge among employees. Any skills have their own life cycle directly related to the employee's job and his workplace. Given the high dynamics of digitalization processes, the life cycle of skills tends to shorten. Therefore, the issues of continuous education throughout the entire working life are relevant for certain categories of employees, and for the entire population of the country.

The active introduction of modern information and communication technologies in all spheres of life leads not only to the disappearance of a number of professions and the emergence of new ones, but also to the modernization of traditional ones. Hence the need for mass education of the

majority of the population of the Russian Federation and this process is often compared to the process of eliminating illiteracy at the beginning of the XX century.

Currently, the level of digital literacy of the population does not meet the requirements of the digital economy [3]. In order to eliminate barriers to personnel training and meet the requirements of business in a fairly short period of time, it is necessary to actively introduce forms of distant learning. The education system in the Russian Federation is already several decades late in terms of developing support for talented young people in the field of digital economy technology. It is also necessary to motivate the entire population of the Russian Federation to improve their skills and use modern information and communication technologies both in their work and in their personal life, thereby improving the quality of life.

And, thirdly, the education system should be one step ahead, providing the economy with professionals, taking into account the qualitative forecast of the needs of the future. At the same time, it is becoming relevant for each person to build an individual development trajectory in order to understand which skills and competencies require updating in order to remain competitive in the labor market throughout their working life.

The peculiarities of the digital economy are that employers select staff to perform a specific task or a specific project. This is what secondary vocational and higher educational institutions should focus on in order to teach students future-oriented skills and competencies. This also corresponds to the state interest in training personnel for the digital economy with the analysis of the effectiveness of the funds spent on this.

The main obstacle to solving this problem is a lack of methods and mechanisms for building individual professional trajectories by employees in the conditions of digitalization. As part of the implementation of the digital development strategy of the Russian Federation, it is necessary to develop a special platform on the basis of which it would be possible for employees to retrain, plan the trajectory of personal professional development and evaluate their skills and competencies for free.

For the development of digital skills and competencies, it is planned to create a personal competence profile and a personal development trajectory. A personal competence profile is a total amount of knowledge, skills, experience and achievements of a person, which enables to analyze the level of their professional development, identify gaps in it and, in order to increase competitiveness in the labor market, to determine the directions of further training.

The trajectory of personal development is the direction (graph) of the individual's movement within the framework of professional orientation, indicating all achievements in training and the labor sphere, taking into account the individual needs and requirements of employers.

III. THE DEVELOPMENT OF COMPETENCIES IN VIEW OF BUILDING THE TRAJECTORY OF PERSONAL DEVELOPMENT IN THE DIGITAL ECONOMY

The system of building an individual professional trajectory enables to understand what one needs to learn in order to be competitive in the labor market in the future. It will allow people of any age at any stage of the career ladder

to evaluate their skills and competencies, improve their qualifications, get a new profession and learn how to use new modern information and communication technologies.

The trajectory of personal professional development should reflect the basic knowledge, skills and abilities necessary to ensure highly efficient competitive professional activity. At the same time, the number of skills and competencies will depend on the types of professional activities of employees.

Such a trajectory enables each person to determine his own benchmark for self-development and to decide which skills are outdated, which require updating and which skills are lacking at the moment. In addition, this model will motivate the employee to improve his skills in order to develop his career. Another advantage of the mass implementation of the personal development trajectory is the creation of a comfortable working environment. Individual skills development of employees should be carried out on the basis of the results of their competence assessment. This model is useful not only for a specific employee, but also for HR managers in order to form a personnel reserve, as well as to determine the directions of training of the company's employees.

In order to implement one of the directions of the Program "Digital Economy of Russia", the personal development trajectory will be the basis for the development of curricula based on the requirements of employers. The trajectory should be drawn up individually on the basis of a differentiated curriculum determined by the needs and gaps of a particular employee.

Such a trajectory will enable the employer to form an organizational culture, to create clear-cut recommendations for a specific employee and to determine the directions of professional development of personnel [4].

The concept of continuous learning throughout the working life should be based on the ability to confidently use modern information and communication skills in both personal and professional life.

Taking as a basis the competence model of a digital transformation command, we can offer the following generalized indicators for each block, taking into account the general level of digital literacy of the population.

Table 1 - Levels of competence development in view of building the trajectory of personal development in the digital economy.

Level of competence	Degree of development		
	low	medium	advanced
Basic digital competencies	ability to work with various technical devices, files, the Internet, online services, applications	working with text and table editors, searching for information on the Internet, creating presentations, using file sharing and cloud services	ability to create digital content and, in general, the ability to work with information - to collect, structure, verify the authenticity, store and protect data

Personal competencies	carrying out interaction through various digital technologies, including the exchange of data and information	participating in the life of society through the use of unified state digital technologies	using digital tools and technologies for collaboration
Professional competencies	Identifying needs and selecting the necessary digital technologies to meet them	Using digital technologies to solve certain problems and create innovative projects	Understanding what digital competencies need to be developed, looking for opportunities for self-development
Digital culture	Knowing the rules and norms of behavior in the process of using digital technologies	Understanding and taking into account cultural diversity in the virtual digital environment	Adapting communication strategies and technologies to specific needs

Based on this, it is possible to make a trajectory of personal development, taking into account the specifics of performing work duties and individual characteristics. However, it is worth noting that in this form the trajectory is difficult for every employee to understand. Without having basic digital skills, or having them insufficiently, it is quite difficult to determine professional skills for the future. Moreover, a clear-cut scale of indicators should be developed for each direction determining several levels of development.

The modern conditions of digitalization of all spheres of society's life ensure the continuity of the use of the development trajectory throughout the entire work activity, starting from school.

The electronic format of maintaining the development trajectory will allow employers and employees to assess the level of competence development and make informed decisions about hiring, training and promotion of employees. The created and promptly updated database of employers' requirements for the content and level of competence development will determine the demand for educational retraining and advanced training programs.

The developed professional standards in these conditions are the first stage of determining the compliance of employees' competencies with the requirements of the employer. But they cannot quickly adapt to changing conditions. Therefore, as the competence profile and the trajectory of personal development are gradually introduced into practice, professional standards will need to be transformed into a more flexible form.

In addition to the interests of a particular employer, personal development trajectories will make it possible to form teams for the implementation of specific projects in

accordance with the availability and level of development of competencies, skills and experience of employees.

Undoubted advantages for employers after the introduction of a personal development trajectory are as follows:

- reduction of personnel recruitment costs and time limits for adaptation of new employees, improvement of the efficiency of personnel selection due to a unified and objective approach to the selection of a candidate;
- formation of clear-cut requirements for the professional competence of the employee, taking into account the specifics of the corporate and organizational culture;
- formation and maintenance of a high professional level of labor resources that most fully meets the needs of the employer, and, consequently, increase in labor productivity and the competitiveness of the company [5].

However, at present there are a number of problems in information support of professional trajectories:

1. Information resources that provide information about the labor market and the market of educational services are not structured and not systematized.

2. Existing information resources serve, as a rule, one element of the professional trajectory (labor or educational).

3. It is difficult to build a chain: "self-determination – the choice of competencies (profession, occupation) - the choice of educational programs – the choice of the method of obtaining education – professional implementation".

In the future, the competence profile and the trajectory of personal development should become the basis of the HR system.

From a practical point of view, special attention in the context of the active introduction of modern information and communication technologies should be paid to career guidance and professional self-determination in terms of compliance with the prospects for the development of the labor market in the digital economy.

Career guidance activities are currently mainly aimed at choosing a profession in accordance with the existing abilities and preferences of students and their parents. These preferences mainly depend on the current situation in the labor market. At the same time, forecasts and changes in professions and employment conditions are completely ignored. Active digitalization has already put forward new requirements for career guidance work. It should be based on the potential of future employees, the development of digital competencies and skills, and it should take into account possible changes in the labor market in the long term. The conditions of the 2020 pandemic revealed the problem of the lack of career guidance (professional self-determination) for the employed population. During the period of mass dismissal and the spread of the coronavirus, the unemployed, ready to start any job, were faced with the inability to determine the direction of retraining to undertake. In the digital economy, the possibility of applying individual's skills in practice is becoming increasingly relevant.

The rapidly changing conditions for performing labor tasks and the short life cycle of digital technologies require forming the necessary skills in the shortest time and high adaptation to new conditions. Due to the rapid development of the workplace ecosystem, the increase in the work performed, professional skills are subject to constant changes.

In order to implement the national program "Digital Economy", personal learning trajectories should be introduced into the educational process, giving students individual choice of the ways of forming basic competencies [6].

Educational institutions should switch to independent certification of students in relation to the level of formation of the basic competencies of the digital economy as one of the results of their activities, the results should be recorded in the profile of the student's competencies and in his development trajectory. And the possibility to quickly master the basic competencies of the digital economy should appear though deploying a system of "elite" secondary vocational education [7].

In this regard, the basis for training should be an individual educational trajectory.

The modern education system provides several levels: comprehensive secondary education -bachelor's study - master's study - postgraduate study. Many specialists do not consider in detail the comprehensive secondary education. However, this is the level at which all the basic digital skills of the modern generation Z are laid, preferences are formed, inclinations are determined, motivation for self-development and achieving promising goals is formed.

However, individualization of school education should be carried out in high school, when basic system knowledge has been obtained and career guidance work has been carried out. In this case, individual curricula according to the chosen training profile should be developed and students should focus on project work and self-development.

All the following levels of education should be individualized as much as possible with the help of individual curricula, as well as independent research work. Currently, the curricula of all higher educational institutions have a variable part, which marks the individualization of training. It is assumed that, depending on the market situation and the preferences of students, the variable part should quickly adapt to the rapidly changing requirements of the labor market. Every individual student in his turn should then choose the necessary disciplines when building his own individual educational trajectory, based on his own formed goals and objectives. However, in practice, this mechanism does not always work.

Unfortunately, professional skills in the higher education system are received during practices at enterprises that do not comply with the curricula. Places of practice are most often chosen by the students themselves or, at best, by educational institutions in accordance with their possibilities. This does not contribute to obtaining the necessary professional skills in a particular field.

IV. CONCLUSIONS

The conditions of the digital economy determine the need to implement a system of professional skills training in a close relationship between a higher educational institution and a specific organization. Such a mechanism will enable the student to consolidate the theoretical knowledge obtained in an educational institution with practical skills in accordance with the real demands of the employer and to form their personal development plan. On the other hand, the organizations, putting forward their requirements to a potential employee, will be able to adjust the student's

personal goals and tasks and will contribute to the adaptation of the educational program to the realities of the digital economy.

The individual educational trajectory should smoothly transition into the trajectory of personal development and be inextricably linked with work life.

Based on this, the educational process can be built according to an individual curriculum. In this case, professional self-determination and self-realization with the help of consultations with teachers is becoming increasingly important. The current state of the education system, and the personal peculiarities of students (today we see low intention for self-development and improvement) do not allow the use of an individual curriculum at the bachelor's level.

In this case, it will be more effective to make adjustments to the mechanism for implementing the variable part of the curriculum, whereas at a higher level, it will be possible to effectively implement an individual learning trajectory based on an individual plan. Such changes in the educational process will allow students to implement their specific goals and objectives in accordance with the requirements of the labor market. Moreover, such a system will adapt faster to the changing needs of the digital economy, which will reduce the gap between the labor market and specific employers' requirements and the acquired students' skills.

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