

Human in the Digital Economy

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Abstract—This article discusses the concept of "digital economy", its pros and cons. The following issues are addressed: what are the requirements for personnel for the "digital economy"; whether it is necessary to change the system of training; what place does the person occupy in the "digital economy". According to the authors of the paper, the presented topic contains two problematic aspects: the environment of highly intelligent technologies of human habitation and the subject (what should be the person of the digital economy era), entering into certain relations with it. The practical professional experience of the authors of the article proves the reality of creating pedagogical conditions for organizing the process of training future professionals for the digital economy, which contribute to the accumulative effect of education.

Keywords—*digital economy, human worldview, the totality of relations in society, "digitalization" of services, education as a good, education.*

I. INTRODUCTION

The authors believe that today the problem of adequacy of the ideological and semantic settings of training in the higher school for personnel intended for the implementation of the program "Digital Economy of the Russian Federation" and the professional requirements of financial organizations-employers seems to be the most important.

According to the authors of the paper, the presented topic contains two problematic aspects: the environment of highly intelligent technologies of human habitation and the subject (what should be the person of the digital economy era), entering into certain relations with it. The problem is what is the fable of this relationship: the subject managing digital activities; or digital activity that determines a person's worldview and his life style [1,2]. Together with the researchers, we believe that the problem is completely solved when the competence approach is introduced into the educational process, a number of new methods are applied (they will be discussed below), digitization and informatization of education takes place, the individual educational trajectories are implemented [3]. At the same time one of the priority conditions for success is the creation of a unified educational paradigm of training and basic (employer) organizations.

Thus, the article is aimed to show the acceptable practical ways to modernize education in accordance with the needs of the labor market, as well as in order to integrate domestic education into the global economic education space.

II. METHODOLOGY

The crucial role of the digital economy in ensuring economic growth a priori determines the need to find new

ways to creatively reorganize the educational process in universities. The aim of such measures is to prepare competitive financial specialists to work in the new conditions of the digital economy. Pedro Conceicao, David V Gibson et al. in the article "Beyond the Digital Economy: A Perspective for the Learning Society" note: "While much attention has been devoted to digital technologies, a more fundamental change at the start of the new millennium is the increasing importance of knowledge for economic prosperity and the emergence of a learning society" [4].

The principles of organizing an educational system for training personnel in the digital economy imply a transition from the old outdated models of educational activities to the new ones that can "confront the challenges of our time" [2].

In the conditions of the digital economy, much attention is paid to the quality of training of future specialists, and the requirements for their professional competence level are increasing [3-6]. Scientists from various countries note that humanization should become an integral part of education in modern higher education [7].

Most researchers in different countries take a favourable view of the economy digitalization [5, 8]. At the same time the issues of training highly qualified personnel who are able to carry out all areas of digitalization without losing their human qualities remain debatable and problematic for any country.

The term "digital economy" was first used in 1995 by Nicholas Negroponte (the University of Massachusetts). It was used "to explain to colleagues the advantages of the new economy in comparison with the old one due to the intensive development of information and communication technologies" [9]. The term appeared due to two factors: the rapid development of this phenomenon in Great Britain, the USA and Australia, as well as formalization of the term in the European Union [10]. In the Russian sources of information, the term "digital economy" began to be applied relatively recently [6,11-13].

In general, the adoption of the digital economy has positive and negative factors [4,11,13]. The new opportunities appearing with the introduction of the digital economy, of course, have a positive impact on the quality of people life and the whole society.

The advantages include: productivity growth; reduction of production costs; creation of new jobs; increasing the competitiveness of companies; overcoming of poverty and social inequality [14-16]. The disadvantages (risks) include: the problem of personal data leakage, the increase in fraud when using electronic procedures, the risk of disappearance of some professions (as a result, the growth of unemployment) [12-13].

In general, the digital economy, the information society, the social (in other words, human) problems appear to be a single whole, inevitably associated with progress. Some researchers interpret the digital economy as a new technological order and the fourth industrial revolution. As E. Malahkova notes, “if changes in the scale of the industrial revolution actually occur, it will affect not only the economic situation, but also substantially restructure the entire social reality with its social institutions and regulatory complexes” [17]. Consequently, education, as a social institution, today needs to take measures to increase the effectiveness of education and research.

Since we are primarily interested in the relationship between the person and the digital sphere, it is appropriate to place accents once more and mark that personnel and education play an important role in the digital economy [2,6,11].

The essence of education always remains standard: to get acquainted with achievements of modern civilization. The current problem is not to lose this essence while facing the boom of digital education. No doubt that a person who has graduated from a higher educational establishment should be able to be involved into a new economic environment that deals with vast amounts of data, including the one stored in an electronic form, and a person should also be a competent user of numerous electronic devices. It is impossible to manage, store, process such a great amount of data not applying new technologies. At the same time digitalization of the economy has a number of disadvantages (risks). These can include the following: the problem of personal data breach, the increase of fraud when carrying out electronic procedures, the risk of disappearance of certain professions that may result in unemployment growth, “there is a gap in the digital education, in terms of access to digital services and products, and as a result there is a gap in the welfare of people residing within a country or various countries” [18].

The “human face” of the digital world can be preserved by truly educated people, whose images are considered in the definition of W. Heisenberg: “Education is something that remains when you forget everything you have ever learned. Education, if you wish, is a bright radiance enveloping our school years and illuminating the rest of our life. This is not only the brilliance of youth naturally existing in all times, but it is also the light emanating from being involved into something significant [19].

“However, the position of W. Gainsberg is not shared by the all modern scientists” – O.V. Alekseeva underlines. A significant role here has been played by the computer revolution, it has initiated unreasonable hopes for replacement of a teacher by a computer connected to the Internet. This statement is particularly true for the computer technology specialists. At the beginning of the century an American scientist Roger C. Schank wrote that in fifty years, modern schools would disappear. In his opinion no one will polish school benches with the pants any more, if virtual learning is available, when one can get advice from the best teachers in the world at any time he wants [19].

We are going to make an attempt to observe the way of the digitalization in the human resources management sphere. At the end of 2018, the Passport of the National Program “Digital Economy of the Russian Federation” was approved, which included the Federal project “Personnel for the digital

economy”. Expected results and their quantitative benchmarks of the Federal project “Personnel for the digital economy” for 2019-2024 are shown in table 1.

TABLE I. EXPECTED RESULTS OF THE PROJECT “PERSONNEL FOR THE DIGITAL ECONOMY” FOR 2019-2024

Task	2020	2021	2022	2023	2024
Working professionals trained in the competencies of the digital economy, ths. people	66	105	145	220	270
Entered the programs of higher education in the field of IT technologies, ths. people	60	80	90	100	120
Centers for accelerated training have been created and are functioning together with companies of the digital economy, pcs.	-	15	35	50	50
Educational organizations that have the best results in teaching the subject areas "Mathematics", "Computer Science" and "Technology", which received grants for the dissemination of their experience, pcs.	170	255	655	1055	1455
Developed digital teaching materials, educational simulators, virtual laboratories for the implementation of general educational programs in the subject areas "Mathematics", "Computer Science" and "Technology", pcs.	18	29	49	70	76

So, it is quite obvious that the state exerts great efforts, including financial costs, to introduce the digital economy, to equip the educational process with modern technologies, which now act as means of adapting to the digital “field”.

Therefore the pedagogical science on the eve of the inevitable introduction of the digital economy into our common living space should address the issue of “digital industrialization” and at the same time the problem of preventing the loss of the truly human in a human personality. The need for this is confirmed by a number of some obvious factors. In our society, the obvious changes take place called “anthropological” catastrophe, namely the death of the human, spiritual principle in man. It is imperative to turn to the problem of training of a true educated person.

The educational programs are rich in a fan set of competencies, but it is nothing but the scattered details of the desired composition of personal professionalism that are not integrated into a single living system. The pedagogical community needs an understanding of education as the spiritual and moral heritage of the individual, as a leading value in solving the socio-economic problems of modern social development. The derivation of the modern formula of education has a real accomplishment. This formula organically combines the essential characteristics of a person, which include the ability to find their place in the world, the initiative of a creative person with a strong moral character, emotional intelligence, subject autonomy, developed historical consciousness, a high level of personal responsibility, stress tolerance, the reality of having the best personality professional qualities. “Such a multidimensional

analysis of the category “education” allows us to “catch” the conceptual essence of the fundamental idea of education and its various manifestations. The set of established characteristics forms a supersituative integral quality of the personality, called scholarship. The core of this construct is morality, spirituality as an enduring human desire for self-improvement, which is fixed in contrast to the treatment of education as a process that reduces itself to only the consumption and appropriation of knowledge” [20].

III. RESULTS

The practical professional experience of the authors of the article proves the reality of creating pedagogical conditions for organizing the process of training future professionals for the digital economy, which contribute to the accumulative effect of education.

The following conditions for the education of future professionals can be considered as basic:

- 1) A clear and consistent development of the objectives of training and education;
- 2) Structuring the content of information for learning;
- 3) A complex of didactic and technical training and monitoring facilities;
- 4) Strengthening the diagnostic functions of training and education;
- 5) Guaranteed high quality of knowledge.

Under these conditions, the university educational process develops the ability of students to systematize, plan, regulate and actively carry out their activities without constant guidance and practical outside help.

Each of the above mentioned components of scholarship has its own objective nature of reality in the pedagogical process. Thus, the creative research position of future professionals is formed during their study through a rigid and clear definition of the tasks of research work (hereinafter referred to as R&D); the relevant content of research; coordinated interaction of all participants in the educational process; methodological supply of research; the possibility of self-realization in the course of research; clarity of control.

The stress tolerance, which can be considered as a process of accumulating a stable positive state of the human psyche is of significant importance for the stability of a person's vital activity. Certain types of psychological and educational activities in the educational space of the university contribute to the development of the ability to maintain stress tolerance among professionally developing young people. This includes teaching students to engage in normal interaction (cultivating positive norms of social behavior in student groups), using interactive forms of learning in educational practice, cognitive approaches (mini-lectures about communication culture, presentations, structured discussions; analysis and solution of the problem presented through video-record, text, scheme, questions, etc.), games in experimental activities (exercises, energizing participants; games that stimulate the imagination; research concepts that are important for human life, etc.).

To sum up, we emphasize: a human personality is not subject to digitalization and under the conditions of the new digital era it needs even more to preserve the true human qualities, the development of abilities to subject behavior.

IV. CONCLUSIONS

The short and non-exhaustive conclusion of this article on the identified aspects of the problem of successfully “getting used” to the digital economy of currently professionalizing young people is that the classical aspects of the positive results of mastering the educational program (according to the Federal State Educational Standard of Education in Russia), namely the subject, metadisciplinary, personal, still do not guarantee the intellectual-moral-qualitative unity of the result, that is, the education of the individual. At the present stage of the society development, the concept of “education” acquires another new aspect - the ability to prevent some negative consequences in human behavior. This belief is based on the fact that, as scientists have proven, “there is a two-sided causal relationship between information technology and human behavior ... information technology has a positive effect on the economy and business activities, but also has some negative consequences for human behavior models” [21]. The task of education is to foresee this and take measures to prevent the detrimental effect of digitalization on human behavior.

Prospects for our further research are seen in a joint (higher education institutions - financial institutions) search for ways to prepare economic personnel for work in the digital economy, considering it as a large-scale social engineering, managed by well-educated specialists.

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