

# Self-education as professional growth of University students in the circumstances of digital economy

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**Abstract**—The relevance of the study is due to the need to develop a modern model of the formation of universal competence of self-education and self-development of University students, aimed at the growth of their professional activities in the digital economy within the national interests of the state. Training of modern personnel, development of digitalization of education are one of the leading directions of the government program "Digital economy" in Russia. Economic efficiency and professional growth of graduates of Russian universities is achieved by means of formation and development of digital skills, worked out in the classroom for self-education and self-development with the use of the author's model on the digital educational platform. This highlights the novelty of this study.

**Keywords**—education, digital economy, self-education, model, development, digital educational platform.

## I. INTRODUCTION

Introduction. In the age of information globalization, huge flows of deep information-rich modern world with increased visual communication and multimedia technologies, there is a need to develop and involve in the sphere of human life the foundations of the digital economy. The modern generation of students youths was born on the rise of the Internet and the development of the digital environment, which has become an integral part of the life of every modern man, with a natural cultural and technological background of fact. The digital economy in the process of its development is being implemented in various spheres of our life. Currently, one of the most exciting topics in the modern world is the problem of digitalization and digital transformation. Personnel training and education development is one of the priorities directions' of the government program "Digital economy", which was adopted in Russia in 2017.

It is in the field of education and personnel policy that the digital transformation of the individual is planned. Based on the main goal of education, which is to train highly qualified specialists according to the professional standard, the goal of digitalization of education is revealed. It consists in economic efficiency and professional growth by means of digital skills of graduates of Russian universities. Millions of

digital connections of the online system between students of different universities emphasize the importance of the digital economy in education.

Thus, the digital economy is becoming an integral part of our life and professional growth of University students in the conditions of digitalization of education, which requires updating of traditional and outdated learning technologies, which emphasizes the relevance of this study.

In addition, many Russian institutions, such as Sberbank, Uber and others, put in the first place the development of digital technologies, while education is automatically undeservedly given secondary importance. This is due to the belief that the emergence of digital platforms in the educational industry and human life, such as Coursera, Uniweb and Hexlet, Universarium, Eduson, Digital October, Zillion and others leads to the qualitative assimilation of knowledge and accelerated possession of acquired universal and professional abilities. Here there is arises no less urgent problem, which is the training of teachers for higher education institutions in the digital economy. [1].

It should be noted the problem of managing the development of creative activity of students youths (S. I. Belentsov, V. A. Gribanova, O. U. Brasnik, A. V. (2018), which is necessary in the conditions of digitalization of modern society with increasing need for self-education. [2].

In a place with that, it is necessary to note the development and implementation in the educational process of innovative methods of teaching University students. The authors of this article proved the effectiveness of modern relevant technologies for self-education and professional growth of students, including in the digital economy. For example, an innovative blaze-method, the technology of which is used in this study. (Irina V. Alekseeva, Natalia I. Barsukova, Valentina I. Pallotta, Nadia A. Skovorodnikova (2017) [3]. This method has a wide range of applications. It is also successfully used in the training of design students in the complex modular program "Integrative design". By means of an innovative blaze-method through the development of professional thinking of students-designers is formed such a quality of personality as the ability to self-education. (Koltsova H., Kononova E., 2018).[4]. In addition,

pedagogical modeling, as a means of optimizing the learning process, has been successfully used in the training of specialists in various fields, including creative specialties. (Koltsova H., 2017) [5].

The purpose of this article is to identify the need to develop a structured model for the formation of universal competence of self-education aimed at the growth of professional activity of University students in the digital economy within the national interests of the state. A structured model of self-education and self-development based on innovative methods using digital educational platforms as a digital adaptation of students, aimed at overcoming the old structures teach them innovation and transformation in any industry and sphere of life.

The hypothesis of the study is the following assumption. If we apply in the educational process of the University the author's model of formation of universal competence of self-education of students, it will be obvious their professional growth in the digital economy. The proposed author's model is aimed at the development of conscious awareness of self-education and self-development of students on the basis of digital educational platforms. This will accelerate the process of transition of society to the rails of General digitalization.

## II. RESEARCH METHODOLOGY

The achievement of this goal is based on the consideration of the definitions of the concepts of "self-education", "digital platform", "digital economy", analysis of scientific research of both Russian and foreign scientists in this field of research and identification of the need to develop a model of self-education of students in the development of the digital economy.

Self-education as a universal competence (UC-6) of modern Federal educational standards of the new generation 3++ involves the possession of students the ability to build and implement a trajectory of self-development based on the principles of learning throughout their lives, aimed at professional growth and enculturation the individual to the perception and development of social values. Here, as part of the development of innovations in modern Russian society, it is necessary to focus on the development of social values of the individual by means of the digital economy.

Thus, self-education in the professional sphere of University students takes place in the process of purposeful development of creative and intellectual potential of the individual in the digital economy.

The definition of an educational digital platform is consists an information space that teaches and develops, which is aimed at optimizing and reducing the time and resource load in cognitive activity.

At the world economic forum discussed the problem of the emergence of completely new specialties in just 10-15 years, which we do not even know. On behalf of the President of Russia Vladimir Putin (V. V. Putin (2018) from the 2019-2020 academic year in Russian secondary schools begins testing personalized learning of students on the basis of the digital platform.[6]. This task is aimed at the formation and development of an effective digital economy in Russia not only through the business community, socium, by also through a specific person in real time.[7]. Accordingly, soon

the universities will come entrants who are fluent in the skills of setting an educational goal. They will be ready to make their own individual trajectory learning path on the basis of the educational digital platform. Personalized learning in the digital economy will allow create for each student its own learning path, independently assess the quality of learning and learning outcomes.

In this situation, the task of the University will be to create a digital educational platform, prepare educational content and help students to further develop their abilities to self-education, organize online or offline webinars to answer questions on the personalized roadmap of their own education and professional growth.

In connection with the introduction of digitalization in the educational environment, the requirements for the organization of the educational process and its traditional model of interaction between the teacher and students of the University are changing. Students and teachers in circumstance digital education will be able to be in touch with each other at any time. This will enable hereinafter to choose the appropriate program for the development of a new professional profile, or directions, for a wide range of acquisition of new opportunities, increasing competitiveness, the possibility of changing the profession, a new job. Higher education in Russia is aimed at the prosperity of the national economy. Accordingly, the universities provide scientific and research environment, focused on creation innovation.

Many scientists-teachers of universities studying contemporary trends in the development of national models of higher education in Russia and European countries (M. N. Dudin, V. V. Bezbakh, E. E. Frolova, M. V. Galkin (2018).[8]. It is proposed to apply the basics of digitalization in the educational process as a means of assessing the formation of metasubject competencies. (Nina P. Ansimova, Angelina V. Zolotariova, Elena N. Lekomtseva, Anzhelika B. Razumova (2017). [9]. The use of information computer technology in the scope creation of the first steps of digital education in high school, as a paradigm of the new, as a develop of the processes of transformation and improvement in the system of foreign and Russian education.(AGUIAR, Brumell O.; VELÁZQUEZ, René M.; AGUIAR, Jorge L.) (Wiest, Lynda. (2001). [10]. It should be noted point Belova A. M. on education in the limits modern textbooks as the basis of scientific knowledge (Belov, M. A.. (2019) [11].. Some foreign scientists offer different models of education virtualization (San Francisco, P. (2016), organization of online courses based on the digital platform (MASON, R. (1998). [12,13]. In their research, they raise the problem of the use of digital learning technologies in higher education, consider the need to create a University virtualization (Silvio, J. (2000) [14]. Others reveal the meaning of the concept of virtual reality (Steklov, V. A.. (2018). [15]. Vera, J. (2013) offers the latest technologies in the field of education based on the programming language. Ghomari, Abdessamed Réda & Zemmouchi-Ghomari, Leila & Yahia, Dahbia (2017) discuss the challenges and share the experience of digitalization in the educational it-oriented bachelor's degree process prep at Algiers University. Knutas, Antti & Seffah, Ahmed & Sørensen, Lene & Sozykin, Andrey & AL Zaghoul, Fawaz & Abran, Alain. (2017) currently are proving that in the modern world software systems have established themselves as the heart of business and are

already included in the daily life of each of us, and serve as a pillar of the emerging global digital economy.[16,17,18]

Our study is based on the teachings of A. Khitskov, Eugene & Veretekhina, Svetlana & V. Medvedeva, Alla & L. Mnatsakanyan, Olga & G. Shmakova, Elena & Kotenev, Andrew. (2017). [19]. They conducted a sociological study on the digital transformation of society. Scientists have concluded that it is necessary to include the population in the digital economy through the creation and implementation of digital education. This will require professional development of the teaching staff of higher education institutions in the direction of digital transformation of society. It will contribute to improving the overall quality of education.

Veretekhina S. V. & Korotin, I. S.. (2018) analyzed some fragments influence of the State strategy of Russian spin-offs on the interference of valuable knowledge between universities and companies medium-sized technology businesses.[20]. The necessity of solving the problem of management of innovative projects (PMBOK management) by R. Duncan, William (2009) is actualized [21].

In modern conditions, it is necessary to improve the global competencies identified in the article Siurdyban, and Nielsen, PA (2012), which are aimed at the development of IT- technologies for the purpose successful management of business processes and their digitalization in human resource management (Odegov, Yuri & Malakhov, Elena & Garnov, Andrew. (2019) [22,23, 24].

Note that the problem of self-education as a means of professional growth of University students in the digital economy has not been considered by anyone. This problem in the context of digital education remains unexplored, which emphasizes its relevance and novelty of the study. Although various scientific studies of Russian scientists talk about the need for the formation of skills to develop themselves and self-education in modern conditions, but this no be the main problem of their research..

### III. CONTRIBUTION OF AUTHORS

Author's contribution Alekseeva I. V., Skovorodnikova N. Ah. Koltsova E. A. is to identify the problem of research, conducting a ascertaining experiment on the basis of ANOHE "MOSCOW INTERNATIONAL UNIVERSITY". I. A. Farafontova and V. I. Pallotta developed a questionnaire, conducted testing and social survey of University students. The result of the study of this group of scientists was model of formation of universal competence of self-education of University students in the digital economy. The authors are approbation this model (Fig. 1) from the 2018-2019 academic year at the Moscow international University and FSBEI HE "K. G. Razumovsky Moscow State University of technologies and management (the First Kossack University)".

The base of theoretical knowledge of this model is the scientific methodological basis of self-education in the conditions digital economy. This knowledge has a special impact on the main components of self-education, which consist of: motivation, psycho-emotional attitude to self-knowledge, based on the volitional component with the ability to adequately assess their own achievements in personifying the trajectory of digital learning. These components both depend and influence the goals of self-

education. As well as the forms, methods and principles of knowledge, skills and possession of new abilities in the self-determination of the road map of self-education on the basis of digital educational platform. In other words, the content of education and personification of this program for mastering a new profession, work or creating a new lifestyle is determined. Thus, together with the teacher, an Individual educational route and an Individual trajectory of development of the student's creative potential are built.

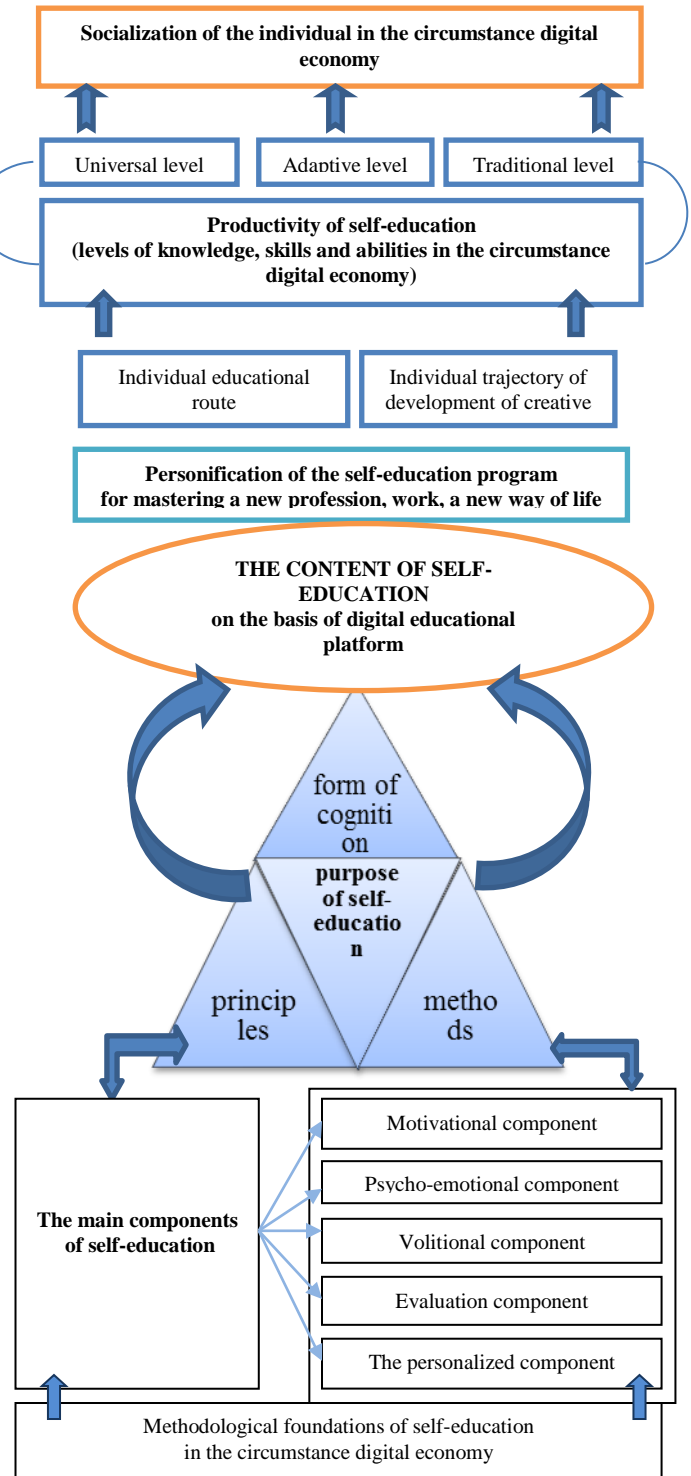


Fig. 1. Model of formation of universal competence of self-education of University students in the conditions digital economy

To identify the Productivity of self-education identified three main levels of knowledge, skills and abilities of students in the circumstance digital economy.

The traditional level is based on the basic knowledge and skills that the student received in the classroom during contact work with the teacher and independently performed the required minimum. The University teacher develops an educational trajectory taking into account the psychological characteristics of the student's personality. The assessment of the acquired knowledge and skills corresponds to satisfactory.

The adaptive level is based on the knowledge, skills and abilities obtained in the classroom at the University and the independent study of research and sources specified by the teacher of the University. The student independently tries to make a road map of self-education under the supervision of the University teacher and with his recommendations. But independent work with digital educational platform causes some difficulties. Assessment of the acquired knowledge, skills and formation of abilities can be assessed as "good".

The student enters the Universal level of self-education in the process of independent development of a personalized program of self-education and freely receives the necessary information with the digital educational platform. In this case, the teacher approves the educational route. Knowledge, skill, and proficiency possession to self-education are estimated perfectly. The application of this model allows students' personality to adapt and socialize optimally in the digital economy.

#### IV. CONCLUSION

In the context of the digital economy within the national interests of the state it is necessary to develop innovative technologies aimed at improving the universal competence of self-education as professional growth of University students. With the effective use of the model of self-education and self-development based on innovative methods with the use of digital educational platforms, the experience of teaching students will change positively. The digital economy will give students invaluable digital knowledge in the field of innovation, which can be applied in any industry and sphere of life, which will expand their opportunities in the labor market. The digital economy will give students invaluable digital knowledge in the field of innovation, which can be applied in any industry and sphere of life, which will expand their opportunities in the labor market.

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