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DIGITAL COMPETENCE OF THE FUTURE TEACHER: COMPONENT COMPOSITION

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ABSTRACT

With the introduction of digital technologies, the daily life of a person and industrial relations are changing, the economy and education are being transformed. Digital technologies are not only a tool, but also an environment for the existence of a modern person, which opens up new opportunities: learning at any convenient time, continuous education, the ability to form individual educational routes, from users of electronic resources to become creators. However, such an environment requires teachers to take a different approach to organizing the educational process, to acquire new skills and abilities to work in the digital educational space. In these conditions, the pedagogical education system should provide training for a graduate with a high level of digital professional competence formation. The purpose of this article is to identify and theoretically substantiate the component structure of the phenomenon of "teacher's digital competence" based on the analysis of scientific and pedagogical literature. The article is based on the analysis of studies by foreign scientists.

KEYWORDS: *Digitalization Of Education, Digital Technologies, Digital Competence Of A Teacher.*

INTRODUCTION

Digitalization as the main trend of the modern world has taken the leading positions in education. The main condition for such development is the modernization of the national educational system, aimed at preparing a graduate who is able to live and carry out his professional activities

in a digital environment, taking into account the requirements for new professions and changing values of society.

The solution to this problem provides for an increase in the requirements for the qualifications of teachers and their competence in the use of digital technologies for the design and implementation of the educational process.

In the context of digitalization of the education sphere, the professional activity of a teacher is radically changing. The teacher becomes, first of all, "an organizer and motivator of individual and group educational activities of students, an intermediary between the virtual and real world, a mentor, a navigator of the real social and professional world, a kind of" integrator "of various living spaces of the digital generation."

The effectiveness of using digital technologies in the educational process has been proven by the practice of organizing distance learning during the COVID-19 pandemic. They turned out to be the tool that made it possible to maintain the continuity of the educational process. At the same time, the forced transition to distance learning revealed the existing problems in this area. Research by V.L. Nazarov, D.V. Zherdev, N.V. Averbukh, D.O. Koroleva, N.V. Isaeva (2020) show that under the current conditions, most teachers were not sufficiently prepared to use digital technologies.[4].

In this regard, the issues of training future teachers who have the skills and abilities of organizing the educational process in a digital environment, who use digital technologies in their professional activities and who know the features of the "digital generation" and the methods of its teaching and upbringing, are extremely relevant and become the subject of scientific and pedagogical research and widespread public debate.

Pedagogical universities are revising the training programs for bachelors in the pedagogical direction of training. The result of such activities should be a graduate with a high level of proficiency in working with digital devices, pedagogical technologies and methods of creating and using digital educational resources to improve the efficiency of the educational process.

Thus, the structure of the teacher's professional competence is supplemented by a new component - digital competence, and the level of the teacher's professionalism directly depends on the level of this competence. To solve this problem, it is necessary to form digital professional competence in future teachers.

Review of domestic and foreign literature. Considering the definition of the concept of "digital competence". "Digital competence is based on the continuous mastering of competencies (knowledge, skills, motivation, responsibility), the ability of an individual to confidently, effectively, critically and safely select and apply information and communication technologies in different spheres of life (information environment, communications, consumption, techno sphere), as well as his readiness for such activities "[5]. The authors emphasize the complexity of this phenomenon and emphasize the development of responsibility, motivation and the value sphere of a person as components for professional growth in a digital society, understanding by them the identification of a person's needs and desires, the degree of his readiness for development (motivational sphere) and determination of his attitude to the Internet. , the degree of his understanding and acceptance of the norms, rules and values of the digital world and his readiness to follow them (value sphere) [6].

N. P. Yachina and O. G. Fernandez define the digital competence of a teacher as “general professional competence and understanding of the general structure and interaction of computer devices; understanding the potential of digital technologies for innovation; a basic understanding of the reliability and reliability of the information received, the ability to use programs for designing a training session ”[8].

According to I. V. Gaidamashko and Yu. V. Chepurnaya, the competence under consideration is “the ability of an individual to critically, confidently, safely and effectively apply and choose info communication technologies in all spheres of life, as well as his readiness for such activities” [9]. VS Petrova, EE Shcherbik believe that the digital competence of a teacher is the skills of effective use of new technologies [10].

The specificity of pedagogical education at the present stage of development of society is the fact that the future teacher will teach the “digital generation” of students with specific characteristics of perception, memorization, thinking, motivation, behavior, etc.

Consequently, there will be a change in the principles, approaches to the formation of the content of education, forms and methods of teaching. V. I. Blinov, I. S. Sergeev, E. Yu. Yesenina and other scientists consider it important for a teacher to “understand the characteristics of the digital generation in order to rely on them in the educational process” [11].

The concept of "digital competence of a teacher" is also considered by foreign experts. The development of a complex of professional competencies of a teacher in the context of digitalization of education is carried out under the leadership of the Education Committee of the European Union, where in 2017 the Digital Competence of Educators (Dig Comp Edu) profile of teachers' digital competencies was proposed. It is of a recommendatory nature and describes 22 competencies, in which the main focus is not on technical skills, but on the teacher's ability to use digital technologies to improve the efficiency of the educational process [12, 13]. S. Kluser, S. Carretero, M. Giraldeés, W. Okiff (2018) describe the practice of implementing the European digital competence system (DigComp), consisting of 50 case studies and tools [14].

G. Ottestad, M. Kelentrich (2013) define the digital competencies of a teacher as a set of components: general (general knowledge and skills that a teacher must have in order to function as digital educators); didactic (reflects the digital specificity in each subject) and professionally oriented (describes the digital features of the extended teaching profession) [15].

K. Zirera and N. Seal (2019) emphasize that the introduction of digital technologies in education will be effective if the leading place in it is occupied not by technology, but by the teacher and pedagogy: “The main focus of the responsibility of education has always been human development. A person in pedagogy is both a starting point of reference and an end result. This approach should be applied to the digitalization of education. Digital technologies cannot replace the pedagogical component of the educational process. Moreover, digitalization should be subordinated to pedagogy ”[16].

E. Meyers believes that the development of digital technologies and tools requires new knowledge and skills from the teacher: the teacher must ensure that students master digital tools in order to advance the development of the younger generation and help them master the necessary competencies to expand the availability of new knowledge [17].

The University of Oxford conducted a study of pedagogical support systems for students in digital learning, which showed that teachers play a leading role in the development of new skills by their students ”[18]. J. Yarbrough emphasizes that in the digital space it is “the teacher who determines the pace of learning, the order of obtaining subject knowledge. The teacher is responsible for the progress of the student ”[19].

Thus, a review of the works of foreign authors shows that the comprehension, description and structuring of the teacher's digital competencies, forming the professional digital competence of the teacher, is a priority area of scientific research and indicates the expansion of the content of his activities, changes in the requirements for training and conditions for professional development of pedagogical employee.

The analysis of scientific and pedagogical literature showed that the concept of "digital competence of a teacher" is not fully studied (there are no clear definitions of this phenomenon, its structure has been little studied). In our study, the digital competence of a teacher will be understood as a constantly updated environment for the improvement of digital technologies, a set of competencies necessary for a teacher to carry out professional activities in a digital educational environment, and we will propose a component content of this concept.

Methodological base of the research. The methodological basis of this research is the competence-based, system-activity and personality-oriented approaches.

The current stage of development of the domestic system of vocational education is characterized by the implementation of a competence-based approach, which acts as the methodological basis of state educational standards of higher vocational education and is a necessary condition for the modernization of the system of higher vocational education in accordance with world trends, focusing on the activity side of the result and the practical component of the educational process at the university. ...

The competence-based approach is more specific, mobile and, most importantly, practical and universal. It is as close as possible to the realities of life and is directly aimed at shaping students' holistic experience in solving life problems, performing key functions, social roles, and competencies. Its practical implementation will make it possible to educate a person not only trained, but also a learner, ready to learn and retrain throughout his life, able to live productively and act in a complex dynamic environment [22].

According to A. V. Khutorsky, the essence of the system-activity approach lies in the fact that knowledge, skills and abilities are considered as derivatives of purposeful educational actions, since they are generated, applied and preserved in the process of purposeful activity [24]. In the context of the digitalization of the higher education system and the need to form digital professional competence of the future teacher, the system-activity approach to the study of this phenomenon acquires special relevance.

The digital transformation of education is proceeding rapidly, the list of digital technologies for the implementation of the educational process is constantly being updated and expanded.

Achieving a student of the level of digital competence necessary for professional activity presupposes the acquisition of not only the skills and abilities of organizing the educational process in a digital educational environment, but also the achievement of personal skills and

abilities in this area, reflection of their activities, and the development of motivation for further study of digital technologies. In these conditions, the training of future teachers should contribute to the development of their readiness to carry out activities with the prefix "self": independence, self-motivation, self-education, self-development, self-determination, etc. L. M. Andryukhina, N. V. Lomovtseva, N. O. Sadovnikova note that "the priority tasks include the value-semantic conceptualization of the digital transformation of education ... the development of models for motivating teachers based on a personality-oriented approach, the transition from non-systemic innovations to building an ecosystem of digital education" [25] ...

Analysis of scientific and pedagogical literature and research results in the field of digitalization of education, consideration of the concept of "digital competence of a teacher" from the standpoint of competence, system-activity and personality-oriented approaches allowed the author to draw conclusions about the component composition of the considered competence.

Research results

Comprehension of the theoretical analysis of scientific and pedagogical literature and the application of the above methodological approaches to disclose the component composition of the digital competence of the teacher led to the conclusion that the structure of the competence under consideration can be represented by components that take into account the characteristics of professional and pedagogical activity: motivational-personal, cognitive, activity-based and reflexive- estimated.

The motivational and personal component of the digital professional competence of a teacher in modern conditions is of particular interest, since it reflects a person's conscious need for the use of digital technologies in professional activities. The first category includes the learning activity itself and the process of its implementation (cognitive interests, mastering new knowledge, skills, and abilities). The second is related to the need for communication, in assessing the approval of feedback. The motivational component of digital professional competence can be defined as the sum of internal external motives for their future professional activities, characterized by the desire of the future teacher to use digital technologies, the desire to improve in this area, the formation of an internal desire to achieve success in solving non-standard problems.

Cognitive component. The importance of this component in the professional activity of a teacher is noted by many scientists. The cognitive component as the presence of relevant integrated knowledge, the ability to constantly improve it, the readiness for creative activity, the possession of flexibility and critical thinking, the ability to analyze the professional situation and reflection.

We present the cognitive component as a set of methodological, theoretical and technological knowledge that combine general knowledge in the field of computer technology and pedagogical knowledge on the use of computer technology and are used in solving professional problems. DV Dudko [30] believes that the cognitive component of the teacher's professional activity is the readiness to constantly improve his educational level, the need to actualize and realize his personal potential, the ability to independently acquire new knowledge and skills, the desire for self-development, constant enrichment of his professional competence.

Based on the analysis of the work of scientists, we will consider the cognitive component of digital professional competence as a set of theoretical knowledge, skills and abilities of a future teacher, which includes the ability and readiness to master basic and special knowledge, skills

and abilities in the field of digital technologies for the effective construction of the pedagogical process. with the use of digital teaching tools, including the skills of building a digital communication process between participants in the educational process, professional capabilities and thinking, the use of an individual pedagogical style in solving professional problems, knowledge of the characteristics of the "digital generation" and approaches to their education and upbringing.

Activity component. The activity component determines the operational essence of the knowledge and skill being formed as a result of mastering the methods and techniques of activity; as the ability of a person, based on knowledge and skills, to perform any activity or action in changing conditions. An activity component as an active use of the possibilities of new information technologies and a computer in professional activity, as a factor in the development of information culture, self-development, as well as the process of forming the same qualities in students.

Having analyzed the approaches of various scientists to the definition of the concept of this component, we will assume that the activity component consists in the practical embodiment of the professional and pedagogical knowledge of the future teacher, his intellectual, cognitive, technical, design and technological skills; the necessary skills for the effective implementation of digital technologies in the educational process, for an informed choice of digital content, ensuring digital security and health standards and rules for the use of digital devices; in mastering the skills of creating your own digital content; in acquiring the skills of organizing communication between participants in the educational process, etc.

This component of digital professional competence is currently under intensive development.

The reflexive-evaluative component of digital professional competence includes the ability to analyze and self-analyze the activity being performed, to agree on goals, methods and results obtained, to be aware of one's own style of activity, readiness for its creative change, readiness for self-improvement and self-development, skills and abilities of self-control, self-regulation, self-awareness of self-realization ... The teacher's ability to reflect largely determines the success of his professional actions in new conditions for him. Therefore, the importance of pedagogical reflection especially increases in innovative activities.

In the context of digital education, the reflective-evaluative component makes it possible to realize the professional difficulties arising in the process of mastering digital technologies, to realize the level of readiness to use these technologies in the educational process and the degree of satisfaction with such activities.

CONCLUSION

This work opens up opportunities for further research in the field of determining the structure of the phenomenon of "digital competence of a teacher", which is one of the components of the professionalism of a modern teacher that meets the requirements of society in the digital economy. The proposed component composition of the phenomenon of "digital competence of a teacher" can be used as the basis for the development of elective courses for students of the pedagogical direction of training, programs of advanced training courses and additional education for teachers.

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