

CZU: 378.12:004

DOI: 10.46727/c.17-18-05-2024.p128-135

**THE INFLUENCE OF MODERN INFORMATION AND DIGITAL
TECHNOLOGIES ON THE DEVELOPMENT OF TEACHERS’
PROFESSIONALISM IN THE SYSTEM OF POSTGRADUATE EDUCATION**

ZHOROVA Iryna, Communal Higher Educational Establishment
“Kherson Academy of Continuing Education” of Kherson Regional Council,
Acting Rector, Kherson, Ukraine
ORCID: 0000-0003-4304-4962
zhorova.ks@gmail.com

KOKHANOVSKA Olena, Communal Higher Educational Establishment
“Kherson Academy of Continuing Education” of Kherson Regional Council,
Head of the Department of Pedagogy and Educational Management, Kherson,
Ukraine
ORCID: 0000-0001-7294-173X

***Abstract:** The article highlights the actual problem of using modern information and digital technologies for the purpose of developing teachers’ professionalism in the system of postgraduate pedagogical education. The most modern and relevant types of information and digital technologies are characterized, which in the complex create a favorable and effective environment for the development of professionalism of employees in the education sector. The experience of organizing an educational environment with the use of modern digital tools on the basis of the communal higher educational institution “Kherson Academy of Continuing Education” of the Kherson Regional Council is described. The organizational and pedagogical conditions for the development of the professionalism of teachers of the New Ukrainian School with the use of information and digital technologies were identified through experimental activity.*

***Keywords:** teacher; professional development; professionalism; postgraduate education system; information and digital technologies.*

The innovative nature of the post-graduate educational space is determined by the growth of information flows, the use of new pedagogical technologies, the need to meet the needs of personal and professional development of teachers, who are sometimes not fully ready to introduce innovations into school practice. This causes certain difficulties in professional activities, including: organization of project and research activities of students; development and implementation of methodical models, technologies and techniques; analysis of the results of the educational process and their

further use during the design of pedagogical activities; study, generalization and creative use of promising pedagogical experience, etc.

The above actualizes the search for modern techniques, methods, technologies for the development of the professional competence of teachers in post-graduate education institutions. An important role in this process is played by modern information and digital technologies, which contribute to the realization of such an integral component of teacher professionalism as the ability to learn throughout life.

Analysis of recent research and publications. Today, as before, the search for productive forms of teacher's professional development in the conditions of permanent changes in the national education system, intensification of teaching activities, rapid updating and increase in the amount of information, etc., is relevant. The study and analysis of scientific work on postgraduate pedagogical education shows that the use of information and digital technologies increases the effectiveness of the professional development of teachers.

The study and analysis of studies on the development of pedagogical professionalism shows their multifaceted scientific dimension: scientific justification of the phenomenon "a teacher's professionalism" (N. V. Kuzmina); studying a teacher's professionalism from the position of an acmeological approach (V. O. Slastyonin); substantive filling of the personal and activity essence of the professionalism of pedagogical activity (I. D. Bagaeva); analysis of professionalism as an integrative personal and activity development of a teacher-educator (N. V. Guziy); determination of the structure of the teacher's professionalism (S. A. Druzhylov) and others.

Many studies have also been conducted in the field of information and digital technologies in postgraduate education. In particular, the development of the theoretical foundations of informatization of education and the practical implementation of information and digital technologies in the educational sphere of Ukraine were comprehensively investigated by the author's team consisting of such scientists as V. Yu. Bykov, O. Yu. Burov, A. M. Gurzhii, M. I. Zhaldak, M. P. Leshchenko, S. G. Lytvynova, V. I. Lugovoi, V. V. Oliynyk, O. M. Spirin, M. P. Shishkina.

However, taking into account the rapid development of information and digital technologies and taking into account the fact that today each teacher can independently choose where to undergo advanced training, each post-graduate education institution faces the task of finding ways to increase its own competitiveness, which in particular can be realized in the construction of an information and educational environment institution in order to develop the professionalism of teachers.

The purpose of the article is to reveal the meaning of the concept of “a teacher’s professionalism”, to define modern information and digital technologies that can be used to develop the professionalism of teachers, and to highlight the organizational and pedagogical conditions for their application in the system of postgraduate pedagogical education.

The first attempts to scientifically substantiate the phenomenon of “a teacher’s professionalism” can be found in the research of N. V. Kuzmina, who defines it as the ability of a teacher to form students’ readiness to solve tasks during the time allocated to study a certain subject [1, p. 11]. The phenomenon of professionalism is understood as a qualitative characteristic of the subject of activity - a representative of a certain profession, which is determined by the extent to which he possesses modern content and modern means of solving professional tasks, productive ways of their implementation. In addition to quality criteria of professionalism, N. V. Kuzmina also introduces quantitative ones, noting that “the degree of this mastery is different for different people, so we can talk about a high, average, low level of professionalism of a representative of a particular profession” [ibid.].

The study of the teacher’s professionalism from the position of the acmeological approach, conducted by V. A. Slastyonin, proved that “the teacher’s professionalism is a qualitative characteristic of him as a subject of pedagogical activity, which reflects a high level of professional competence and personal readiness to productively solve pedagogical tasks. As an integral personal formation, the teacher’s professionalism combines in its structure motivational-value, cognitive and operational-activity components” [2, p. 6].

The convergence of scientists’ views regarding the understanding of professionalism as the pinnacle of human development in professional activity indicates that the “pinnacle model” itself predicts the possibility of decline and regression after certain achievements. Modern acmeological theories of professional development are based on the model of the “multi-vertical” phenomenon, according to which acme does not mean the final path of life movement and development, but the peak from which new horizons of further progress open up. Thus, modern science focuses on the “multi-vertical” and “intentional-dynamic” model of human acme. The significance of these models is determined by the possibilities of distinguishing different acmeological periods at certain stages of life [3, p. 14].

In the research work of N. V. Guzii, professionalism is presented as an integrative personal and activity development of a teacher-educator. At the same time, the scientist takes into account the methodological principle of the unity of personality and activity, considers the professionalism of pedagogical activity and the professionalism of the

individual in inseparable integrity and singles out their meaning-making factors: pedagogical skill and creativity [4, p. 159].

Therefore, the analysis of scientific research makes it possible to characterize the professionalism of a teacher as an integrative quality of a person, characterized by moral and spiritual qualities, an acmeological position, pedagogical technique, professional competence, which are exteriorized in creative pedagogical activity and ensure the formation of key and interdisciplinary competencies in students.

Today, in Ukraine, as in the whole world, digitalization of education is rapidly developing. The widespread use of information and digital technologies, which are based on artificial intelligence approaches, significantly expands the opportunities of education seekers to choose individual educational trajectories, form and achieve their own goals of self-determination and self-improvement [5, p. 168].

The development of the professionalism of teachers takes place successfully in the system of continuous education. Since the “agents of change” in the conditions of reforming the educational system of Ukraine are teachers, it is important to “arm them” with modern methods of using information and digital technologies to form the digital competences of teachers and improve the ability of “lifelong learning”, because only a competent teacher who is able to self-improvement, can bring up such traits in the younger generation.

Today, most institutions of post-graduate pedagogical education use the possibilities of digital education, in particular, the possibility of taking face-to-face and distance courses of professional development is provided on separate platforms. It should be noted that today each such institution strives to create its own unique informational and educational environment, which will satisfy the needs of teachers as much as possible and contribute to increasing their professionalism.

The main value dimension of the quality of modern postgraduate education is the professional development of a teacher with a high level of awareness, motivation for personal development and continuous self-education, the ability to think creatively, civic activity and responsibility, mobility, flexibility, the ability to effectively implement the state educational policy and ensure the quality of education.

The formation of a high level of professionalism as an expected result of the functioning of the postgraduate pedagogical education system changes the vector of goal setting from filling a person with knowledge to meaningful personal growth. In addition, progressive development of a teacher as a person and a professional is carried out only during practice, when he takes the position of an active subject of pedagogical activity, in which his creative potential and abilities are realized. Therefore, it is important to form an anticipatory nature of the content of postgraduate education and

to introduce effective educational technologies for the organization of a practice-oriented educational process.

According to the data of the international New Media Consortium (NMC) for 2019, modern computer technologies that determine the prospective development of information and digital technologies in education include the following [6]:

1. mobile technologies that make it possible to use smartphones, communicators, netbooks, laptops in the educational process due to their ability to share resources and quickly connect to the network;
2. high-quality digital resources, software and free centralized access to them, which help to freely implement new methods and forms of work, focused on the active independent and productive activity of those who study. This can be implemented through the creation of educational portals;
3. touch interfaces – a technology based on natural human gestures that allow easy control of objects on the screen. The appearance of such models leads to the development of new models of human interaction (teacher, teacher, student) and information and digital tools;
4. data visualization. This type of data is a cognitive learning tool that both teachers and students love. Today, the usual visualization in the form of drawings, diagrams, models, 3d models, videos is supplemented by another direction of enhancing visual information - augmented reality, which offers a combination of real and virtual objects and creates a completely new informational perception of reality. The advantage of this approach is also the transition to a model of learning through research, which is especially relevant in modern schools.

The use of all the above-mentioned technologies in the post-graduate education system contributes to the active development of e-learning and the use of the distance education system for the development of the professionalism of modern teachers.

In particular, information and digital technologies are used within the limits of both course and inter-course periods at Kherson Academy of Continuing Education. The purpose of their use is to create an effective educational space for the development of professionalism of all pedagogical workers. The organization of such a space makes significant changes to the traditional scheme of interaction of participants in the educational process. For example, entrance diagnostics, which is usually carried out in post-graduate education institutions in order to diagnose the basic professional knowledge and skills of course participants, as well as to study their needs for the further development of an individual trajectory of professional development.

Identifying the circle of interest of teachers during the initial diagnosis makes it possible to determine the most optimal trajectory of their work on the development of their own professionalism. Based on the andragogic principles of the organization of adult education, work with students at the Kherson Academy of Continuing Education is based on their professional requests, which are formed on the basis of pedagogical experience and difficulties that arise in the process of pedagogical activity.

If the student is interested in studying a certain course, then this request is satisfied at the expense of the variable component, individual creative work and taking special courses. Mobile learning (m-learning, mobile learning) opportunities are widely used during course preparation in educational classes, because mobile communication devices (pocket computers, netbooks, mobile phones, smartphones, tablets, etc.) have become an integral part of life today every person, including teachers [7]. The pedagogical possibilities of this technology for postgraduate education consist in motivating students to work, organizing group and independent work in a separate space organized for traditional classes, making contacts between the subjects of the educational process through short messages and mobile devices, receiving and transmitting through the worldwide network educational tasks and materials, asynchronous work [8, p. 63]. In the conditions of postgraduate education, these technologies make it possible, regardless of the technical support of a certain institution (audience), to organize effective interaction between students and create conditions for their direct involvement in the use of mobile devices in educational activities for further application in the conditions of the school where they work. In addition, given the growing popularity of smartphones and mobile devices among the pedagogical community, the ability to work with mobile technologies is fundamental to the formation of all components of the professionalism of each teacher and contribute to ensuring the continuity of knowledge acquisition regardless of the location of the learner.

Within the course period, mobile devices are also a relevant means of formative assessment. In particular, teachers of Kherson Academy of Continuing Education use Kahoot, Quizziz, Quizlet, WordWall, etc. services.

Along with the use of mobile technologies, organization and interaction in the cloud education space are important. Cloud services are a model of providing everyday and convenient network access on demand. In the conditions of cloud technologies in postgraduate education, effective interaction between students and teaching staff is carried out (for distribution of educational materials, organization of cooperation during the writing of graduation theses, exchange of experience, etc.); directly between listeners (for the exchange of experience, photos, etc.).

Google Workspace for Education is also actively used in Kherson Academy of Continuing Education: Google Drive (for accumulation of students' achievements and exchange of educational materials), YouTube channel (for creating your own video space and joining the academy's video channel), Gmail (for organizing interaction between students and teachers), Google Calendar (for drawing up a schedule of classes for students in distance and face-to-face learning conditions), Google Documents and Google Presentations (for organizing the interaction between the teacher and the student during the writing of the final paper and the design of the final paper, as well as the presentation of own work), Google Hangouts (for conducting online conferences and consultations), Google Forms (for conducting online surveys and tests), etc. Distance courses are conducted on the basis of Google Classroom. All educational materials posted in Google Classroom correspond to modern forms of information presentation, contain various multimedia tools (graphics, text, photos, videos and audio materials). It is also worth noting the non-linearity of the organization of educational content, which gives the student the opportunity to choose the learning trajectory.

During the inter-course period, teachers have the opportunity to improve their professionalism by participating in various webinars, online meetings, online conferences, taking distance special courses, etc.

Non-formal education – massive open online courses (MOOC) – plays a special role in improving the professionalism of teachers. These courses are a living tool for learning and improving the professionalism of teachers. Today, there are a significant number of free platforms that host many free and partially free online courses. These include the educational platforms “Na urok”, “Vseosvita”, EdEra, Prometheus, Coursera, VUM, Duolingo, etc.

However, although alternative education is an analogue of regular education, there is an opinion that online courses are not effective enough in shaping the professionalism of teachers. One of the disadvantages of such courses is, in particular, the lack of networking and useful communication, as well as the low quality of courses taught online.

The use of information and digital technologies in the Kherson Academy of Continuing Education provided for the implementation of organizational and pedagogical conditions for the development of teachers' professionalism, namely:

1. creation of an informational and educational environment for the professional development of teachers in the conditions of a post-graduate education institution;
2. organization of interaction between participants of the pedagogical process by means of ICT;

3. implementation of online support for teachers and their professional counseling in the inter-course period.

Thus, the use of information and digital technologies affected all components of teachers' professionalism: emotional and valuable – teachers, using the example of their own educational activities, see the effect of their influence on motivation for educational activities, professional growth and the formation of “lifelong learning” competence; cognitive – information and digital technologies expand the boundaries of obtaining information, which contributes to the deepening of professional knowledge; activity – practical classes on the use of ICT form the digital literacy of teachers and their ICT competence.

The analysis carried out does not exhaust all aspects of the investigated problem and proves the need to develop a system for monitoring the level of development of the professionalism of teachers, researching the scientific and theoretical foundations of postgraduate pedagogical education.

References

1. KUZMINA N. Professionalism of the activity of the teacher and the master of industrial training of the vocational school. St. Petersburg: High school, 1989. 167 p.
2. SLASTENIN V. A. Teacher professionalism as a phenomenon of pedagogical culture. Pedagogical education and science. 2008, No. 12, pp. 4-15.
3. BAHAIIEVA I. Professionalism of pedagogical activity and the basis of ego formation in the future teacher: autoref. thesis ... Dr. Ped. Sciences: 13.00.04 / Scientific Research Institute of Prof.-Techn. formation of the APN of the USSR. Ust-Kamenogorsk, 1991. 36 p.
4. HUZII N. The category of professionalism in the theory and practice of training the future teacher: dissertation. ... Dr. Ped. Sciences: 13.00.04 / M.P. Dragomanov National Pedagogical University. Kyiv, 2007. 475 p.
5. Development of theoretical foundations of education informatization and practical implementation of information and digital technologies in the educational sphere of Ukraine / V. Bykov, O. Burov, A. Gurzhii, M. Zhaldak, M. Leshchenko, S. Lytvynova, V. Lugovii, V. Oliynyk, O. Spirin, M. Shishkina / Sci. ed. V. Bykov, S. Litvynova, V. Lugovii. Zhytomyr: State University named after I. Franko, 2019. 214 p.
6. Educause Horizon Report. 2019 Higher Education Edition [cited 02.05.2024]. Available: <https://library.educase.edu/-/media/files/library/2019/4/2019horizonreport.pdf?la=en&hash=C8E8D444AF372E705FA1BF9D4FF0DD4CC6F0FDD1>
7. HORBATIUK P. M. Mobile learning as a new technology of higher education. Scientific Bulletin of the Uzhhorod National University. 2013, No. 27, pp. 31-34. [cited 02.05.2024]. Available: http://nbuv.gov.ua/UJRN/Nvuuped_2013_27_10.
8. LUBINA YE. Mobile learning in higher school didactics. Bulletin of Lviv University. Series: Pedagogy. 2009, No. 25, part 2, pp. 61-66.