

## Problems and Prospects for the Development of Professional Pedagogical Activity in the Context of IT Penetration into Education

### Problemas y perspectivas para el desarrollo de la actividad pedagógica profesional en el contexto de la penetración de las TI en la educación

**Olga Ivanovna Mikhailenko** 

Institute of Pedagogy, Psychology and Sports Education, FSBEI HE “Kabardino-Balkarian State University named after Kh.M. Berbekov”, Russia  
ORCID: <https://orcid.org/0000-0003-1348-107X>

**Marina Vladimirovna Vakulenkova** 

Head of the Department of Natural Science, Psychology and Education, Branch of Adygea State University, Belorechensk, Russia  
ORCID: <https://orcid.org/0000-0001-6678-5259>

**Elena Ivanovna Sharova** 

Adygea State University, Russia  
ORCID: <https://orcid.org/0000-0003-0043-0345>

**Angela Vladimirovna Sokolova** 

Federal State Autonomous Educational Institution of Higher Education “Russian State Professional Pedagogical University”, Russia  
ORCID: <https://orcid.org/0000-0002-6075-7465>

**Elena Yuryevna Temnikova** 

Federal State Autonomous Educational Institution of Higher Education “Russian State Professional Pedagogical University”, Russia  
ORCID: <https://orcid.org/0000-0001-9197-4780>

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#### \*Correspondence

Email: [olganlk@mail.ru](mailto:olganlk@mail.ru)

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## Summary

The beginning of the 21st century was marked by the rapid growth of qualitative transformations in all spheres of public life, including in pedagogical activity. Undoubtedly, this was facilitated by the steady development of information and communication technologies (ICT), the transformation of knowledge into a fundamental source of welfare gain as for a separate individual, and for society as a whole. Today, cross-cultural competencies are actively being formed that create opportunities for self-identification of individuals and communities; the dominance of the role of information-filled factors in the composition of sources of information-analytical base, etc. are observed. All this allows us to talk about the formation of the information society, which determines the transformation of professional pedagogical activity and its institutional environment. In our opinion, there is a change in the content of pedagogical activity; it is being transformed into information and analytical activity, as it is implemented by carriers of intellectual and creative resources with the active use of breakthrough information and communication technologies, which, ultimately, allows us to provide the main contribution to improving the level of professional development teacher. It is about the formation of a global information space. Experts note that teachers of non-pedagogical specialties of higher educational institutions in the Russian Federation often do not have basic pedagogical education, which makes it very difficult and even impedes the solution of many educational problems, not to mention the fact that they do not have a proactive character regarding the state of educational practice. Speaking about the teachers' availability of professional and pedagogical training, we assume that, at a minimum, they know such methods of professional pedagogical activity as the algorithmization and problematization of the educational dialogue, which allow them to identify the operations of the activity and determine their optimal sequence; all this also actively involves students in discussions when considering problem situations, etc. All that, in the end, is associated with the need to find relevant information for a professional solution to the problem in question. It is obvious that in modern realities it is necessary to constantly update professional information due to its rapid obsolescence, which in itself requires the active improvement of pedagogical technologies. All this speaks of the need to improve the theoretical and methodological provisions and practical recommendations of professional and pedagogical training of university teachers in the conditions of informatization of education.

**Keywords:** information and communication technologies, informatization of education, professional and pedagogical activity, professional and pedagogical competences, personality-oriented and activity approaches.

## Resumen

El comienzo del siglo XXI estuvo marcado por el rápido crecimiento de las transformaciones cualitativas en todas las esferas de la vida pública, incluida la actividad pedagógica. Sin duda, esto fue facilitado por el desarrollo constante de las tecnologías de la información y la comunicación (TIC), la transformación del conocimiento en una fuente fundamental de ganancia de bienestar para un individuo separado y para la sociedad en su conjunto. Hoy en día, se están formando activamente competencias transculturales que crean oportunidades para la autoidentificación de individuos y comunidades; Se observa el predominio del papel de los factores llenos de información en la composición de las fuentes de información-base analítica, etc. Todo esto nos permite hablar de la formación de la sociedad de la información, que determina la transformación de la actividad pedagógica profesional y su entorno institucional. En nuestra opinión, hay un cambio en el contenido de la actividad pedagógica; se está transformando en actividad informativa y analítica, ya que es implementada por portadores de recursos intelectuales y creativos con el uso activo de tecnologías de la información y la comunicación de vanguardia, lo que, en definitiva, nos permite brindar la principal contribución para mejorar el nivel de desarrollo profesional. profesor. Se trata de la formación de un espacio de información global. Los expertos señalan que los profesores de especialidades no pedagógicas de las instituciones de educación superior en la Federación de Rusia a menudo no tienen educación pedagógica básica, lo que hace que sea muy difícil e incluso impide la solución de muchos problemas educativos,

por no mencionar el hecho de que no tienen un carácter proactivo respecto al estado de la práctica educativa. Hablando de la disponibilidad de formación profesional y pedagógica de los docentes, asumimos que, como mínimo, conocen métodos de la actividad pedagógica profesional como la algoritmización y problematización del diálogo educativo, que les permiten identificar las operaciones de la actividad y determinar su secuencia óptima; todo esto también involucra activamente a los estudiantes en discusiones al considerar situaciones problemáticas, etc. Todo eso, al final, se asocia a la necesidad de encontrar información relevante para una solución profesional al problema en cuestión. Es obvio que en las realidades modernas es necesario actualizar constantemente la información profesional debido a su rápida obsolescencia, que en sí misma requiere la mejora activa de las tecnologías pedagógicas. Todo esto habla de la necesidad de mejorar las disposiciones teóricas y metodológicas y las recomendaciones prácticas de la formación profesional y pedagógica del docente universitario en las condiciones de informatización de la educación.

**Palabras clave:** tecnologías de la información y la comunicación, informatización de la educación, actividad profesional y pedagógica, competencias profesionales y pedagógicas, enfoques orientados a la personalidad y la actividad.

## Introduction

In the context of increasing competition in all spheres of human activity, personal preparedness for certain actions, the result of which is not a foregone conclusion, is of particular importance. And this is natural, because in everyday professional activity a person is increasingly faced with unpredictable situations characterized by a high degree of uncertainty. The existence of non-standard situations forces not only to be able to make non-standard decisions, but also to bear responsibility for them. We must admit that this is not within the power of any individual, but only a person.

Russian higher school has accumulated tremendous experience in training scientific and pedagogical personnel, using for this a developed network of educational levels in the form of postgraduate studies, doctoral studies, advanced training faculties, various forms of internships. Nevertheless, it must be recognized that all these forms of training scientific and pedagogical personnel were uniquely oriented directly only to the subject area of knowledge with a practical disregard for pedagogical activity.

All this allows us to talk about the continued absence of conceptually justified training systems for university teachers. Even the current system of advanced training for university teachers is still oriented towards the development of special (specialized) knowledge and skills exclusively related to the taught disciplines (Vinnitsky, 2012; Kastornova, 2012; Kolomeychenko, 2013).

Moreover, experts note that very often teachers who are seriously engaged in pedagogical and private didactic research encounter their direct non-acceptance by the heads of departments of specialized (non-pedagogical) departments.

There is also such a bias: the psychological and pedagogical cycle in the higher education system is mandatory only in the curricula of classical universities and pedagogical universities (as a general pedagogy course), but at the same time, it is not obligatory in non-pedagogical universities. And this is despite the fact that the availability of psychological and pedagogical knowledge allows not only to form the professional stability of specialists, but also to acquire additional education at the lowest cost.

In recent years, the contradictions between the need for highly professional teachers of the new generation and the lack of an appropriate system of training have become especially acute during the introduction of the educational standards of the third generation into practice. All this suggests that the need for awareness of basic psychological and pedagogical training of university teachers is crucially important.

This situation forces us to focus on instrumental preparation for pedagogical activities at the university. Through the skillful use of the variable part of the educational program, it allows expanding the number of disciplines of the psychological and pedagogical cycle, to specify pedagogical professional training through its focus on specific activities.

Undoubtedly, in modern realities, globalization, radical changes in the socio-economic situation, the informatization of society, the intensive development of technologies, and understanding of the need for continuity and recurrence of education actualize the needs of teachers in the development of the vocational education system, because the professional competency acts as a modern integral characteristic of teachers (Aleksankov, 2017; Ponomarev, 2003; Sidorov, 2017; Chumakova, 2014).

All of the above suggests the need to change approaches to professional pedagogical training in the conditions of informatization of education.

### **Research methodology**

The methodological basis of our study was the fundamental research of scientists in the field of pedagogy and psychology developed by Babansky Yu.K., Vygotsky L.S., Kraevsky V.F., Rubinshtein S.L., etc.; in the field of personality-oriented education, of our interest were Berulava M.M., Zeer E.F., Serikov V.V., etc.; in the field of education informatization we studied works of such scholars as Vagramenko Ya.A., Vostrokutova I.E., Kozlova O.A., etc.

We also used regulatory and methodological documents regulating the implementation of various approaches in the vocational education system, models of organization of the pedagogical process at universities, modeling of various situations in pedagogical activity, etc.

In the course of the study, we used general scientific methods, including epistemological analysis, questionnaires, observation, detailing, grouping, generalization, etc.

### **Research results**

One of the urgent problems of professional and pedagogical training is the organization of the educational process as the basis of the thematic approach with the dominance of teaching fundamental disciplines, usually in the form of monotonous lectures, with a minimum of variability, and without focus on professional pedagogical activity.

In recent years, specialists have been interested in the possibility of using the basic principles of a personality-oriented and activity-based approach to teaching in the context of the development of the psychological and pedagogical component of professional and pedagogical training of university teachers.

In (Serikov, 2005), it is noted that personality-oriented education is an independent direction of modern pedagogical science and practice and is intended to oppose subject and knowledge education. In other words, it is aimed at building such an education that would satisfy the needs of a developing individual, and not only satisfy “state beliefs about education” (Serikov, 2005).

The formation of personality is perhaps one of the most complex processes of human life, because the possibility of the proper inclusion of individuals in independent cognitive activity depends on their success.

In (Zimnyaya, 1998), it is substantiated that the use of the personalized activity approach allows creating objective conditions for the development of a personality with such characteristics as morality, professional competence, self-development, and harmony. The basis of personality-oriented learning is the concept of the formation of a personal attitude towards society, towards oneself, and towards one's activities.

The implementation of a personality-oriented approach forces changing the target orientation, and therefore, change approaches to the choice of teaching methods.

Personally-oriented teaching radically changes the relationship between students and teachers; a student turns into the subject of educational activity. At the same time, teaching the student the skills of self-setting learning tasks comes to the forefront of training. The students have the right to their own opinion, different from the opinion of a teacher and their classmates; moreover, they have the right to defend their own position. All this, undoubtedly, has a positive effect on normal personal development, acts as a natural consequence of a diverse perception of the real world, etc. At the same time, the main thing is not so much the correct answer, but the ability to correctly use knowledge, choose the most effective method for solving tasks, the ability to evaluate one's actions, etc.

Informatization of education is understood as the processes of providing the education system with the theory and practice of building and using breakthrough information and communication technologies necessary for the successful implementation of the goals of teaching and upbringing students (Zvereva, 2016).

The informatization process with regard to education consists of a set of the following measures:

- providing a university and educational authorities with hardware and software for information technologies;
- providing high-speed channels when connected to educational networks and to the Internet;
- building a teacher's lifelong system for teaching pedagogues with information technology (in the form of express courses, mini-seminars, ongoing special seminars, etc.) (Kolomeychenko, 2013).

In the conditions of informatization of the society, the psychological and pedagogical component of professional and pedagogical training significantly activated the informational activities of teachers. And this is natural. So, it was noted in the recommendations of UNESCO, that the development of qualifications of teachers in the field of constant use of information and communication technologies in education should be considered as a necessary component of the continuous pedagogical education system.

In this regard, it is appropriate to note that many more provisions for the development of professional competence in the field of information and communication technologies for university teachers are not regulated by the relevant legislative acts and regulatory documents regulating professional requirements for teaching staff (Misakov, 2007; Taramova, 2015).

It seems to us that in today's realities manifesting themselves through digitalization of the life of society, one can no longer be satisfied only with the acquisition of basic skills for working with PC and the Internet. Today, at an ordinary level, any teacher should understand the phenomenon of information and be able to go through with the students the whole range of work with the information object - from the correct formation of an information request, search,

extraction, processing, critical analysis, synthesis and to the generalization of information received from different sources of information.

Thus, the professional use in pedagogical activities of a personality-oriented and activity-based approach to teaching allows us to:

- Effectively realize the learning opportunities of students in the course of use of the didactic capabilities of information and communication technologies;
- Orient the training of teachers on the possibility to choose freely the form of training, methods of organizing information and analytical activities through the active use of information and communication technologies;
- Create an atmosphere of partnership, mutual support, free presentation of one's positions, etc (Abdalina, 2008; Bordovsky & Granichina, 2008; Leshchinsky, 2005; Slashtenin & Podymova, 1997).

The experience of advanced Russian universities shows that the implementation of the didactic capabilities of information and communication technologies enhances professional mobility and forms the competitive advantages of teachers regarding their professional activities.

In the course of our communication with teachers (especially technical universities), we were convinced that the organization of information activities with the help of information and communication technologies can reduce psychological barriers that significantly impede the development of such technologies.

All this speaks of the need for the active use of pedagogical technologies that allow carrying out the effective formation of subjective qualities among specialists of the new generation, built on the principles of subject-subject and subject-object-subject communication.

Experts note that the use of pedagogical technologies allows getting rid of all kinds of (unnecessary) pedagogical impromptu in practical education by switching to the preliminary design of the educational process in working with students (Bershadsky & Guzeev, 2003; Ponomarev, 2003).

Moreover, in contrast to the traditionally used methodological lesson-wise development works used by teachers, pedagogical technology provides the right to use the selected project of the educational process, which determines the structure and content of the educational work of students. It is also appropriate to note that pedagogical technology is a process of goal formation.

Among the competitive advantages of pedagogical technology, the following possibilities can be noted:

- Diagnose target formation and conduct objective quality control of assimilation;
- Reasonably set goals and objectives;
- Develop a personality as a whole.

Using a personality-oriented and activity-based approach allows setting a vector of the learning process directly to the development and self-development of professionally important qualities of the subject of activity, to the formation of subject-subject relations, and to increasing student activity.

Didactic and andragogical principles (such as the principle of priority of the psychological and pedagogical component; the principle of subject-personality orientation, the principle of practice-oriented preparation of students; the principle of activity orientation of vocational and pedagogical training; the principle of the advanced nature of training; the principle of reflectivity of preparation) became the basis for the development of principles for involving personality-oriented and activity paradigms of professional and pedagogical training of teachers from most universities. The structure of competencies consists of information, activity and reflective components, which implies the availability of modern knowledge, skills and experience of professional and pedagogical activity.

The analysis and generalization of special literature concerning psychological and pedagogical research shows that the most significant factor shaping the effectiveness of the teachers' activities is their personal qualities, ultimately ensuring a qualitative result of the whole pedagogical activity (Bukharkina, 2011; Ponomarev, 2003; Sidorov, 2017).

The use of educational technology allows us properly organize educational activities and strategically manage it to achieve the goals set.

In the course of our study, we assessed the level of initial knowledge and skills of the examined teachers in the field of general and professional pedagogy on the basis of the experimental groups that we formed in the Adygea State University and the Nizhny Tagil State Social and Pedagogical Institute (a branch of the Russian State Vocational Pedagogical University). It was confirmed that all participants in the certified groups have the necessary level of initial knowledge and skills in their field. At the same time, the availability of a rather low level of psychological and pedagogical knowledge of teachers (in 42% of them) was found. When solving a number of problem tasks of a deontological nature, it was found that most of the teaching staff does not understand well the development trends of higher education. This situation suggests that this group of teachers is still continuing its activities within the framework of outdated norms and stereotypes....

## **Conclusions and proposals**

- The study on the features of the professional pedagogical activity development in the conditions of informatization of education allowed us to ascertain the dominance of traditional teaching methods of instructional nature; the use of information and communication technologies is random in nature; this does not allow realizing the capabilities of information and communication technologies.
- In the course of a pedagogical experiment to diagnose the level of knowledge and skills of teachers of two North Caucasian state classical universities regarding professional pedagogical activity, the necessary conditions for the proper use of personal-activity technologies were identified.
- The need for the development of uniform (universal) approaches to the training of teachers at different stages, taking into account the impact of the education process informatization on professional and pedagogical activity, has been established. Such an approach will ensure the teachers' training in accordance with the requirements of technical and technological development of information technologies and communication tools on the basis of local global computer networks.
- The development of education informatization has significantly changed the content of the pedagogical activity components and necessitated the construction of new requirements for the structure and content of pedagogical competencies.

- A number of priority substantive directions for improving the professional pedagogical training of university teachers on the basis of the content of their activities in the context of education informatization have been justified; among them, it is necessary to note the implementation of personality-oriented and activity-based approaches to teaching education informatization provisions, and the involvement of modern organizational forms and methods of professional and pedagogical training of teachers based on the active involvement of information and communication technologies.

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