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Analysis of professional competencies in the characteristics of the teacher of the future: global challenges of our time

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Abstract: Professional competencies of the teacher should correspond to socio-cultural realities, so their forecasting is carried out in educational strategies. The key trends of the modern scientific and ideological paradigm define the principles of pragmatism and dynamism as fundamental priorities that determine the components of the professionalism of the teacher of the future. The purpose of scientific research is to determine the content and form of professional skills that will determine the level of professionalism in the educational system in the short and long term. The objectives of the article are to actualize the prospects of synergistic interaction of pedagogical hard skills & soft skills and their correlation with the socio-cultural space (effectiveness and transformation of professional qualities of the teacher). Methodological approaches that ensure the implementation of the purpose and objectives of the study are based on general scientific, scientific-pedagogical, and philosophical methods focused on forecasting and modeling. The research was conducted taking into account the experience of actual modern pedagogical competencies and forecasting of perspective vectors of pedagogical skills development. Thus, as a result of the conducted scientific research, the theoretical and methodological principles of the prospects for the formation of pedagogical competencies were determined: the

effectiveness of the pedagogical activity, constant updating of pedagogical skills, the synergy between the fundamental (traditional) and flexible (innovative) competencies of the teacher of the future; socio-cultural relevance of pedagogical professionalism.

Keywords: pedagogical hard-skills, pedagogical soft-skills, educational strategies, education of the future, pedagogical culture.

Introduction

The problem of forming educational strategies has one feature that does not allow to fully unleash the potential of the planned transformations. Education is a rather conservative cluster of social activity and can easily develop long-term development strategies. However, the socio-cultural realities of modern civilizational progress are marked by the dynamism and lightning speed of change. This leads to the formation of appropriate challenges for all spheres of social activity, including education.

Research Problem

We observe a discrepancy in the level of innovation and pace of development between the general socio-cultural and specific educational dimensions. Such imbalances have become especially evident in recent decades and have become the subject of discussion in the scientific and pedagogical discourse. In the end, the issue of the prospects of professional competencies of a teacher is no longer considered linearly, but requires a synergistic interpretation, taking into account both educational innovations and transformations of education in the context of general civilizational progress.

Research Focus

The educational strategy provides for the planning and distribution of intellectual, human, organizational, financial resources for the formation of professionally trained specialists in a clearly defined period. However, the modern educational system faces significant risks associated with the loss of relevance of certain elements of pedagogical competencies. Therefore, there is an urgent need to harmonize pedagogical competencies with the global dimensions of society development.

Research Aim and Research Questions

The research aims to identify two key clusters of perspectives of pedagogical competencies:

- fundamental hard-skills that form the elements of pedagogical skills;
- dynamic soft-skills that perform the function of adapting the educational process to socio-cultural conditions.

An urgent question arises - is it possible to form a matrix of competencies for a teacher in the long term? The answer is obviously in the synergistic combination of all available professional elements of pedagogical skills, which allows combining the available skills of pedagogical skills in accordance with the requirements of the time.

Research Methodology

General Background

The methodological basis for the study of the professional competencies of the future teacher is general scientific methods that focus on forecasting and modeling. The prospects of the strategy can be determined through the analysis (both systematic and comparative) of all potential variables that can affect the potential professional level of pedagogical competencies. Scientific and pedagogical methods determine theoretical and practice-oriented components of professional competencies. The philosophical methodology of synergetics provides an understanding of the interaction of fundamental and flexible skills of the teacher, which will be relevant in the educational system in the short term and may have prospects of demand in the long-term strategy.

One of the most relevant scientific and pedagogical methods by which acceptable professional development is determined is to conduct semi-structured interviews with teachers to determine their wishes for the transformation of pedagogical competencies, among which are most often indicated: positioning of the profession in the socio-cultural space, the dilemma of traditionality or innovation in teaching approaches, the commonality of theoretical foundations with a practice-oriented dimension, communication potential between participants in the educational process, awareness of prospects

An important aspect of the methodological nature of conducting pedagogical research is the time or reaction to the proposed question or problem. If we generalize this methodology, we will get an understanding of the dynamism of the processes taking place in education. Therefore, the information that forms the basis for innovative transformations in the pedagogical training of specialists should be in the process of constant updating. This approach will ensure the formation of relevant pedagogical competencies in the future that will meet the requirements of the time.

Sample / Participants / Group

The participant of the study is a generalized image of the teacher of the future, which is characterized by a certain arsenal of professional competencies. Given the fact that globalization dictates the principles of dynamism and transience, pedagogical competencies must meet the challenges of the time and transform as quickly as lightning.

Research Results

The study revealed the main prospects for the formation of pedagogical competencies (see Table 1).

Table 1

Professional constants of the future teacher's competence in the context of globalization of socio-cultural space

Focus on the effectiveness of pedagogical activity (pragmatic principles of formation and implementation of pedagogical competencies)	the rapid development of ICT elements in education is an incentive for the formation of digital literacy among teachers; total informatization requires skills in systematizing and broadcasting the most relevant educational content; the spread of the communication segment determines the need for the ability to reorient the educational process to the electronic and digital space.
Continuous updating of pedagogical skills	the modern scientific paradigm provides for self-organization and self-development as the main sources for improving professional pedagogical qualifications; transformations in the educational environment take place virtually online, which requires a similar update of knowledge and skills of pedagogical specialists.
The synergy between fundamental (traditional) and flexible (innovative) competencies of the teacher of the future	fundamental skills that are the basis of pedagogical activity (methodological, didactic) should adapt to the dynamism of the educational system and show the ability to interact (while maintaining basic educational principles); flexible pedagogical skills that are subject to constant updates and transformations preserve the essential educational nature and form the necessary balances at the level: hard skills-soft skills.
Socio-cultural relevance of pedagogical professionalism	professional competencies of the teacher ensure the compliance of educational programs and strategies with the realities of society; ▪ pedagogical excellence is a key manifestation in the process of correlation of

Source: authors' own development.

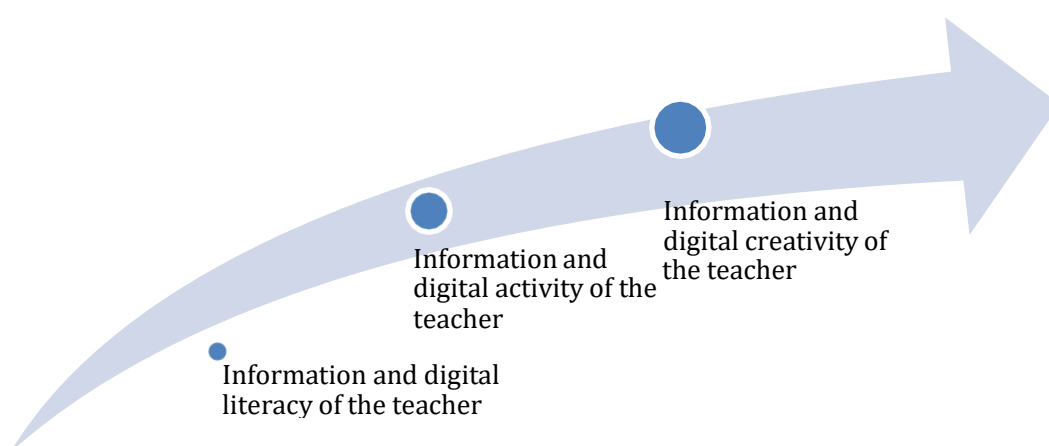
An important element of modeling effective pedagogical competencies in the future is the ICT factor. Technologies and information in the modern world hold a dominant status in both theoretical and ideological, as well as in subject and practical manifestations (Uerz et al., 2018). The content and

format of pedagogical competencies is determined in the information and digital context. Information is a key source of knowledge, and in the pedagogical cluster, skills and abilities. Technologies are designed to develop educational activity in accordance with innovative transformations in methodological, didactic, and communication aspects.

Currently, the pedagogical community offers a wide range of ways to train pedagogical specialists, taking into account the development of digital skills and the formation of relevant ICT competencies. In particular, the Teacher Education goes Digital project involves a process of digital transformation for all participants in the educational process in a particular institution and in the educational community (national, regional, specialized and professional) as a whole (Müller et al., 2021). This approach allows the teacher not only to integrate educational and methodological elements into the digital space, but also to comprehend these processes, analyze their positive and negative manifestations, and predict further prospects for the ICT cluster in individual teaching methods. Thus, a qualitatively new format of skills is formed - media didactic competencies. That is, in the future educational space, the classical concept of pedagogical ICT competencies is transformed into the media activity of the teacher (see Fig. 1).

Figure 1

Evolution of ICT competencies of the teacher of the future



Source: authors' own development.

Analyzing this figure of the evolution of digital competencies of the teacher, we note the constant growing movement towards expanding the potential of ICT in the educational sphere. This leads to the transformation of the role of digital skills of the teacher in his theoretical training and practical activity. The use of information and digital technologies is being replaced by the integration of this segment into the educational process. ICT is increasingly implemented in practical pedagogical activities not only as an educational format but also as its content component. Therefore, digital competencies are transforming from an auxiliary or alternative educational method into a fundamental one. Digital literacy will become the basis for the creative activity of pedagogical practice.

The reorientation from sustainability to dynamic principles of the functioning of the educational system is reflected in modern studies of scientific and pedagogical discourse. In particular, Voinea (2019) points out that changes in educational practices are driven by both educational policy (the source of the content of pedagogical competencies) and environmental factors (the source of the format of pedagogical competencies). It should be noted that globalization processes are decisive for both educational policy and the environment in which the educational sphere operates.

An important aspect of the formation of professional competencies in the teacher of the future, which has a global character, is the intercultural or multicultural dimension (Romijn et al., 2021). In a globalized world, one of the key features of an effective educational system is the principles of accessibility of education, involvement, and equality of all participants in the educational space. The pedagogical competencies of the future teacher must meet these multicultural requirements, as traditional boundaries (state, cultural, mental) are increasingly leveled in the educational cluster. Therefore, the teacher must be prepared for professional activities that are focused on a diverse audience in the socio-cultural sense. Intercultural pedagogical competencies belong to the soft-skills cluster and provide for the actualization of the humanistic, moral, ethical, psychological, and mental qualities of the teacher.

The realities of the socio-cultural environment dictate the current worldview guidelines for the educational environment, which serves as the basis for the development of promising pedagogical competencies. The modern world is focused on pragmatism, efficiency, and the achievement of results. Such priorities require mechanisms for their implementation in the educational space (see Fig. 2).

Figure 2

Components of the effectiveness of pedagogical competences in the modern globalized dimension

informativeness	communicativeness	technologies
<ul style="list-style-type: none"> •the ability of the teacher to manage the available information flows of educational nature; •the ability of the teacher to form the diversity of educational content. 	<ul style="list-style-type: none"> •the ability to use modern means of communication in the educational process; •moral and psychological stability and flexibility in professional pedagogical communication. 	<ul style="list-style-type: none"> •presentation of educational and methodological arsenal with the help of innovative technological format ; •adaptation and integration of the educational process into the electronic and digital

Source: authors' own development.

The study of Navickienė et al. (2019) found that “the most important are personal and communication competencies, which also reveal and substantiate the close relationship between communication and educational processes. Relationships are strengthened by the creative personality of the teacher, his positive personal qualities and values”. A promising element of professional-pedagogical competencies that will be relevant in the future is the principle of creativity. Creativity is the principle of organization of the educational process, which provides such concepts as: critical thinking, creativity, non-standard problem solving, innovation.

One of the aspects that the future teacher will certainly face is the formation of his personal professionally oriented qualities. We consider a set of personal characteristics of the teacher, which are realized during the educational process. At the same time, these qualities are formed based on worldview beliefs, which are the basis for the formation of the professionalism of a specialist. The concepts of leadership, initiative, activity, and responsibility become the basis of the worldview paradigm of the future pedagogical specialist (Harju & Niemi, 2020). Every year the labor market increases the requirements for competitiveness in the field of education. Awareness of the need for individualization of pedagogical experience forms the need to form an appropriate level of personal qualities of the teacher, which will allow to realize his potential in a dynamic educational environment. A separate factor that determines the content of pedagogical competencies in the future is the motivation of the specialist and the personal and professional goals that he seeks to realize (Tang et al., 2020).

Discussion

In modern scientific and pedagogical discourse, active work is underway to ensure a holistic approach to the formation of future teachers' competencies in the format of sustainable development education. Competencies of this type consist of “content knowledge, pedagogical content knowledge, and readiness to actively support and implement competencies” (Brandt et al., 2019). However, it should be noted that this approach currently has some contradictions. While content knowledge and pedagogical content knowledge have fundamental dimensions of competencies and can meet the principles of sustainability, the active use of competencies in a practice-oriented educational process requires characteristics of dynamism.

National, regional, or local education systems, when determining development priorities, are guided by general civilization trends in the educational space. Ignoring global trends in education threatens the loss of competitiveness of a particular educational system. Under such conditions, the professional competencies of the teacher, which are planned in educational development strategies, are correlated with the standards of the global education system, less and less tied to the traditions and conservative principles of local education. Such processes determine the principle of multiculturalism as a priority element of progressive pedagogical competencies.

In the modern educational system, the practice of involving pedagogical specialists in community projects in which they carry out professional activities is widespread (Barnes, 2020). This practice requires the teacher to have appropriate competencies that will allow them to understand the specifics of the community and more easily adapt to its characteristics (cultural, mental, religious). The socio-cultural training of a pedagogical specialist is designed to ensure the interaction between professional competencies and the optimal way to implement these competencies.

The algorithm according to which the use of digital potential is a prerequisite for professional success still has certain reservations in the pedagogical sphere (Saikkonen & Kaarakainen, 2021). Since excessive and unjustified enthusiasm for the ICT cluster without proper educational, methodological, and didactic support will not contribute to a high level of quality education.

Thus, we come to the urgent need to bring flexible and fundamental professional skills to a common denominator. Without the synergistic interaction of these clusters of professional competencies of the teacher, educational activities will face a lack of development prospects. On the one hand, fundamental skills will not be able to adapt to permanent changes in the socio-cultural environment, which will lead to the loss of their relevance in new conditions. On the other hand, flexible skills, despite their demand and progressiveness, will be deprived of essential educational characteristics, which will lead to the loss of their intended purpose.

Researchers determine that today is a good time to formulate educational strategies taking into account the relevant professional competencies of the future teacher (Crossley et al., 2020). Society is currently experiencing crisis periods in the educational sphere associated with transformations caused by pandemic restrictions. Such socio-cultural conditions historically become points of reference for the formation of new educational strategies. With it, new requirements for the professional characteristics of pedagogical activity are being established. A striking example is the transformation of the role of teacher's ICT skills in the pre-and pandemic period. If under the usual conditions of functioning of the educational sphere, digital literacy was rather an advantage in the professional skills of a teacher, then with the transition to electronic distance learning, ICT skills have become mandatory for implementation in the educational process.

Such sociocultural conditions introduce uncertainty into the prospects of educational strategies. Therefore, focusing on specific clusters of pedagogical competencies with complete disregard for other components is unacceptable in today's dynamic world. More acceptable is the strategy of a synergistic model, in which fundamental competencies are basic, and flexible skills demonstrate the diversity of their application in the educational process (from the format of temporary emergency application to the transition to the status of fundamental).

The dynamism of the development of the socio-economic cluster of the global world does not allow to analyze the effectiveness of the organizational and logistical support of the teacher. These indicators are important for determining the socio-cultural soft skills that a teacher needs for professional formation and development. The working conditions of teachers necessary for their development are still unclear (See et al., 2020). In this context, a problem is formed related to the competencies of the teacher aimed at adapting to socio-cultural conditions. Some uncertainty in this matter is resolved by updating the generally accepted modern civilizational values, which in the educational space are implemented through the principles of humanity, justice, equality, inclusiveness.

If the tendencies towards the expansion of globalization processes in society continue in the coming years, pedagogical competencies based on multiculturalism will become key in communities that are integrated into globalization processes and meet progressive socio-cultural standards of society development. Taking into account socio-cultural realities is already a prerequisite for the professionalism of a pedagogical specialist. Over time, this trend will only intensify, as global processes increasingly encompass social dimensions.

Sharif (2019) traces the relationship between acculturation, creativity, and innovation. The shift from a traditional and conservative culture and the transition to multiculturalism promotes creative manifestations in pedagogical activities. As a result, the prerequisites for innovative development of the educational system are formed.

A promising area of research is the correlation of the pedagogical competencies of a teacher and the educational competencies acquired by students (Müller et al., 2020). The synergistic model of the development of education in the future involves the interaction of various directions. One of these combinations is the alignment of the competencies of the teacher and the student. This model provides for a higher level of interaction between participants in the educational process, who use a common theoretical, methodological, and practice-oriented educational strategy, which is implemented through common pedagogical competencies.

Conclusions and Implications

Pedagogical competencies that will be relevant in the near future will not be associated exclusively with the educational sphere and will not be limited to the social and humanitarian dimension. Globalization dictates its conditions for the development of the educational environment. This means that teachers as key participants in the educational process must respond to the challenges of socio-cultural realities. It is worth recognizing that the professional competencies that are embedded in modern educational standards are updated online. Therefore, pedagogical specialists (both current and future applicants for this profession) should be prepared for constant transformations of the educational environment, and with it - professional competencies.

Current educational standards largely take into account the socio-cultural reality of globalization challenges and successfully overcome the educational threats of our time (in particular, the educational crisis related to pandemic restrictions). This indicates that short-term planning of professional-pedagogical competencies is effective and efficient.

At the same time, it is almost impossible to define today an educational strategy that will be relevant in the long term. The reason for this is that we cannot predict the role of the information and technological component in the educational system, so it is impossible to determine the format of education that will be relevant in the future. It is also difficult to determine the scientific and ideological principles of the socio-cultural paradigm (rational, moral, cultural), which makes it impossible to predict the content of the educational process. Without understanding the content and form of education, modeling specific pedagogical competencies is futile.

Thus, promising directions for the formation of professional competencies in the pedagogical sphere are:

- preservation of fundamental pedagogical competencies (methodological and didactic), which are expressed in the formation of hard-skills and have an essential nature in the educational dimension;
- awareness of the need to form flexible skills for the teacher (personal qualities, social interaction, globalization positioning of education), which is the result of the adaptation of pedagogical activity to the dynamic socio-cultural reality;

- the need for constant updating of pedagogical competencies and understanding the importance of innovative approaches and transformations of the educational system to ensure its effectiveness and the effectiveness of the teacher in this system.

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