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Evaluating Future Teacher Competencies in the Face of Contemporary Global Challenges: A Comprehensive Analysis

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Abstract: A highly qualified teacher of the future should demonstrate to students the highest performance and expected results of their activities after completing the proposed tasks and activities. At the same time, the professional teacher of the future should take care of the adaptation of students and the fact of their diversity by changing teaching strategies and learning materials that are appropriate to the age, prior learning, cultural values, and individual needs of the educational program.

The role of the teacher in the future is to ensure the formation and education of the personalities of new generations and their professional training within educational institutions, closely related to life, social and professional, moral, and civic activities. Therefore, the purpose of the article is to analyze the problems of forming the skills and personality traits of a teacher that would cause reverberations in students for many years after graduation. The work uses general scientific and special scientific research methods, adheres to the principles of objectivity, scientificity, specificity, and systematicity to argue for the normative reason, of updating the system of professional competencies in an increasingly globalized, multicultural, diverse, and complex environment marked by digital technologies and transformations. It is about the need to change the system of acquiring thorough knowledge to mobilize the professional achievements of teachers. This is the whole point of rewriting the common core of knowledge, skills, and culture envisioned by the Ukrainian education reform. Search engines have identified more than 100 articles on pedagogy. As a result of the selection and verification process, only 21 state-of-the-art sources from 2021-2022 were selected (given the novelty of the proposed scientific research). The results address the problem of professional competence development in European countries. The generalization of the characteristics of the teacher of the future in the context of the global challenges of our time is made based on the contrast of the experiences of the described countries and the general opinion of the participants in the relevant forum. Thus, the reference base of professional competencies for pedagogical and educational professions should reflect the developments in the training of teachers and pedagogical staff in the context of the new Ukrainian education system.

Keywords: pedagogical professional competences, educational strategies, education of the future, pedagogical culture, educational process

Introduction

A traditional teacher performs such functions at school as an organizer of the educational process, an educator, an education partner, or a member of the teaching staff, and the educational process. According to Bardach et al. (2022), a good teacher of the future, as an organizer of learning, should combine objective and logical aspects of knowledge transfer with psychological aspects. Therefore, in the future, he or she should be focused on the application of didactic principles, learning theory in the transfer of educational content, and the psychological consequences of the act of transfer. Today, the psychology of child evolution, the psychology of learning, and communication strategies are at the center of the pedagogical process (Isac et al., 2022).

In this aspect, it should be noted that the teacher of the future should not only be a transmitter of information, which is to give instructions to students on how to learn and the materials they need to study, but also a coach who, through analytical questions that stimulate students' thinking, creates prerequisites for them to find out the answer on their own, to achieve a better understanding of the problems. In this sense, the teacher of the future can be equated to a tutor. The implementation of the tutor function depends on the concept underlying the meaning given to the school and its organization, on how the teacher understands his or her mission, on the set of tasks included in the position of a teacher, and last but not least, on the attitudes of parents (Skantz-Åberg et al., 2022).

With each new generation of teachers, the teaching function of the teacher is expressed by fulfilling the status of a model, partner, and advisor.

It is achieved by creating a general atmosphere of safety and trust in the classroom, encouraging the success of each student, and creating a flow of empathy between teacher and students (Leijen et al., 2022). To “educate” means to operate under moral categories, forcing students to critically distance themselves from their own attitudes and performances, developing their ability to establish positive relationships, and critically analyzing their own biases.

In the future, the concept of an educational partner will refer to the relationship of the teacher with other educational factors, especially parents, and to the concept that teachers and students together form a school community. The school is the second example of socialization, after the family, and the teacher must cooperate with all educational factors, harmonizing formal education with non-formal education. They can play the role of counselors and share responsibility for children's education in the family (Kruszewska et al., 2022).

The qualifications of a traditional teacher include a range of classroom management skills, from those related to arranging the physical environment of the classroom in a way that facilitates interaction between teachers and students, setting reasonable boundaries with students within which everyone's behavior should be counted, and ending with those related to creating a relaxed working atmosphere that encourages students to exercise constant self-control and to develop skills for properly handling indiscipline (Jegstad et al., 2022). However, we believe that teachers of the future should also encourage social interaction among students when discussing and conducting various learning activities related to the topic under study. In addition, they should provide students with a working structure capable of managing students' learning activities and behavior during the lesson, facilitating students' intellectual processing of information by putting them in a position to carry out activities related to cognitive processes that will help them learn and remember information (Lavrysh et al., 2022). For proper professional activity in the future, a teacher needs to be confident in themselves and their professional competencies, learn ways to deal with critical, tense, or conflict situations, be able to manage typical situations, and be able to develop solutions for atypical situations. All these and many other skills are indispensable in the work of a teacher.

For this reason, a teacher must be committed to students and learning. Since they do not work with just one student, they must consider that students are different and that the differences between them affect learning. To accommodate individual differences, teachers need to know their students very well. This type of understanding is important because the teacher has to constantly use it to shape their teaching methods (Zaporozhchenko et al., 2022).

Thus, the qualification and role of the teacher of the future will be to help students create their own value system at school. The correct process of structuring and crystallizing a child-specific system of values shapes the consciousness of a worthy citizen.

Research Problem

The analysis of professional competencies in the characterization of the teacher of the future in the context of global challenges of our time aims to draw the attention of key stakeholders in this area to the issue of formulating a skills profile for teachers in Ukraine and to contribute with proposals for its development and implementation.

Research Focus

From the perspective of characterizing the teacher of the future, we propose a model for developing professional competencies aimed at promoting the quality of human resources in education as a priority. Ukraine's education system is characterized by humanism and democracy, striving to form deep ties with tradition and develop respect for other cultures in students. Thus, Ukraine needs educators who are competent, motivated, democratic, open to intercultural dialogue, autonomous, respected, and encouraged to learn. To this end, we propose an approach consisting of four actions aimed at increasing the competence of future generations of teachers: democratic construction of a profile of teacher competence, uniting key stakeholders in the educational process around the principles of building initial teacher education programs, testing improved models of teacher education, recognizing and funding research in the field of pedagogical sciences in the field of teacher education as an alternative to career development and a resource of knowledge and know-how for educational change.

Research Aims and Research Questions

In order to achieve this goal, the paper conducts a comparative analysis of international experience and key characteristics of the professional competencies of an ideal teacher. We argue that the quality of human resources in education, in particular teachers, is the result of both formal specialized training and the aspirations of teachers, and that the competence profile is a useful and even necessary tool for improving the quality of education in Ukraine.

Research Methodology

General Background

The methodological basis for the study of professional competencies in the characterization of the teacher of the future is general scientific methods that focus on forecasting and modeling. The prospects of the strategy can be determined by analyzing (both systematic and comparative) all potential variables that may affect the potential professional level of pedagogical competencies. Scientific and pedagogical methods determine the 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 a teacher, which will be relevant in the education system in the short term and may have prospects of demand in the long-term strategy.

Sample, Participants, Group

The characteristics associated with a highly qualified teacher may be similar or different from period to period or from group to group (e.g., different social categories, regions, or countries). In the context of this work, the construction of the competence profile and its formalization includes two stages of work. The first stage was the organization of an online forum. 78 participants took part in the debates organized on their own Facebook page. The dialogues about education were joined by 18 ordinary users and 60 teachers, as well as representatives of institutions, non-profit organizations, and companies. In the Google registration form and during the forum itself, participants expressed their opinions about the knowledge, skills, attitudes, and aspirations that teachers will need in the future. The paper summarizes the opinion on the characteristics of the teacher of the future, but it does not reflect the position of the author and is interpreted as the result of a narrow study as a starting point for formulating and selecting specific competencies from all possible options.

The second stage of the work was a comparative analysis of professional competencies in the characterization of the teacher of the future in contrast to other countries: Ukraine, Estonia, Poland, and Finland.

The resulting profile reflects a compromise between technical arguments (psycho-pedagogical and/or didactic) and the dominant values in a given context or group that has the privilege of institutionalizing this profile. A competence profile is a (democratic and technical) construct that describes a set of knowledge, skills, and attitudes that are considered necessary for a person to work as a professional educator.

Instruments and Procedures

One of the most relevant scientific and pedagogical methods for determining acceptable professional development is to hold a forum to identify general wishes for the transformation of pedagogical competencies, which most often include the 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, the communication potential between participants in the educational process, and the awareness of prospects for the future. If we summarize this methodology, we will gain an understanding of the dynamism of the processes taking place in education. Therefore, the information platform for innovative transformations in the pedagogical training of specialists should ensure the formation of relevant pedagogical competencies in the future that will meet the requirements of the times.

Data Analysis

The study participants described a generalized image of the teacher of the future and the characteristics of his or her professional competencies. Given that globalization dictates the principles of dynamism and transience, pedagogical competencies must meet the challenges of time and be transformed at lightning speed.

Research Results

In Ukraine, there is a framework methodology for organizing psycho-pedagogical training programs for teachers to certify competencies for the teaching profession, which does not correlate with the professional standard and does not describe the goals of psycho-pedagogical training programs. Thus, Ukraine has approved professional standards of continuous training for the teaching profession through stages of professional, continuous development of a teaching career. Instead, European practices focus on the purpose of formalizing the teacher profile, on the forms of the elements of the profiles, and on the institutions to which they are involved.

Practices in EU countries vary greatly, with some defining the teacher profile (Germany, Denmark), others formalizing elements of the teacher profile by professional standards (England, France) or by qualification standards (Ireland, Sweden), by requirements, curriculum areas, and minimum learning outcomes for initial teacher education programs (Poland, Ireland, Spain, Austria), or by national priorities, goals, and/or recommendations (Finland).

The formalization of the profile of teachers in European countries aims to: guide training and/or in-service training programs (Finland); manage universities and educational institutions (Poland, Estonia, Austria, Spain); evaluate providers of initial and/or continuing education (England); certify or provide teacher qualifications (Ireland, Sweden); or assess (Tonga et al., 2022).

In education policy, there are two approaches to defining and using standards of teacher competence: bureaucratic and developmental, according to the formation of their educational policy in the direction of centralization or decentralization, respectively, control or trust. In the bureaucratic approach, standards are prescriptive, detailed, and used to measure, compare, and control individual behavior. In the formative approach, standards are broadly or fundamentally defined, judgments about the teacher (his/her characteristics from training, previous work) are valued and used as reflective and guiding tools for the teacher or group (professional category), The policies of Estonia, Finland, and Poland are indicative in this regard (Table 1).

In Estonia, initial teacher education, induction, professional development, and career development are regulated by two normative documents: the Framework for Teacher Education and the Professional Standards for General, Special, and Vocational Education Teachers. The professional standards include mandatory and optional competencies and performance indicators grouped into four performance levels (Chounta et al., 2022).

Poland has national standards that describe the learning modules for initial teacher education (general description, content, and objectives of the practice) and learning outcomes (knowledge, skills, and social competencies). In addition, Poland has a comprehensive teacher evaluation system (focusing on the quality of educational services) and a teacher achievement evaluation system (the basis for career advancement) (Bartosiewicz et al., 2022).

Finland has not standardized the teacher profile at the national level. Teacher training is carried out in accordance with general principles and state priorities. In this regard, in 2007 and 2017, Finland established the Advisory Council for the Professional Development of Teachers (Vuorinen, 2022).

Table 1

Field of Activity and Professional Competencies of Teachers in Different Countries

Features	Country
According to the Professional Standards for there are 6 mandatory competencies for teachers of secondary schools: - Planning learning and teaching;	Estonia - decentralization,
- Designing the learning environment; - Supporting learning and development; - Reflection and professional development; - Counseling and mentoring; - Design, creation, and research. - 2 optional competencies - Management; - Mentoring and teacher training.	control, professionalization

According to the National Standards, at the end of the initial training, a teacher

- has the knowledge of psychology and pedagogy necessary to understand the processes of development, socialization, upbringing, and learning;
- knows the methods of learning facilitation and has experience of their application in practice;
- has the necessary pedagogical skills to perform other school-related tasks, including adapting the curriculum to meet the needs of students;
- has the ability to learn and develop their own pedagogical techniques and methods, using modern methods of research, organization, and processing of information and materials;
- communicates successfully, using a variety of communication techniques with people involved in learning processes and other stakeholders;
- demonstrates ethics, empathy, openness, the ability to reflect, social position, and a sense of responsibility.

According to the website of the Ministry of Education and Culture of Finland, what Finnish teachers believe in is:

- fairness and encouragement;
 - individual support;
 - strengthening students' thinking skills;
 - developing students' self-confidence and tolerance
-

Poland -
decentralization,
control,
professionalization

Finland -
decentralization, trust,
professionalization

The diversity of European strategies, reflecting the diversity of their political choices and social conditions, provides us with a wide range of resources and practices and should encourage policymakers to take a stand and initiate action on the profile of teachers' skills.

According to the results of the forum's debate on professional competencies in the characterization of the teacher of the future, the ideal teacher of the future is empathetic, adaptive, creative (pedagogically), sociable, integrity, digitally literate, ready for the inclusive moment, respectful of all, curious, committed to the profession, respectful of other professions, authentic, responsible, collaborative, loving of children, student-centered, and ethical (in order of mention). These characteristics were mentioned by between 6 and 30 people and are not statistically representative, but they give us an idea of the common features of an ideal teacher. For a complete picture, all the opinions of the participants are presented below.

Teachers need knowledge in the following areas and industries:

- 1.the discipline or area of the curriculum in which they want to teach;
- 2.disciplinary intersections and interrelationships;
- 3.teaching of the subject/discipline/curriculum area and e-learning;
- 4.psychology, psychopedagogy, and neuroscience;
- 5.at least one foreign language;
- 6.correct communication in the language of instruction (written and oral);
- 7.statistics;
- 8.neurolinguistic programming.

Teachers should have the following skills:

1. identify the learning needs of students;
2. selection and adaptation of content to the needs of students;
3. developing and implementing learning activities based on the needs of students;
4. promoting student-centered learning;
5. promoting deeper learning of the educational material by students;
6. use of local specifics in the development of learning experiences;
7. promoting the application of the acquired knowledge in the daily life lives of students;
8. use of participatory and experiential learning methods;
9. assessment based on student progress;
10. minimizing barriers/risks to learning of any kind (inclusion);
11. taking into account the strengths of each student in the organization of learning;
12. increasing students' motivation to learn;
13. providing a safe learning environment where students feel safe to ask for learning support, express their opinions, and try out new ideas;
14. curriculum development skills;
15. research skills;
16. project management skills;
17. conflict and crisis management skills;
18. collaboration/teamwork, communication, and interpersonal skills.

A teacher of the future has the following attitudes, social and emotional skills, and character traits:

1. flexible, creative, resourceful, intelligent, proactive;
2. empathetic, patient, caring, assertive;
3. virtuous;
4. responsible;
5. loves children;
6. respectful, fair, able to overcome prejudice, modest, and tolerant;
7. courageous, self-confident, and has the attitude of a free person;
8. authentic, committed to the profession, passionate;

9. inquisitive;
10. ethical, moral;
11. persistent, purposeful, persistent, persevering, tolerant of ambiguity;
12. pragmatic, reasonable;
13. positive, energetic, has charisma, a sense of humor, and is tactful;
14. competitive;
15. patriot.

Teachers should strive to:

1. Continuous learning and self-improvement;
2. Professional self-realization as a teacher.

Thus, the definition of a teacher competency profile and an integrated policy on its use will help mobilize key actors to improve teacher competencies, professionalize the sector and make the teaching career more attractive, complete the legislative framework, stimulate development (of teachers, schools, and the sector), and evaluate teacher quality.

Discussion

According to general opinion, a highly qualified teacher should have a number of qualities. First of all, they must provide high-quality, specialized training. The second condition is a predisposition to this profession. Patience, according to Ridei (2021), is an essential condition for a teacher, as working with children is very difficult. Communication competence is another important trait. What good is a solid knowledge base if the teacher is not able to express their thoughts clearly?

In formulating the idea that the work of a teacher is usually identified with the values and beliefs that underlie their actions, including fraternity, secularism, and the belief in the uniqueness of all students, we should not forget to fight against the false values in this profession - ruthless individualism, competition, and consumerism - that are increasingly evident in our society. Teachers must unite around common goals that provide meaning, unity, and coherence to their work and for which they must be prepared: to share the values of the homeland, to act as a responsible educator and to adhere to ethical principles, to cooperate within the team, to cooperate with parents and colleagues, to take into account the diversity of students, and to accompany them on their learning journey (Kravtsova et al., 2022).

According to Konstantinidou and Scherer (2022), the Polish reference structure includes fourteen general competencies for a teacher and has many similarities with the Ukrainian one. The main ones are the importance of patriotic values and the collective dimension of the profession, coherence between colleagues, all members of the educational community, parents, and partners; educational work is anything but a solitary job. The acquisition of professional skills is also carried out through internships in the first year of the master's program, which allow gradual access to classroom management: observation, supervised practice, and then actual work with students (Şen & Yildiz Durak, 2022).

We believe that such priorities firmly form the theoretical knowledge and practical skills of the teacher of the future and that they are the best way to acquire the necessary skills, step by step, and gradually enter the educational profession.

The professional competence of a teacher is realized through various pedagogical methods depending on the goals and is supported by a team, i.e., consisting of various actors involved in education: university professors, of course, but also academic partners (inspection bodies, school administrators, teachers, etc.).

When we talk about shared culture, we should ask ourselves. What does this concept mean when applied to all professionals in the field of teaching and education (professors, professors of education, chief educational consultants, education workers, and actors in the educational community)? What do they have in common?

In this perspective, Estonian scholars emphasize the importance of having skills common to all. According to Dewi and Singh (2022), this means setting a high standard for Estonian schools and guaranteeing the same quality of service across the country. Such standardization should also help everyone build a professional identity (Zhurat et al., 2022).

In France, on the other hand, the competencies that all teachers and educators should gradually acquire are organized into four main areas: the values of the Republic and the ethical and institutional framework in which they are deployed; cross-curricular topics and basic social subjects; professional gestures related to learning situations; in-depth knowledge; and professionalism (Temam et al., 2022).

The tragic events of February 24, 2022, in Ukraine, as well as the national and global context, demonstrate the great need for our country to be able to rely on teachers and educators who are well prepared according to these points and who share a common vision of the school's mission. Pedagogy and democracy have much in common in the face of war and enemy fascism.

By outlining the general and specific skills of the teacher of the future post-war Ukraine, the reference base paints a portrait of a professional with precise disciplinary knowledge as well as know-how for organizing learning, media training, teamwork, personal practice, dialogue with parents, and technological literacy.

At the same time, it should be noted that the context of the profession will evolve, and that the teacher of tomorrow will have to develop accordingly. In order to adapt to the changing context of Ukrainian society, a teacher will need ingenuity and deep humanism. These concepts are present in the notion of "skills," a reference to which indicates that each of them involves "critical thinking, creativity, initiative, problem-solving, risk assessment, decision-making, and constructive management of feelings" from the person who implements them. This is the reflective, autonomous, and creative professional who will be best prepared to face the post-traumatic stress of war. The Ukrainian educator of the future will also have to integrate the elements of digital culture necessary to carry out his or her profession and, finally, fully participate in the diversity and fluidity of the modern world, opening up more and more to the international and intercultural.

According to the answers of the forum participants, a highly qualified teacher is mostly characterized as a professional teacher who has his or her own image projected and corresponds to a professional identity. In this sense, Polish scholars distinguish two types of projection and vision of a teacher's professional identity:

1. Professional-managerial type, characterized by the design of professional identity based on pedagogical and scientific competencies, which gives priority to the process of formation and professional development.

2. The mythical and metaphorical dominant focuses on the elements of “data” with which a person is supposedly born, but also on the emphasis of some factors not related to career learning and development: love for children, experience gained during work, etc.

When asked the question “What is a successful teacher?”, the forum participants' answers were as follows: the presence of certain affective characteristics, qualities, or what is called a vocation.

According to Vuorinen (2022), a successful teacher should have nerves of steel and calmness without edges. According to the author, in terms of the characteristics of a true teacher, related research helps to build a portrait of the teaching staff. Pedagogical excellence is generally named and combined into several qualities: fairness, intelligence, sociability, and tolerance. A successful teacher is a teacher who has enough years of experience, who has all the pedagogical degrees, and who knows his or her job.

In the context of professional training, it can be noted that most teachers believe that they are highly motivated to participate in training courses. Moreover, the vast majority believe that the training opportunities currently offered are adequate or even very good. These responses indicate that teachers believe that the education system allocates enough space for them. When asked what the ideal teacher of the future is, one can even intuitively answer that a teacher must first and foremost be a good teacher.

The Finnish education system places the teacher in a system of relationships that extend beyond the school premises, including those with the parents of students and, in general, members of the social group in which he or she lives and works, and he or she is obliged to respond to their needs. The teaching profession has an extremely strong human dimension, which involves not only knowledge and skills but also attitudes and values - in short, a professional conscience (Aydin, 2022).

European pedagogy adheres to democratic principles. For an educational act to be effective and enjoyable at the same time, it is necessary to overcome the inequality between teacher and student. A student wants to find support in his teacher in a formal situation, not primarily a specialist with specific competence in a particular academic field. He needs the teacher's cooperation, although the teacher-student relationship remains a controversial entity as it carries primarily conflict, which contributes to people's intergenerational confrontations. The requirement of pedagogical partnerships can only be built based on compliance with a fundamental condition, namely, knowledge of the student's personality (Hautakangas et al., 2022).

So, we come to understand a set of ideas. First, about the uniqueness of each student and teacher, each teacher is a specific case in matters of education. Therefore, the individuality of both the teacher and the students should be respected.

Conclusions and Implications

The results of this study showed that the main argument for the school of the future is the need for quality education and highly qualified teachers. The analysis of professional competencies in the characterization of the teacher of the future pointed to three most important qualities: the teacher of the future has the thorough specialized training, is a professional in his field, and has a vocation to the teaching profession. Other qualities such as love for children, intelligence, tolerance, etc. are added to these qualities. Professional competencies in the vision of the forum participants emphasized

communication skills and attitudes, as well as the teacher's attitude towards children. It can be said that the ideal model that teachers strive for meets a large number of attributes. The most important element that should not be neglected is the way in which teachers design, build, and shape their own professional identity. In this context, the professional identity of a teacher is heavily imbued with myths of sacrifice and vocation.

However, the question of how to build a professional identity correlates with the approaches of modern teacher education based on professionalism, learning, and continuous self-improvement.

Therefore, the ability of teachers to self-reflect and conceptualize elements related to their work is a very important attribute for forming positive characteristics of the future teacher.

Suggestions for Future Research

It is necessary to briefly indicate the main prospects for future researches. It seems interesting analysing the given topic from several perspectives: setting priorities in students teaching and upbringing; participation in continuous professional development and improvement of teaching and learning strategies; the cooperation and interaction with colleagues in the interests of teaching and upbringing of students. It would be advisable to investigate the elements to be evaluated and self-evaluated in terms of a teacher's professional activity relating to the skills of searching, anticipating, planning and forecasting, and decision-making. Another perspective is the study of lifelong learning portfolios as a tool focused on personal reflection and self-assessment of learning and knowledge acquisition. Portfolios being valuable learning process also generate certain disadvantages. The development and maintenance of a portfolio involves a personal, subjective assessment of skills and competences that cannot meet the validation criteria of a formal institution. Considering a portfolio in educational practice as a tool focused on the needs of the subject of assessment, as well as a complementary and integrative assessment method that considers a triple perspective: cognitive, behavioural and worldview is very promising. A lifelong learning portfolio serves both for collecting/certifying learning experiences and for the self-assessment and evaluation (a tool for personal development, education and career planning, as well as decision-making support).

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