DOI:10.17951/j.2023.36.3.65-77

ANNALES
UNIVERSITATIS MARIAE CURIE-SKŁODOWSKA
LUBLIN – POLONIA

VOL. XXXVI, 3 SECTIO J 2023

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Relaying The Competencies of Future Teachers: European Experience and Ukrainian Context

Transfer kompetencji przyszłych nauczycieli: doświadczenie europejskie i kontekst ukraiński

HOW TO QUOTE THIS PAPER: Shakhrai, T. (2023). Relaying The Competencies of Future Teachers: European Experience and Ukrainian Context. *Annales Universitatis Mariae Curie-Skłodowska. Sectio J, Paedagogia-Psychologia*, *36*(3), 65–77. DOI: 10.17951/j.2023.36.3.65-77

ABSTRACT

The scientific research is based on a retrospective analysis combined with a logical and systematic analysis of the philosophical and pedagogical achievements of innovative teachers from Ukraine and abroad. The author formulates the existing contradictions of theoretical and methodological, organizational and pedagogical, methodological and practical approaches to this problem. The main competencies (pedagogical knowledge, sectoral expertise, innovation and reflection of practice) in the European and Ukrainian dimensions are revealed and the mechanism of their retranslation is presented.

Keywords: professional development; innovative competencies; reflection on practice; transfer of competencies; synergy in education

The teacher has always been, is and will be the central figure in the educational process. Today, the formation of a teacher's personality is a complex and continuous process that is influenced by a wide range of social, political and economic factors.

Preparing future teachers requires an understanding of the historical context of education and the challenges posed by modern standards. Historical experience is important in teacher education for several reasons. For example, understanding

the evolution of education will help teachers understand how the field has evolved over time and what factors have influenced these changes. Examples of successful and unsuccessful educational practices allow them to develop a critical view of the field, better navigate the current challenges and opportunities of education, and apply the knowledge gained in their own teaching practice. Teachers who understand the history of education are more aware of their role as part of a larger educational tradition. This sense of continuity can help teachers feel connected to their field and inspire them to positively influence future generations.

Relating the competences of future teachers in the European and Ukrainian contexts implies focusing on a range of knowledge, skills and qualities necessary for effective teaching. Although there may be some differences between different countries and educational systems, there are common competencies that are generally valued in Europe and Ukraine. Here are some of them.

Pedagogical knowledge: future teachers need a solid foundation in pedagogical theories, teaching methods and principles, and educational psychology. They need to understand how students learn and be able to apply appropriate teaching strategies to meet a variety of learning needs. Scientists and researchers of the past have made significant contributions to the teaching and professional development strategies of today's teachers.

The fundamental foundations of modern philosophy of education were laid by ancient Greek and Roman scholars and thinkers. For example, ancient theoretical pedagogy is represented primarily by Marcus Fabius Quintilianus (35–100 AD), a famous Roman rhetorician and educator, the founder of pedagogical literature, and the founder of the first state rhetorical school in Rome. Drawing inspiration from the Greek philosophy of education, in his 12-volume work "Institutio Oratoria" he presented a complete system of didactic and pedagogical recommendations, where he revealed the content of the conceptual foundations of teaching. Much attention in the work is paid to the theoretical aspects of basic education, which is one of the key points of the comprehensive development of a teacher as a person. As the founder of humane pedagogy, Quintilian paid special attention to moral education and the role of the teacher in shaping the character of students.

Jan Amos Comenius (1592–1670), a philosopher, prominent educational reformer, who in his most famous innovative works "The Great Didactics", "The Mother School", "The World of Sensual Things in Pictures" ("Orbis Pictus") substantiated the need for personality-oriented learning, proving the effectiveness of an integrated approach to education and putting forward the idea of "pansophy" (universality of knowledge), influenced the development of modern pedagogical theories and practices, laying the essential foundations for the pedagogical science of the twenty-first century.

The educational theories and practices of European researchers were continued in the work of the prominent Ukrainian philosopher and educator Pamfil

Danylovych Yurkevych (1855–1920). In his works published in the nineteenth century, "Readings on Education" and "A Course in General Pedagogy". Yurkevych emphasized the need to align the goals of education with teaching methods: the use of different teaching methods to improve the acquisition of knowledge; the use of experimental learning, practical activities, and a problem-based approach to promote meaningful learning. He paid great attention to educational psychology: the study of topics related to motivation, attention, memory, and cognition of students. The scientist emphasized the importance of creating a positive and supportive learning environment, fostering students' self-esteem, and promoting their intellectual and moral development.

The world-famous Ukrainian educator and scholar Vasyl Sukhomlynsky (1918–1970) attached great importance to pedagogical experience and pedagogical understanding. His scientific and pedagogical heritage is striking in its fundamentality: 48 monographs, more than 600 articles, 1500 stories and fairy tales for children ("Vasyl Sukhomlynsky", 2023). Sukhomlynskyi believed that effective teaching goes beyond the transfer of knowledge and requires a deep understanding of the principles and methods of pedagogy. Teachers' knowledge should not only be narrowly subject-specific, but also include a deep understanding of human psychology, child development, and pedagogical approaches to promote the holistic development of their students. This understanding allows for informed decision-making and the creation of a supportive learning environment that fosters the moral, social, and intellectual development of students. For example, the book "I Give My Heart to Children", which has been translated into 30 languages and has had 54 editions ("Vasyl Sukhomlynsky", 2023), emphasizes the value of pedagogical knowledge, which is the foundation for effective teaching and upbringing of students, their harmonious growth and comprehensive development.

A significant contribution to the development of psychopedagogy was made by a well-known Ukrainian scientist, professor, and academician of the National Academy of Pedagogical Sciences of Ukraine Ivan Andriyovych Ziaziun (1938–2014). Thus, in his philosophical reflections "Educational Psychology or Psychological Pedagogy?!" he convincingly proved that without knowledge of psychopedagogy and didactics it is impossible to achieve high standards of teaching and learning quality in modern educational institutions of all levels (Ziaziun, 2012).

Analyzing the challenges of the time in pedagogical discourse, Ziaziun (2013) emphasized a radical revision of the conceptual system of views on the professional training of a teacher for educational action. He emphasized that a "teacher today should have a new pedagogical thinking, the value of which should be the superiority of individuality over single-mindedness; educational interests of the individual over the standard curriculum; self-development, self-learning over the unified assimilation, transfer" of knowledge. The theory of the holistic personality

in pedagogical anthropology, which implements the idea of a personality that develops in a developing world, deploys the scientific understanding of a person in the coordinates of his or her education, upbringing, and learning (Ziaziun, 2010).

Today, the way to discover new pedagogical knowledge about the teacher's personality, pedagogical skills, and innovative activities in various pedagogical subsystems is through pedagogical research. Thus, in the scientific and philosophical study "Pedagogical Research: Prospects, Directions" by a well-known Ukrainian teacher, academician of the National Academy of Pedagogical Sciences of Ukraine Nelia Hryhorivna Nychkalo, it is emphasized that pedagogy, despite its more than a century of history, is still relevant today, and, therefore, is an important subdiscipline of pedagogy. It studies:

> teacher characteristics; selection of candidates for the teaching profession, training, improvement and self-improvement of teachers, their professional development; authority and pedagogical talent, effectiveness and values of their work; living conditions; changes in the professional structure of teaching; positions and social functions of the teaching profession; professional inner satisfaction and self-realization; pedagogical innovation and experimental approach; methods of monitoring and evaluation of teachers; professional destinies of graduates of educational institutions engaged in teacher education. (Nychkalo, 2011, p. 10)

In general, Nychkalo's scientific research includes about 400 scientific works on the theory and history of pedagogy, education and didactics of vocational education.

Analyzing the challenges of the times (transformational, anthropological, axiological, paradigmatic, cognitive, psychosemantic), scientists pay great attention to the progressive trends of modern education: solving problems of teacher's professional development, personal self-improvement, and achievement of pedagogical excellence. For the modern educational process, which is based on the methodological principles of the philosophy of education, it is important to define the creative essence of synergy.

It is worth noting that the concept of synergy has been present in scientific discourse for many years, and it continues to be relevant today. While the term "synergetics" itself may not have been widely used in the past, the basic ideas and principles associated with it have been explored in various scientific disciplines throughout history.

In the past, scientists and scholars have explored the relationships and interactions between different elements in fields such as biology, chemistry, physics, and systems theory.

For example, in biology[1], the concept of "emergent properties" means that a whole organism or system has characteristics that are greater than the sum of the

[1] Biology is considered to be the primary emergent system. One of the most prominent researchers in this field was Richard Alexander Goldschmidt, a German-American biologist and geneticist (1878–1958). His works, in particular "Emergent Evolution" (1927) and "The Material

characteristics of its individual parts. The concept of emergence is important in science because it helps to understand how complex systems function and how new phenomena and properties emerge at different levels of organization. The concept can also be applied to education, where consideration of "emergent properties" can help to understand how the integration between students, teachers, and learning environments affects overall learning outcomes and student development. It is worth noting that the concept of emergence coincides with the idea of synergy, emphasizing the interaction and cooperation of different components to produce a collective effect.

Synergetics is a fairly young field of science that became an independent scientific study at the end of the twentieth century. The philosophical and pedagogical works of Ukrainian scientist, statesman, politician and public figure, President of the National Academy of Pedagogical Sciences of Ukraine Vasyl Hryhorovych Kremen are devoted to the study of synergy in education. He convincingly argues that in order to create a holistic creative personality, which is necessary for the "knowledge society", education should take into account the achievements of modern concepts of self-organization and self-development, which are embodied in synergetics. The possibilities and prospects of the synergetic paradigm in building models of development of socio-cultural and educational processes, the place of human meaningful existence in them, are invaluable in organizing the process of education and upbringing. Synergetics is the content and method of educational theory and practice (Kremen & Ilyin, 2012). It has confidently entered modern life, in fact, meaning a new approach to creativity, replacing the dualism of the struggle of opposites with the polyphony of thinking. Undoubtedly, the synergistic model of creativity (and creativity is development) is directly related to the paradigm of the modern educational and pedagogical process. Today, synergetics, overcoming its interdisciplinary status, is rapidly turning into a responsible carrier of a new paradigm of thinking style (Kremen, 2010).

Synergy in education is the concept of achieving greater outcomes and benefits through the collaboration and integration of different educational components, resources, and stakeholders. By leveraging the strengths and resources of different stakeholders and components of the education system, synergy aims to create a more holistic and effective learning experience. However, the subject matter

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Basis of Evolution" (1940), became important in the context of studying emergence and its impact on evolutionary processes. Goldschmidt believed that emergence occurs at the level of genetic mutations that can lead to the emergence of new organisms with unique properties. He emphasized that emergence is the result of an unpredictable and uncontrollable process where new phenomena arise at the level of a system that cannot be explained or predicted by the simple summation of individual components. Richard Goldschmidt made a significant contribution to the study of emergent properties in evolutionary biology and genetics.

of the pedagogical process remains a constant challenge in education. And while this is primarily a task for the specific sciences, which decide what should be the basis for it, the philosophy of education must also have its say. Education as a whole is a field of comprehensive research, interdisciplinary approach and systemic analysis, because it is a systemic object and its main problem situations are systemic. Modern higher education, in accordance with the new requirements of the education system, faces large-scale tasks of training future teachers with a deep and comprehensive understanding of a particular academic discipline or field of knowledge. Their deep understanding of the subject allows them to identify gaps, propose new ideas, conduct research and contribute to the development of new theories, practices or technologies.

Therefore, the *professional training of future teachers in the context of sectoral expertise* has been a pressing issue for centuries. The strategic priority of educational policy is to form a nation that is constantly learning, simultaneously assimilating democratic values, developing civil society, and affirming "human-centeredness" in education. This global strategy should fundamentally change, first of all, "the value and motivational potential of education, make it personally meaningful for each person, subject-subject and polysubject" (Kremen, 2016, p. 15). The main driver of this process has always been and will always remain people competent and qualified, constructive and competitive, compromising and consensual (Kremen, 2016).

The experience of the past serves as a guide and inspiration for modern researchers, educators and practitioners. Today's experts build on the knowledge and discoveries of their predecessors, expanding and improving the existing understanding. Let us consider the pedagogical progress based on the works of the Ukrainian surgeon, scientist, and educator of the nineteenth century Mykola Ivanovych Pirogov and analyze the speech of our contemporary, Professor Brian Keldwill of the University of Melbourne, at the International Conference on the Paradigm of Modern Education (early twenty-first century) (Kudin, 2007).

Thus, teacher education is a continuous field of research and has both common features and reflects changes in society, technology, and educational needs over time.

The new pedagogical thinking of an innovative teacher gives rise to an innovative idea, and its realization encourages pedagogical action. I. Zyazyun's monograph "Philosophy of Pedagogical Action" emphasizes the important role of "bold ideas" that reveal spiritual and intellectual forces and enrich the didactic process, make it creative and dynamic, which, accordingly, affects the development of creativity in teachers and students. In this dynamic process of creation, new methodological systems, innovative technologies, forms and methods of creative interaction of all participants of this continuous process are being developed (Zyazyun, 2008).

Table 1. Extrapolation of the requirements for teacher training in the past to the concepts of modern education

M. Pirogov – late nineteenth century (1914)	B. Keldwill – early twenty-first century (Kudin, 2007)
Professional training	
The foundations of any school's success lie not in the curriculum, but in properly trained teachers – the degree of their education and their mastery of teaching methods and techniques.	A teacher with a well-organized system of knowledge and a high level of intelligence, which together contribute to the creation of a holistic picture of knowledge about a particular subject, phenomenon, etc.
Individual approach	
Nowhere does bureaucracy do more harm than in science and education. Every teacher needs only a thorough knowledge of their subject and love for the child. A child's soul is a temple, and it needs to be studied carefully. Every student requires a respectful, caring, and sensitive attitude, and the teacher's task is to understand his or her individuality.	The immense possibilities in presenting the material, transferring knowledge through an original individual teaching style, not a standard or generally accepted one as in the traditional education system.
Analytical and creative thinking	
The role of the teacher is also to develop the ability to analyze. The crown of our thinking process is the desire and ability to distinguish between cause, purpose and means (the laws of causality and expediency), and to find the connection between them.	Updated education at every stage of learning will show that confusion has been and always will be a creation and a sign of ignorance, and to know means to see what is in life but has been hidden from us. Modern teaching is a step towards the scientific resolution of contradictions, the development of knowledge and innovation, not the retelling of ready-made truths.
Self-education	
Teachers must take pedagogical courses after graduation. For a teacher, not only education is important, but also self-education, creative search in work and exchange of pedagogical experience.	Education is a lifelong learning process. Search, doubts, and experiences should accompany the learning process.

Source: Author's own elaboration.

Speaking about the renewal of the education system, Kudin (2007)[2] emphasizes the main conditions in education and upbringing, which are as follows: 1. study

[2] Viacheslav Oleksandrovych Kudin (1925–2018) was an outstanding scientist, Honored Worker of Culture of Ukraine, Doctor of Philosophy, Professor, Honorary Professor of a number of foreign universities, Honored Worker of Culture of Ukraine, member of the Ukrainian Cinematography Union. He is the author of 24 books and more than 500 scientific articles on culture, education, film theory and history, and aesthetics. His works have been published in English, German, Bulgarian, Slovak, and Arabic. The International Biographical Institute (USA) named Vyacheslav Kudin one

and deep knowledge of nature and the animal world to form an understanding of our commonality with nature (with unreasonable and wild actions we destroy the evolution of life and suspend civilizational progress). 2. mastering knowledge in the field of the mathematical cycle of sciences, physics, biology, chemistry, modern genetics for creative, not destructive use of inventions and means of production. 3. Acquiring knowledge in the field of physiology, medicine, and psychophysiology. It is especially important to teach people to master the "secrets" of the psyche, to treat consciousness and subconsciousness with care. 4. The new education system, with the assistance of the whole society, should teach how to use the power of thought even in accelerating mechanical movement, and how to learn to manage time.

It is this renewed education system that will be able to train and educate new generations of talented inventors and pioneering scientists who will encourage humanity to move forward with their work. To do this, it is necessary for a teacher to have fundamental book knowledge that is not only supplemented by personal experience, but also suffered through creative pursuits. It is appropriate to recall the appeal of Faust (the protagonist of Goethe's drama) to Wagner (the antithesis of Faust, an armchair scientist for whom book knowledge should reveal the essence and secrets of nature and life): "Where there is no gut, you cannot help with efforts, the price of such efforts is a copper penny... Whoever is poor in thought, composes in vain a narrative, borrowed phrases everywhere..." (von Goethe, 1831, p. 23).

Today, teachers need industry-specific competence to teach effectively, develop meaningful curricula, differentiate learning, and develop critical thinking. It is the basis for effective teaching and academic growth. Nychkalo (2010, p. 53) claims that "the main educational product is a specific person prepared for active, highly professional work in various fields of industrial, agricultural production and services. We are talking about the main thing – human capital, on the spiritual, moral and professional qualities of which the future of each state depends" .

The professional training of a sectoral expert is acquired through formal education, continuous learning, practical experience and constant interaction with the subject area. It requires dedication, passion, and a desire to keep abreast of developments in the field. A subject matter expert should be a person with a high level of awareness of educational policy, as they must conduct a thorough comparative analysis of broad educational facts and phenomena. Thus, subject matter expertise implies a thorough knowledge of the content, concepts, principles, theories and skills in a particular field.

The leading competencies of an education expert are: analysis of the educational system; assistance in formulating strategic goals and developing

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of the 500 outstanding scientists of the twentieth century who made a significant contribution to the development of human society.

educational policies, creating adapted curricula, teaching materials and resources that meet the requirements of educational standards and contribute to improving educational practice and achieving better results; providing support to teaching staff in developing their professional skills, training and updating teaching methods; promoting the introduction of new approaches and technologies in the educational process; help in determining methods for assessing learning outcomes, as well as monitoring and evaluating the effectiveness of educational programs and strategies.

Thus, expertise is important in a variety of contexts, including education, research, professional practice, and decision-making. In education, subject matter experts play an important role as teachers, professors, trainers, or curriculum developers. They are responsible for teaching students, creating learning materials, developing curricula, and assessing learning outcomes. Subject matter experts are often at the forefront of innovation and development in their field.

Expertise is the reflection of practice. The main idea behind peer review is that a better understanding of one's own experience and context helps to identify strengths and possible problems in practice. This allows you to focus on improving processes, strategies and results. A manager's awareness of the need for professional growth encourages him or her to take action – self-education and creativity. Confirmation of this can be found in the statement of Pirogov (1914, p. 142) "(...) the first and foremost condition for progress is a firm belief in the educational and creative power of the human personality".

Competent teachers engage in reflective practice, constantly evaluating and improving their teaching strategies. They should strive for ongoing professional development, keeping abreast of educational research and innovations to improve their teaching skills. What we nowadays call reflection, Pirogov would describe as the ability to "be one's own examiner" (Pirogov, 1914, p. 23).

However, the first steps in understanding the importance of reflection in the educational context were made by the famous Ukrainian philosopher, writer, and educator of the eighteenth century, Hryhorii Savych Skovoroda. The traveling philosopher called for deep reflection on one's actions and deeds, for a constant search for truth, morality, and spiritual growth. He emphasized the importance of self-awareness, self-analysis, and self-improvement for personal development. Education should be not only the transfer of knowledge, but also the development of wisdom, morality, and virtue. Thus, although the term "reflection" was not used by H. Skovoroda in the traditional sense, ideas that can be related to reflection can be found in his work.

The importance of reflection in learning is reflected in the work of the influential American philosopher and educational reformer John Dewey (1859–1952). He believed that teachers should engage in reflective thinking to improve their teaching practice.

The Swiss philosopher and psychologist Jean Piaget (1896–1980) studied the cognitive development of children and emphasized the role of reflection in the construction of knowledge. He believed that people actively engage in reflective thinking to build their understanding of the world.

The American sociologist Donald Schön (1930–1997), while studying professional development and practical thinking, developed the concept of "reflective practice", which highlights the importance of self-analysis and improvement in professional activities. His research showed how professionals can reflect on their actions and make improvements based on their practical experience. It is worth noting that D. Sean was a deeply original thinker who worked on change, education, design, and learning. He focused on the concept of reflective practice in professional fields such as teaching, architecture, and management.

David Kolb is a social psychologist from the United States, a scientist specializing in career development and professional education, author of the bestselling book "Experiential Learning. Experimentation as a Learning Resource for Improvement". This scientific work in the theory of experiential learning emphasizes the importance of reflection in the learning process. It reveals a learning cycle that includes active experience, reflection, conceptualization, and experimentation. Kolb's theory emphasizes the importance of students' active participation in the learning process. They need to explore and interact with real-life situations to gain practical experience. The scientist reveals the importance of reflection through the way of comprehending experience. Students must consider their actions, analyze the results, and draw conclusions. This promotes deep understanding and self-development. Kolb emphasizes the importance of students' ability to create conceptual models based on their experience. This helps to realize general principles and connections between different situations. Kolb's theory emphasizes the need for learners to experiment and try things out. They should apply new ideas and solutions to real-life situations and evaluate their effectiveness. Kolb's research provides the basis for practical approaches to learning, such as problem-based learning, project-based learning, hands-on activities, and other forms of active learning. It promotes critical thinking, self-reflection, and self-development of students, which are important skills for success in the modern world.

The issue of reflection in the context of education and pedagogical practice is considered by N. Nychkalo. In her works, the Ukrainian scientist explores the role of reflection in the process of teacher self-improvement and the development of their professional competencies. She emphasizes the importance of reflective practice for pedagogical activity, self-analysis, internal self-determination and professional growth of the teacher. As Nychkalo (2002, p. 17) claims "a person of work in reflection is, first of all, a person of culture, a spiritually rich,

humane, creative person who is devoted to his or her work and is passionate about it, has a developed desire to create Good, Truth, Hope… Spirituality – intellectual potential – professionalism – this is the powerful triad on which the competitiveness of our young workers in the European and world labor markets in the twenty-first century depends". Her research helps to understand the processes that occur in teachers during reflection, as well as to develop practical approaches to stimulating teachers' reflective activity.

Reflective practice is an important component of the professional development process of teachers and allows them to become more effective and improve their work. At present, competence in reflective practice refers to the ability to comprehend and analyze one's own professional activity for the purpose of continuous improvement. The main aspects of competence in practice reflection include the following elements: analysis of own activities (identification of strengths and weaknesses, evaluation of results); critical thinking (understanding the causes and consequences of one's actions, the ability to evaluate their effectiveness and identify opportunities for improvement); planning and improvement (development of strategies and action plans for further professional development, introduction of new approaches and methods); self-analysis (systematic assessment of one's achievements, identification of progress and areas for improvement).

Reflective practice contributes to an in-depth understanding of the professional role, helps to identify and solve problems, and develops critical thinking and self-reflection. This process is important for all professionals, as it allows them to improve the quality of their work and achieve better results.

The active implementation of innovative processes in educational practice and the spread of various innovations have given rise to the development of *innovation competencies*, which involve understanding and using innovative processes and techniques to achieve improved results and performance. The main aspects of innovation competence include: knowledge about innovations; ability to generate new ideas, think outside the box and apply innovative approaches to work; ability to analyze the potential of innovations, their advantages and limitations, assess the impact of innovations on performance and achievement of goals; cooperation and communication: ability to implement changes in a collective environment and solve problems together; desire for self-improvement, including active search learning, participation in professional events and acquisition of new knowledge and skills.

Competence in innovation helps professionals to effectively implement innovative approaches and achieve improved performance. It promotes the development of creative thinking, adaptability to change and the ability to adapt to new challenges in the modern educational environment.

Pedagogical knowledge, sectoral expertise, innovation and reflection on practice are important competencies of professional development in education.

These elements are organically related to each other, interact and interlink in the educational process. *Pedagogical knowledge* helps to understand theoretical approaches to teaching and learning, *sectoral expertise* complements this knowledge with specific aspects of a particular field, *competence in innovation* involves understanding and using innovative processes and techniques to achieve improved results and performance, and *practice reflection* allows you to evaluate and improve your own professional work based on pedagogical knowledge and sectoral expertise.

The transmission of competencies of pedagogical knowledge, sectoral expertise, innovations and practice reflection in the European and Ukrainian dimensions takes place through various mechanisms and processes: research and publications; professional training and education; professional development and training of practicing teachers; interaction and cooperation.

These mechanisms work together to relay competencies of pedagogical knowledge, sectoral expertise, innovation and reflection of practice in the European and Ukrainian dimensions, contributing to the improvement of the quality of education and professional development of teachers.

While the competencies required of future teachers in Europe and Ukraine have commonalities, there may be some contextual differences and specific requirements within the educational system of each country. It is important that teacher education programs address these competencies, equipping future teachers with the necessary knowledge, skills, and attitudes to succeed in their profession and positively influence the learning process.

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ABSTRAKT

Badania naukowe opierają się na analizie retrospektywnej połączonej z logiczną i systematyczną analizą filozoficznych i pedagogicznych osiągnięć innowacyjnych nauczycieli z Ukrainy i zagranicy. Autor formułuje istniejące sprzeczności teoretycznych i metodologicznych, organizacyjnych i pedagogicznych, metodologicznych i praktycznych podejść do tego problemu. Ujawniono główne kompetencje (wiedza pedagogiczna, wiedza sektorowa, innowacyjność i refleksja nad praktyką) w wymiarze europejskim i ukraińskim oraz przedstawiono mechanizm ich retranslacji.

Słowa kluczowe: rozwój zawodowy; kompetencje innowacyjne; refleksja nad praktyką; transfer kompetencji; synergia w edukacji