EUROPEAN INTEGRATION PROCESSES AND THEIR INFLUENCE ON THE DEVELOPMENT OF EDUCATION

ЄВРОІНТЕГРАЦІЙНІ ПРОЦЕСИ ТА ЇХ ВПЛИВ НА РОЗВИТОК ОСВІТИ

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Foreign experience in developing professional thinking of future teachers

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Abstract

The article presents a comprehensive study of modern approaches to developing professional thinking in future teachers, which is a critical prerequisite for ensuring the quality of pedagogical activity amidst contemporary educational challenges. Particular attention is paid to analyzing foreign experiences in teacher education, which emphasize the integration of theoretical knowledge with practical experience, the application of innovative teaching methods, and the use of digital technologies. The study examines teacher education models in Finland, Germany, and the United States, highlighting diverse yet complementary approaches to fostering professional thinking. The Finnish model emphasizes deep integration of theory with practice through school internships, enabling future teachers to gain practical experience and develop reflective thinking. The German model focuses on reflective practices through maintaining pedagogical diaries and participating in seminars. The U.S. model prioritizes case-based methods and problem-based learning, fostering critical and creative thinking skills. It has been established that the effectiveness of pedagogical activity largely depends on a teacher's ability to critically analyze information, reflect on their actions, generate new ideas, and apply creative approaches to solving educational tasks. These competencies are fundamental components of professional thinking, which is shaped through interdisciplinary approaches, the use of digital tools, and the integration of modern educational methodologies. The article also outlines practical recommendations for adapting foreign practices to the Ukrainian teacher education system. These include extending the duration of pedagogical internships, integrating reflective seminars and discussions, widely implementing case-based methods in curricula, and using digital platforms and simulators to model real-world teaching scenarios. Special attention is given to the role of international cooperation in developing professional thinking among future teachers. Experience exchange, joint projects, and the integration of innovative practices contribute to the modernization of teacher education in Ukraine and its integration into the global educational landscape. Implementing these recommendations will enhance the preparation of highly qualified educators capable of addressing the challenges of modern education, introducing innovations, and fostering key competencies in their students.

Keywords: professional thinking, teacher education, critical thinking, reflection, digital technologies, innovative approaches, interdisciplinarity

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Зарубіжний досвід розвитку професійного мислення майбутніх педагогів

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Анотація

У статті проведено комплексне дослідження сучасних підходів до формування професійного мислення майбутніх педагогів, що є однією з основних умов забезпечення якості педагогічної діяльності в умовах сучасних освітніх викликів. Особлива увага приділяється аналізу зарубіжного досвіду педагогічної освіти, який базується на інтеграції теоретичних знань і практичного досвіду, використанні інноваційних методик навчання та цифрових технологій. Розглянуто моделі педагогічної освіти Фінляндії, Німеччини та США, які демонструють різні, але взаємодоповнювані підходи до формування професійного мислення. Фінська модель підкреслює значення глибокої інтеграції теорії з практикою через стажування у школах, що дозволяє майбутнім учителям здобути практичний досвід і розвивати рефлексивне мислення. У Німеччині особлива увага приділяється рефлексивним практикам через ведення педагогічних щоденників і участь у семінарах. У США ключовими є кейс-методи та проблемно-орієнтоване навчання, які сприяють розвитку критичного та творчого мислення. Встановлено, що ефективність педагогічної діяльності великою мірою залежить від здатності педагога до критичного аналізу інформації, рефлексії щодо власних дій, генерації нових ідей і застосування творчих підходів у вирішенні педагогічних завдань. Такі компетентності є базовими елементами професійного мислення, яке, у свою чергу, формується через використання міждисциплінарного підходу, впровадження цифрових інструментів та інтеграцію сучасних освітніх методик. У статті також висвітлено практичні рекомендації щодо адаптації зарубіжного досвіду до української системи педагогічної освіти. Зокрема, пропонується розширення тривалості педагогічної практики, інтеграція рефлексивних семінарів та дискусій, широке впровадження кейс-методів у навчальні програми, а також використання цифрових платформ і симуляторів для моделювання реальних педагогічних ситуацій. Особливу увагу приділено ролі міжнародної співпраці в розвитку професійного мислення майбутніх учителів. Обмін досвідом, спільні проєкти та інтеграція інноваційних підходів сприяють модернізації педагогічної освіти в Україні та її інтеграції у світовий освітній простір. Застосування цих рекомендацій сприятиме підготовці висококваліфікованих педагогів, здатних відповідати викликам сучасної освіти, впроваджувати інновації та формувати ключові компетентності у своїх учнів.

Ключові слова: професійне мислення, педагогічна освіта, зарубіжний досвід, критичне мислення, рефлексія, цифрові технології, інноваційні підходи

Statement of the problem. The development of professional thinking is a key task in the preparation of future teachers, because it is the ability to critically understand pedagogical phenomena, make informed decisions, and adapt to the dynamic conditions of the educational environment that ensures the quality of teaching activities. In the context of pedagogical

education, professional thinking is considered a multidimensional phenomenon that includes the ability to reflect, critical analysis, a creative approach, and effective solutions to pedagogical tasks.

The concept of professional thinking in pedagogy can be defined as the ability of a future teacher to systematically analyze the educational process, make decisions based on pedagogical theories and practical experience, as well as form their own pedagogical innovations. Such thinking is an integrative quality that synthesizes the knowledge, skills, and values necessary for successful professional activity. It involves not only theoretical preparedness but also the ability to adapt to new conditions and challenges of modern education, in particular through an innovative approach to working with students and the use of digital technologies (Akimova, 1989).

The Analysis of Sources and Recent Research. The problem of developing professional thinking of future teachers has been studied by ukrainian and foreign scientists: Boichenko, Yovenko, Remekh, Tsyhanok, Kyrychenko, Huba, (2021) (Formation of pedagogical thinking of future teachers); Akimova, Kaplinskyi, Sapohov, (2023) (Features of the use of Smart technology in the training of master's students in universities of foreign countries); Csorba, (2017) (Historical Research - promoting critical thinking to future teachers); Jones, Buntting, Hipkins, McKim, Conner, Saunders, (2011) (Developing students' futures thinking in science education); Ponomarenko, Aryna, Iryna, Marharyta, (2024) (The role of mentoring in fostering the professional identity of future teachers); Volkova, Romanyshyna, (2020) (Foreign experience of professional training of future geography teachers to professional activity).

The Purpose of the article is to identify key aspects of foreign experience in the formation of professional thinking of future teachers, analyze their methodological basis, and outline the possibilities of adaptation to the Ukrainian educational system.

The Results of the Research. The development of professional thinking is the foundation for ensuring high quality education. In the modern world, where knowledge is rapidly updated, teachers must not only have up-to-date information, but also be able to assess its reliability, integrate new ideas into their own activities, and teach students critical thinking and creativity. Future teachers must be ready to solve complex professional tasks that often go beyond standard methods. This requires the development of such components of professional thinking as reflexivity, analytics, creativity, and self-criticism (Akimova, 2008b).

The relevance of this problem is also enhanced by society's demands for high-quality education, which should form not only knowledge, but also key competencies of students. A modern teacher acts not only as a carrier of knowledge, but also as a facilitator

of the educational process, a mentor who helps students form personal and social competencies.

The Ukrainian pedagogical education system faces significant challenges. These include a gap between the theoretical training of students and the practical demands of the modern labor market, as well as limited use of practice-oriented teaching methods, which hinder students' ability to apply their knowledge effectively. Teacher training programs also lack widespread adoption of modern educational technologies and digital resources, and they do not sufficiently incorporate successful international practices that enhance professional thinking (Slushny et al., 2020).

Globalization in education creates opportunities for international collaboration and exchange of expertise. To meet these demands, the system must adapt educational programs to global standards and prepare future teachers to work effectively in multicultural environments, using innovative teaching methods from around the world.

Studying and adapting international practices is essential for advancing Ukraine's pedagogical education system. Foreign models provide effective strategies for developing teachers' professional thinking. For instance, Finland's widespread use of problem-based learning fosters critical thinking and self-reflection. Germany's dual education system effectively integrates theoretical and practical training, while the United States emphasizes case-based methods that enhance creativity and problem-solving skills (Volkova & Romanyshyna, 2020).

Incorporating these approaches into Ukrainian pedagogical education could significantly improve its efficacy. Achieving this requires designing curricula tailored to Ukraine's unique educational context and providing extensive professional development for educators to effectively implement these innovations.

Enhancing the professional thinking of future teachers is both a theoretical and practical imperative for strengthening Ukraine's education system and facilitating its integration into the global educational community (Volkova & Romanyshyna, 2020).

Professional thinking in pedagogical activity is an integrative characteristic that combines cognitive, emotional-value, and practical components. It is a complex system that provides the future teacher's ability to critically reflect on pedagogical phenomena, effectively make decisions, creatively approach the solution of educational tasks, and adapt to changes in the professional environment. From a theoretical

point of view, professional thinking is based on the synthesis of three key elements: critical thinking, which involves the ability to analyze information, assess its reliability, and formulate substantiated conclusions; reflection, which allows you to realize your own actions, evaluate their effectiveness, and improve; and creative thinking, which provides an innovative approach to work, the production of new ideas, and improving the quality of the educational process (Akimova, 1989).

Professional thinking is the foundation of effective teaching, allowing teachers to make decisions based on the individual characteristics of students, adapt teaching methods to modern challenges, and develop key competencies in their students (Horokhivska, 2018).

Professional thinking in pedagogical activity is an integrative characteristic that ensures the ability of a future teacher to effectively solve educational tasks, critically comprehend pedagogical phenomena, adapt to changes in the professional environment, and creatively approach their work. This ability is multidimensional, combining cognitive, emotional-value, and practical components that create the foundation for the successful professional functioning of a teacher (Akimova, 1989).

From a theoretical point of view, professional thinking is based on three key elements.

Critical thinking is one of the foundations of professional thinking. It consists of the teacher's ability to analyze information, assess its reliability and significance, and formulate well-founded conclusions. In pedagogical practice, this means that a teacher must be able to evaluate the effectiveness of teaching methods, determine the needs of students, and adequately respond to challenges that arise in the educational process (Csorba, 2017).

Reflection as a component of professional thinking encompasses the ability to be aware of one's own actions, evaluate their results, and improve professional activity. Reflective processes help teachers analyze their mistakes, reflect on their pedagogical achievements, and develop strategies to improve the quality of the educational process. Reflection is also an important condition for professional self-development, as it contributes to the formation of openness to change and readiness to innovative implement ideas (Csorba, 2017: Horokhivska, 2018).

Creative thinking is manifested in the teacher's ability to generate new ideas and adapt teaching

methods and tools to the unique needs of each student. This thinking makes it possible to introduce innovative approaches to learning, create non-standard solutions, and promote the development of creativity in students. Creative thinking is also key to developing integrated lessons, interdisciplinary projects, and adapting educational programs to modern challenges (Akimova, 2008a).

Professional thinking is important for pedagogical activity, as it allows the teacher to make informed decisions, taking into account the individual characteristics of students and the requirements of the educational environment. The ability to critically analyze, reflect, and be creative ensures the development of pedagogical skills, improves the quality of teaching, and promotes the formation of leadership qualities in teachers (Poseletska et al., 2020).

In pedagogical practice, professional thinking is the basis for implementing effective teaching methods, resolving conflict situations, and achieving educational goals. It forms in the future teacher not only executive skills but also leadership traits necessary to initiate changes in the educational system. Given today's challenges, the development of professional thinking in future teachers is critically important for improving the quality of education and compliance with global standards (Jones et al., 2011).

In the context of a review of foreign models of teacher education, the educational systems of Finland, Germany, and the USA deserve attention. The Finnish model is distinguished by the integration of theory and practice, where future teachers spend a significant part of their training in schools, acting as interns. This approach forms practical skills in students and promotes the development of reflective thinking. Germany uses a dual system that harmoniously combines theoretical training at universities with practice in schools. Particular attention is paid to reflective thinking through keeping pedagogical diaries, participating in seminars, and discussions. In the USA, the emphasis is on case methods and problem-based learning, which allow students to solve complex educational tasks, analyze real situations, and make effective decisions (Akimova et al., 2023; Jones et al., 2011).

The Finnish teacher education system is widely regarded as one of the most progressive globally, characterized by its seamless integration of theory and practice. Aspiring teachers spend a substantial portion of their training in schools as interns, engaging

directly with students and collaborating with teaching teams. This hands-on experience enables them to gain a comprehensive understanding of pedagogical processes and effectively apply theoretical knowledge in practical contexts.

A key component of the Finnish model is its emphasis on research. Trainee teachers actively analyze educational practices, develop innovative teaching strategies, and conduct experimental studies. This involvement fosters critical reflection on pedagogical phenomena and equips them to devise creative solutions (Borodiienko et al., 2022).

In Germany, the dual teacher education system effectively combines university-based theoretical instruction with school-based practical activities. The approach prioritizes not only the transfer of knowledge but also the cultivation of reflective thinking. Students maintain pedagogical diaries, documenting their actions, analyzing outcomes, and drawing conclusions, thereby enhancing their ability to self-assess and improve. Reflective seminars and group discussions further support this process by providing opportunities to share experiences and engage in critical self-reflection (Lazarenko & Hapchuk, 2023).

The U.S. teacher education model is distinguished by its focus on innovation and practical application. Case-based learning serves as a cornerstone of training, where students analyze real-life educational scenarios to develop decision-making skills, solve complex problems, and foster creative thinking. Additionally, problem-based learning encourages students to address authentic educational challenges, promoting critical thinking, collaboration, and communication skills. These methods not only enhance professional competencies but also nurture the capacity for innovation in teaching (Akimova et al., 2023; Ponomarenko et al., 2024).

Each model offers unique strengths. The Finnish system emphasizes deep immersion in practice, fostering the integration of theory and reflection. The German model excels in cultivating systematic reflective practices that support continuous self-improvement. The U.S. approach prioritizes problem-solving and creativity, equipping future teachers with critical thinking skills and innovative mindsets. Together, these systems provide valuable insights for enriching teacher education globally.

Methods for developing professional thinking include the development of critical thinking, reflection, an interdisciplinary approach, and the use of digital

technologies. Methods for developing critical thinking include debates, case studies, and problem solving, which encourage students to form reasoned conclusions. Reflection is implemented through pedagogical journals, portfolios, and group discussions, which help students to realize their achievements and look for ways to improve. An interdisciplinary approach involves knowledge from other fields, in particular psychology, sociology, and technology, which contributes to the formation of complex pedagogical thinking. The use of digital technologies, such as online platforms, simulators of educational situations, and virtual environments, allows future teachers to develop skills in safe conditions (Boichenko et al., 2021; Ponomarenko et al., 2024).

Developing professional thinking in future teachers is a central goal of pedagogical education, as this skill equips educators to effectively solve professional challenges, critically evaluate their practices, and adapt to the evolving educational landscape. Key strategies for cultivating professional thinking include fostering critical thinking, promoting reflection, adopting an interdisciplinary approach, and integrating digital technologies (Boichenko et al., 2021).

Critical thinking is a foundational component of professional thinking. Methods such as debates, case analysis, and problem-solving exercises are commonly employed to enhance this skill. Debates help students articulate their opinions with sound reasoning, evaluate alternative perspectives, and defend their decisions effectively. Case analysis engages students in examining real or simulated pedagogical scenarios that demand critical analysis and creative problem-solving. For instance, they may explore cases involving teacher-student communication issues or the integration of new technologies into education, fostering systems-thinking and innovative approaches (Akimova, 2008a).

Reflection plays a vital role in professional thinking by enabling teachers to assess their actions, evaluate their effectiveness, and plan improvements. Reflective practices include maintaining pedagogical journals, creating professional portfolios, and participating in group discussions. Pedagogical journals provide a structured way to document successes and challenges, analyze underlying issues, and devise solutions. Portfolios serve as both repositories of professional work and tools for self-reflection, tracking growth over time. Group discussions facilitate experience-sharing,

collaborative learning, and constructive feedback, enriching the reflective process (Akimova, 2008a).

Incorporating knowledge from disciplines such as psychology, sociology, technology, and economics broadens the scope of pedagogical thinking. For example, understanding psychological principles of motivation enhances teachers' ability to address students' needs and foster effective learning environments. This interdisciplinary perspective enables a holistic view of education, accounting for individual and socio-cultural dynamics. It also helps students recognize connections between disciplines and apply this integrated understanding to address complex educational challenges (Boichenko et al., 2021).

Digital tools play a transformative role in shaping professional thinking. Platforms for online learning, pedagogical simulators, and virtual environments provide safe spaces for students to practice skills. Educational simulators allow students to analyze scenarios, make decisions, and evaluate outcomes. Virtual classrooms offer opportunities to develop skills in student engagement, educational organization, and the implementation of innovative teaching strategies (Lazarenko & Hapchuk, 2023).

Additionally, digital technologies facilitate self-assessment and reflective practices by automating performance analysis and enabling access to extensive educational resources. These tools encourage independent learning and enhance critical thinking, making them indispensable for modern teacher education (Lazarenko & Hapchuk, 2023).

By combining these methods, pedagogical education equips future teachers with the professional thinking skills necessary to thrive in a dynamic educational environment.

A comparative analysis of foreign models demonstrates their effectiveness in developing professional thinking. The Finnish system provides a high level of practical training, the German system emphasizes reflection, and the American system develops skills in solving complex problems. Adapting these approaches to the Ukrainian context may include the introduction of long-term pedagogical practice, the use of reflective techniques, the integration of case methods, and the introduction of digital tools. Such adaptation will contribute to improving the quality of teacher education in Ukraine and its integration into the global educational community.

Conclusions. The study analyzed contemporary approaches to developing professional thinking in

future teachers, focusing on foreign pedagogical education models and methods for fostering this skill. The models from Finland, Germany, and the USA showcase diverse approaches to integrating theory with practice, nurturing critical, reflective, and creative thinking, and utilizing digital technologies to enhance the professional competencies of future educators.

The study emphasizes the need to integrate theoretical knowledge with real pedagogical experience to develop practical skills, analytical abilities, and adaptability to the evolving educational landscape. Specifically, the Finnish model, which places a strong emphasis on pedagogical practice, helps students develop a deep understanding of the learning process through reflective thinking. Germany's dual education system fosters self-examination and selfassessment by encouraging students to maintain pedagogical diaries and participate in group discussions. The American model, which incorporates case-based methods and problem-based learning, equips future teachers with the skills to solve real educational problems, promoting critical thinking and decision-making.

Practical recommendations for adapting foreign practices to Ukraine's context include a stronger integration of theoretical knowledge with practical experience. This can be achieved by expanding pedagogical practice, organizing reflective seminars and discussion platforms, and using innovative digital tools to simulate educational scenarios. Incorporating case methods into curricula can help future teachers engage with real educational challenges, while group discussions can further develop critical thinking skills.

Additionally, using portfolios and pedagogical journals will support students in tracking their professional development, reflecting on their achievements, and identifying areas for improvement. An interdisciplinary approach will also be crucial, broadening students' pedagogical thinking and equipping them to address complex educational issues.

International cooperation plays a vital role in teacher education. Exchange programs and joint international projects foster the adoption of innovative approaches, improve pedagogical education quality, and promote the integration of global best practices into Ukraine's educational system. These efforts also enhance the professionalism and competence of teachers and contribute to Ukraine's integration into the global educational community.

In conclusion, integrating foreign pedagogical practices into teacher training in Ukraine represents a crucial step toward modernizing education. Applying contemporary methods to develop professional

thinking in future teachers will ensure the success of the educational process and produce highly qualified educators capable of addressing the challenges of the modern world.

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