CHARACTERIZATION OF THE DEVELOPMENT OF RESEARCH COMPETENCE OF MASTERS IN THE FIELD OF EDUCATIONAL SCIENCES: INTERNATIONAL EXPERIENCE

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The research is dedicated to characterizing key aspects of preparing higher education students in master's programs in the field of educational sciences based on the best global higher education institutions. The relevance of the chosen problem is determined by the importance of studying international experience, which allows understanding which approaches and strategies contribute to the successful development of research competence in master's students in the field of educational sciences and are useful for improving the national educational system and curricula. Additionally, knowledge of international experience can help identify shortcomings and problems in the training of master's students in Ukraine and address them by implementing best global practices. The article describes the pathways to obtaining a master's degree; the experience of implementing master's programs in the United Kingdom, Hungary, the Netherlands, Portugal, Denmark, Norway, and the United States is analyzed.

It has been demonstrated that the implementation of master's programs for future teachers has a practical orientation, develops self-learning skills, and fosters a readiness for lifelong learning. Currently, master's education in Ukraine is undergoing a phase of active progressive development, where the primary efforts are directed towards practical organizational measures that will significantly and qualitatively distinguish the process of preparing a master's degree candidate from traditional bachelor's degree preparation. Under such circumstances, the creation of a qualitatively new system for preparing masters in educational sciences becomes particularly important, which should be based not only on the transmission of knowledge, skills, and abilities in creative activity but primarily on the development of research qualities in future professionals and the enhancement of research competence. This is essential for the development of the innovative potential of higher education institutions and corresponds to the level of societal demands of the first quarter of the 21st century. Moreover, it aligns with European requirements for the educational activities of masters, such as The Dublin Descriptors and The European Qualifications Framework (EQF).

The reference to global practices in preparing masters is progressive due to the adoption of the best theoretical, practical, and methodological achievements of advanced countries regarding the organization of second-level higher education training in general, as well as national peculiarities of their training, stages, principles, forms, and methods in particular.

Keywords: research competence, master's in educational sciences, international experience, higher education, educational qualification level.

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ХАРАКТЕРИСТИКА РОЗВИТКУ ДОСЛІДНИЦЬКОЇ КОМПЕТЕНТНОСТІ МАГІСТРАНТІВ У ГАЛУЗІ ОСВІТНІХ НАУК: ЗАРУБІЖНЬЙ ДОСВІД

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Дослідження присвячене характеристиці ключових аспектів підготовки здобувачів вищої освіти за магістерськими програмами у галузі освітніх наук на базі кращих світових закладів вищої освіти. Актуальність обраної проблеми обумовлена важливістю вивчення зарубіжного досвіду, що дозволяє зрозуміти, які підходи та стратегії сприяють успішному розвитку дослідницької компетентності магістратур в галузі освітніх наук і є корисним для удосконалення вітчизняної освітньої системи та навчальних програм. Окрім того, занурення до зарубіжного досвіду може допомогти виявити недоліки та проблеми в підготовці магістратур в Україні і виявити їх, впроваджуючи кращі світові практики. У статті охарактеризовано шляхи отримання ступеня магістра; проаналізовано досвід упровадження магістерських програм у Великобританії, Угорщині, Нідерландах, Португалії, Данії, Норвегії та США.

Доведено, що впровадження магістерських програм підготовки майбутніх викладачів має практичну спрямованість, розвиває навички самостійного навчання, готовність до навчання впродовж життя. Адже сьогодні магістратура в Україні знаходиться на етапі активного поступального розвитку. Вирішення ключових аспектів дослідницької компетентності є незаможним для формування кваліфікованої кадрової бази у галузі освіти. Якість навчання в магістерських програмах, особливо шляхом запровадження кращих практик, є перспективним напрямом шляхом пошуку інноваційних форм підготовки, яка відповідає соціальним потребам суспільства.

Ключові слова: дослідницька компетентність, магістр з освітніх наук, зарубіжний досвід, вища освіта, освітньо-кваліфікаційний рівень.

Introduction of the issue. The development of society at the end of the first quarter of the 21st century is characterized by ambitious and progressive demands for the formation of a new generation of professionals capable of benefiting society.

A current requirement in the sphere of higher education, particularly in pedagogy, is the preparation of highly qualified professionals competitive in both the domestic and foreign labor markets – individuals capable of thinking creatively, quickly adapting to the modern information-rich environment, making non-standard decisions, learning and developing throughout their lives, and most importantly, being patriots of their homeland.
The guidelines for the development and improvement of the national higher education system as an important tool for the development of modern society aim at the necessity of preparing future teachers as highly qualified professionals capable of engaging in scientific activities in the conditions of continuous reform of the education system. This underscores the importance of comprehensive preparation of future teachers at the master’s level, as it is undeniable today that insufficient attention to this problem leads to a decline in the quality of pedagogical activities and a decrease in their effectiveness.


**Outline of unresolved issues brought up in the article.** However, the comprehensive study of the preparation of masters in educational sciences in European countries remains insufficiently explored. Therefore, the **aim of this research** is a thorough study and analysis of foreign experience in developing the research competence of master’s students in the field of educational sciences, reviewing and analyzing modern approaches and strategies used in European countries for the development of research competence in master’s students, and identifying key factors influencing the effectiveness of the instrument of the development of higher education as an important tool for the development of modern society.


**Виділення невирішених раніше частин загальної проблеми, яким присвячується стаття.** Однак, недостатньо дослідженою комплексно залишається проблема підготовки магістрів з освітніх наук в країнах Європи. Саме тому метою наукового дослідження є ретельне вивчення та аналіз зарубіжного досвіду у розвитку дослідницької компетентності магістрів у галузі освітніх наук, огляд і аналіз сучасних підходів та стратегій, що використовуються в європейських країнах для розвитку дослідницької компетентності магістрів, виявлення ключових факторів, які впливають на ефективність навчальних програм з освітніх наук у країнах Європи.
effectiveness of educational programs for the development of research competence.

Aim of research is to take into account foreign experience in activities aimed at developing the education of teacher-masters to improve the quality of training for students in higher education institutions in Ukraine and bring it into line with international educational standards.

Results and discussion. The master’s in pedagogical education is an educational qualification level of a pedagogical worker who has acquired advanced fundamental psychological-pedagogical and professional knowledge of an innovative nature, gained experience in applying and producing new knowledge to solve pedagogical and scientific research tasks in the field of education [1: 126]. Scholars interpret the concept of "research competence" as a holistic integral formation of personality, a certain set of knowledge, skills, experience of personality activity, the formation of motivational and volitional qualities manifested in readiness, ability, motivation for research activity with active use of special and universal methods of scientific cognition, aimed at obtaining new knowledge, practical application of a creative and innovative approach in goal-setting, planning, analysis, systematization, decision-making, and evaluation of the results of research activity[3: 3].

The development of research competencies of higher education master’s students is aimed at acquiring skills in search and research activities, abilities for creatively solving educational tasks in higher education, and forming skills in applying research techniques and methods to address practical issues in teaching and education. This problem is particularly relevant in Ukraine due to the processes of European integration and accession to the Bologna Process, which increase the requirements for the level of preparation of future domestic scientists every day.

Therefore, the study of the main ideas and leading directions of developing research competence in master’s students in educational sciences is within the scope of scientific interests of domestic scientists.
who turn to the analysis and research of the most successful foreign educational systems and programs.

In the documents of leading international organizations (UNESCO, OECD, Council of Europe, European Commission, etc.), the potential of the teaching staff is regulated by the basis of ensuring high quality and competitiveness of education in the global labor market, and the teacher of the 21st century is declared as a bearer of social changes [6: 39]. Progressive achievements of countries that demonstrate a high level of professional training of teachers according to world standards are of significant scientific interest; they have rich historical traditions of education, which contributes to their leading role in the field of science and education at regional and global levels; they have accumulated significant experience in teacher training in new socio-cultural conditions [3: 4].

Studying master’s education in European countries, we understand that at the master’s level, all essential characteristics of higher education are most fully manifested in their unity: teaching, research, and employment (the function of inheritance and renewal). The master’s degree makes European higher education more familiar, attractive, transparent, and competitive in the world, and also allows Europe as a whole and each country individually to develop and implement their import-export strategies in the fight for intellect, image, and resources (the function of transparency). As a degree that is sufficiently open to all capable of acquiring it, it naturally regulates access and admission of students (the function of rational selectivity).

Master’s education is becoming increasingly significant as a precursor to a higher degree – the doctoral level, especially in connection with the task of forming a European doctoral education (the function of providing a pre-doctoral level).

At the master’s level, the unity and academic nature of the market characteristics of higher education can be maximally achieved, with its subordination to classical values and openness to dynamic changes (the function of unity of
inheritance and development). Finally, the master's degree allows for the production of highly intellectual scientific and research personnel and elite professionals with a high level of interdisciplinary culture (the function of renewal) [4: 238].

However, it should be noted that in most European countries, the master's degree is not exclusively linked to preparation for scientific or scientific-pedagogical work but is aimed at a broader spectrum of future master’s activities. A characteristic feature of European master's programs is their specialized specialization and the duration of study, which is determined by the requirements of the state and the system of organization of training in a specific university. Thus, the master's program duration ranges from one to six years.

In Europe, there is also a standardized system for obtaining a master's degree, and most countries prepare masters in various fields. For example, a Master of Business Administration degree (Master of Science, Master of Arts, Master of Commerce) can be obtained based on a bachelor's degree with a minimum of 2-3 years of professional experience and academic knowledge in any field. Meanwhile, the Executive Master's degree is specifically designed for professionals in administration. The difference between these directions lies in their reputation, the career goal of the education seeker, and the cost of education.

In the United Kingdom, master's programs in education can be designated as either a Master of Education or a Master of Science. The Master of Education degree is awarded to individuals with varying levels of education and qualifications, who have completed different educational institutions and have different professions, but are united by their desire to develop the field of education [9: 260].

The University of Szeged in Hungary offers a Master's program in education on a full-time basis, which lasts for 4 semesters and consists of 120 ECTS credits. Participants in the program learn to think and act as social scientists, study contemporary trends and research results, develop effective strategies and teaching methods, and learn how to apply them and academicцість ринкових характеристик вищої освіти, її підпорядкованість класичним цінностям і відкритість динамічним змінам (функція єдності наслідування і розвитку). Нарешті, магістерський ступінь дозволяє здійснювати виробництво високоінтелектуальних науково-дослідних кадрів і еліти професіоналів з високою міждисциплінарною культурою (відновлювальна функція) [4: 238].

Проте варто констатувати, що в більшості країн Європи магістратура не пов'язана виключно з підготовкою до науково-дослідницької чи науково-педагогічної роботи, а спрямована на більш широкий спектр видів діяльності майбутнього магістра. Характерною ознакою європейських магістерських програм є їх профільна спеціалізація та тривалість навчання, яка визначається вимогами держави та системою організації підготовки в умовах конкретного університету. Таким чином програма підготовки магістрів триває від одного до шести років.

Також в Європі існує стандартизована система отримання ступеня магістра і більшість країн готує магістрів за різним фахом. До прикладу ступінь магістра бізнес-адміністрування (магістри наук, магістри мистецтв, магістри торгівлі) можна здобути на основі рівня бакалавра маючи мінімум 2-3 роки професійного досвіду і академічні знання в будь-якій сфері. У той час як ступінь виконавчого магістра створений спеціально для професіоналів в адмініструванні. Різниця між цими напрямками полягає в їх репутації, меті кар'єри забезпечіть освіти та вартості навчання.

Зокре ма Великобританії магістерські програми в галузі освіти можуть признатися за двома спеціальностями: магістр освіти та магістр науки. Зокре ма, ступінь магістра освіти присуджується особам з різними освітньо-кваліфікаційними рівнями, які закінчили різні навчальні заклади і здобули різні професії, які об'єднують бажання розвивати освіту в галузь [9: 260].

Сегетдський університет Угорщини пропонує освіту програму магістра освіти за очною формою навчання освіти, яка триває 4 семестри та нараховує 120
continue their professional development. Graduates can expect to work in educational institutions, research centers, or in the field of educational management, as well as engage in research, consult in the field of education, or work in international educational organizations.

The main components of the program include general basic courses (48 ECTS credits), specialization (40 ECTS credits), a master's thesis (20 ECTS credits), elective courses (7 ECTS credits), and an internship (5 ECTS credits) [14].

The educational program for a Master’s degree in Education at the Pannon University in Hungary also consists of 120 ECTS credits and lasts for 4 semesters. The program is offered in full-time, part-time, or distance learning formats. It is designed to prepare specialists in the field of educational sciences. Graduates of this university are positioned as researchers in primary, secondary, or higher education systems, in the field of educational administration, and are capable of applying their professional knowledge in these areas. They participate in tasks related to operating the educational system and publish the results of their research at Hungarian national and international educational professional forums.

Graduates have the opportunity to continue their studies at the PhD level and are actively involved in research work, working in university research groups and participating in international research projects. During the preparation of the master’s project, students focus on research work, studying innovative approaches in pedagogy, and developing new teaching methods [13].

A common feature of all master’s programs at Hungarian universities is an emphasis on combining theoretical knowledge with practical skills, as well as preparing master’s students for research work, which is confirmed by the presence of courses on research methodology and the preparation of a master’s thesis. In addition, most programs include courses related to educational psychology, indicating the importance of understanding the psychological aspects of teaching and education. However, there are differences
in approaches to training. For example, the University of Székesfehérvár focuses on intercultural pedagogy and prepares students for work in international educational institutions, while the University of Szeged focuses on the psychological aspects of educational activities. The University of Pannonia is characterized by a deep research-oriented approach, while the University of Debrecen offers deep theoretical training with an emphasis on comparative pedagogy. Therefore, although all these universities have a common goal of preparing highly qualified specialists in the field of education, the methods and approaches to achieving this goal can vary significantly [2: 118].

Studying the professional preparation of education masters in Hungarian universities reveals a deep and systematic approach to education. The educational programs of these universities reflect global trends, focusing on a combination of theoretical knowledge and practical skills. This is evidenced by the strong emphasis on research work, which is the basis for the preparation of the master's thesis, as well as the presence of courses on research methodology. The uniqueness of Hungarian universities lies in their ability to integrate modern pedagogical approaches and technologies, responding to changes in the educational environment. Each university has its own unique characteristics of training, reflecting its main scientific and pedagogical priorities, which makes the Hungarian higher education system diverse and multifaceted. However, along with these advantages, universities face several challenges, including: adaptation to international standards; language barriers; the need to ensure high-quality practical training; technological challenges; and funding issues – all of which require universities to constantly adapt and innovate [2: 119].

In the Netherlands, there are two types of master's programs: regular programs, which aim to deepen knowledge, develop practical skills, and prepare for a professional career; and research programs, specifically designed to prepare for a research career and further study in a

naуково-дослідницької роботи, що підтверджується наявністю курсів з методології наукових досліджень та підготовкою магістерської роботи. Крім того, у більшості програм є курси, пов’язані з педагогічною психологією, що вказує на важливість розуміння психологічних аспектів навчання та виховання. Однак є й відмінності в підходах до підготовки. Наприклад, Шопронський університет зосереджений на міжкультурній педагогіці та підготовці до роботи в міжнародних освітніх установах, тоді як Сегедський університет акцентує увагу на психологічних аспектах педагогічної діяльності. Паннонський університет відзначається глибоким науково-дослідницьким підходом, а Університет імені Етвеша Лоранда пропонує глибоку теоретичну підготовку з акцентом на порівняльну педагогіку. Отже, хоча всі ці університети мають спільну мету підготовки висококваліфікованих фахівців у галузі освіти, методи та підходи до досягнення цієї мети можуть суттєво відрізнятися [2: 118].

Вивчаючи професійну підготовку магістрів освіти в університетах Угорщини, можна побачити глибокий і системний підхід до освіти. Освітні програми цих університетів відображають глобальні тенденції, акцентуючи увагу на комбінації теоретичних знань і практичних навичок. Це підтверджується великою увагою до науково-дослідницької роботи, яка є основою для підготовки магістерської роботи, а також наявністю курсів з методології наукових досліджень. Особливість угорських університетів полягає в їхній здатності інтегрувати сучасні педагогічні підходи та технології, реагуючи на зміни в освітньому середовищі. Кожен університет має свою унікальну специфіку підготовки, що відображає його основні наукові та педагогічні приоритети, що зумовлює угорську систему вищої освіти бути різноманітною та багатогранною. Однак, разом з цими перевагами, університети мають ряд викликів, серед яких: адаптація до міжнародних стандартів; мовні бар’єри; необхідність забезпечення якісної практичної підготовки; технологічні виклики та питання фінансування – все це вимагає від університетів постійної
doctoral program. Research master's programs focus primarily on studying research methods, developing critical thinking, and engaging in scholarly publication activities. The emphasis is on independent research, which is reflected in the writing of the master's thesis. Research master's programs in the Netherlands are seen as an intermediate step towards a career as a researcher and entry into academic circles [10: 102].

European researchers in their works practically do not highlight the issues and problems of master's degree development, but rather focus on the research dimension and readiness. The vast majority of works in the context of studying the formation of research qualities of scientists relate to doctoral studies.

From the content of the research and publications of European scholars on the formation of research competence of master's students, it can be concluded that in several European countries such as the United Kingdom, Portugal, and Denmark, research during master's training plays an important role. However, the formation of research competence at the master's level by education seekers is primarily seen not as a path to a research profession, but as professionally oriented education, since master's degree seekers are individuals with current professional experience and careers.

According to the European Qualifications Framework [15], European universities are guided by the norms of the Dublin Descriptors [16], developed in the context of the Bologna Process. Master's level students, during their studies, generate their ideas through research. A thorough analysis of master's degrees in Europe has shown that research is an undeniable and necessary component of master's programs. In this context, research is perceived not as an academic nuance/subtext, but rather as a progressive level of interaction with knowledge, including scientific research and practice. Based on the experience of Portuguese universities, master's research does not necessarily involve writing a dissertation. Depending on the educational institution, research at the master's level
can be theoretical or practical, individual or group-based. It can manifest in the form of writing a research paper or in projects and tasks or professional internships.

In universities in England, the main emphasis during master’s training is on the instrumentalism of research rather than on the result. That is, masters are taught to research – the process is more important than the result. Such an approach to the formation of research competence has a positive impact on the career development of masters in the future and is highly valued by potential employers. It can be concluded that if a master’s student does not plan to continue their education in a doctoral program, then obtaining profound knowledge and writing a master’s thesis is not an end in itself for them. Instead, the master’s degree is pursued to improve career prospects (53%) or progress in their current career (52%). These figures explain the 0.5-1 year duration of master’s studies in the vast majority of European universities.

An illustrative example of the formation of research competence in future physics teachers at the master’s level in European universities is studied by K. Sin [12]. The author notes that in the process of teaching physics masters, there is a strong emphasis on research and its rigorous organization. Education seekers mostly work in groups, and the results of their research, conducted during the educational process, make a direct contribution to the scientific research of the educational institution.

For example, at the University of Oslo (Norway), 42 hours are allocated for studying humanities and social sciences, while 82 hours are allocated for the scientific component per year.

It is important that the research topics of the master’s students are directly related to the research interests of their supervisors. Publication of research results, discussions with colleagues, developments, test ideas, frequent participation in scientific conferences – all these are constant elements of research activity of masters in European universities [12].
In the United States, obtaining a master's degree has several peculiarities compared to other countries. There are several paths to obtaining a master's degree in the USA. Depending on the program, it may or may not require defending a master's thesis (this practice also exists in some European countries). The structure and duration of programs leading to a master's degree can vary not only across different states but also across universities.

A characteristic feature of master's programs is their specialized focus. The master's degree is designed to provide additional education or training in a specialized field after completing undergraduate studies. Obtaining a master's degree is possible through two main types of programs: academic and professional.

It is worth noting that in the content of education in the United States, there are two opposite tendencies in pedagogy: synthesized teaching of pedagogy and separate study of its individual disciplines (philosophy of education, history of pedagogy, educational psychology, pedagogical sociology). Higher education in pedagogy in the USA at the end of the 20th century became more focused on the development, primarily of the professional qualities of future specialists – teachers, which is closely related to the implementation of the principles of differentiation and individualization of education [7: 232].

Teacher preparation in the USA falls within the field of humanities. However, according to the Classification of Instructional Programs – 2010 developed by the National Center for Education Statistics of the US Department of Education, the specialty 13.0406 "Higher Education" (Higher Education Administration) is part of the program category 13.04 "Educational Administration and Supervision," which is a component of the field of knowledge 13 "Education" [11: 128].

At the current stage, teacher education in the United States is provided by approximately 500 higher education institutions, including research
universities offering master's and doctoral programs, as well as colleges granting bachelor's and master's degrees [8].

Pedagogical education in US universities is primarily aimed at preparing teachers who are experts in pedagogical disciplines, possess multifunctional skills, and are ready to apply them in various types of educational institutions. Therefore, higher pedagogical education in the USA is characterized by the practical training of specialists, providing students with the latest theoretical and practical achievements in pedagogy, and preparing them for managing and anticipating possible ways of developing the pedagogical process. Therefore, the strategic directions of higher pedagogical education in the USA include strengthening the practical component of education in educational institutions, increasing the role of mentors (tutors), and, overall, educational institutions in the final result of preparing a specialist – a teacher [5: 29].

Conclusions and research perspectives. In our study, we have concluded that studying the international experience in developing research competence of master's students in education is extremely important, considering that the diversity of cultures, traditions, and characteristics, including those in the field of educational systems, is a significant asset of countries in the global education community, and their preservation is a top priority. Moreover, the mobility of citizens for settlement, education, or employment provides a basis for identifying and shaping knowledge, skills, competencies, and qualifications that would be universal for all progressive countries.

Therefore, the study of foreign experience in master's training of future teachers is aimed at identifying the essence, main directions, and factors that determine the commonality and differences in the functioning and development of education.

The implementation of the experience of leading European countries and the USA in the development of research
competence of master’s students in Ukrainian educational institutions can have significant potential for improving the quality of education and training of personnel. The prospects for implementing foreign experience in Ukrainian realities may include processes related to the adaptation of master’s programs, taking into account the best practices and experience of the United Kingdom, Hungary, the Netherlands, Portugal, Denmark, Norway, and the USA in the field of research competence; involving domestic higher education institutions in international projects and initiatives aimed at exchanging experience and improving research competence; organizing internships and training courses abroad for Ukrainian teachers to study advanced experience in this field; developing research centers and laboratories at Ukrainian universities; providing Ukrainian master’s students with opportunities to participate in research and conferences abroad to enrich their experience, and so on. The implementation of these practices can help Ukrainian universities to raise the quality of master’s training in research competence to a new level.

The prospects for further research lie in studying the ways of implementing current foreign and domestic experience in forming research competence of master’s students.

REFERENCES (TRANSLATED & TRANSLITERATED)


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