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Current e-learning trends in German and Austrian higher education institutes

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Abstract

The article delves into contemporary e-learning trends within the higher education landscape of Germany and Austria. It scrutinizes the adoption of electronic tools such as AI-driven online courses, virtual and augmented reality, and microlearning. These digital technologies are strategically employed in universities and polytechnic institutes to enhance educational quality and broaden knowledge accessibility. Particularly, the utilization of virtual and augmented reality technologies is prevalent, offering students immersive experiences with real-world scenarios and 3D models, thereby enhancing comprehension of intricate concepts. A pivotal aspect of e-learning implementation is the ability to tailor learning pathways to individual needs. E-learning transcends traditional educational paradigms, enabling students to pursue higher education from any location worldwide, catering to the needs of those studying abroad or concurrently working. Adaptive learning systems, underpinned by AI, facilitate the creation of personalized learning schemes, accommodating diverse learning styles and paces. The authors underscore the significance of these trends in augmenting education's accessibility and efficacy. The integration of contemporary technologies into the educational milieu is imperative for enhancing educational quality and broadening learning horizons within the modern educational landscape. Current trends underscore the evolution of e-learning towards greater flexibility, personalization, engagement, and interactivity, thereby democratizing access to education across diverse demographics and offering enhanced educational outcomes in the digital era. Incorporating modern technologies into educational practices emerges as a requisite element of contemporary education, presenting novel opportunities for students and educational institutions to advance and refine the educational experience.

Keywords: e-learning, e-learning trends, online courses, artificial intelligence (AI), virtual reality (VR), augmented reality (AR), higher education institutions in Germany and Austria

Сучасні тенденції е-навчання у закладах вищої освіти Німеччини та Австрії

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Анотація

У статті розглянуто сучасні тенденції е-навчання у закладах вищої освіти Німеччини та Австрії. Зокрема, досліджується використання електронних технологій, таких як онлайн курси штучний інтелект, віртуальна та доповнена реальність та мікронавчання. Застосування цифрових технологій в університетах і політехнічних інститутах стає стратегічним вибором, спрямованим на підвищення якості навчання та доступності знань. Заклади вищої освіти в Німеччині та Австрії також інтенсивно використовують технології віртуальної та доповненої реальності для розширення навчального процесу, що дозволяє студентам вивчати реальні сценарії та взаємодіяти з 3D-моделями, що в свою чергу, покращує їх розуміння складних концепцій. Важливим аспектом впровадження е-навчання є можливість створення індивідуалізованих навчальних траєкторій. Е-навчання виходить за рамки традиційного класичного навчання, дозволяючи студентам здобувати вищу освіту з будь-якого місця світу, що особливо актуально для студентів, які можуть здійснювати навчання перебуваючи за кордоном або під час роботи. Системи адаптивного навчання на основі штучного інтелекту дозволяють створювати персоналізовані плани навчання, враховуючи індивідуальні навчальні потреби та темп студента. Автори акцентують увагу на значущості цих тенденцій для збільшення доступності та ефективності навчання. Інтеграція сучасних технологій у навчальний процес набуває важливого значення для підвищення якості освіти та розширення можливостей навчання в умовах сучасного освітнього середовища. Сучасні тренди вказують на те, що е-навчання стає більш гнучким, персоналізованим, захоплюючим та інтерактивним. Сучасні тенденції роблять е-навчання доступнішим для різних груп населення та забезпечують більш ефективну освіту в цифровому віці. Використання сучасних технологій у навчальному процесі стає необхідною складовою сучасної освіти, що відкриває нові можливості для студентів та навчальних закладів у подальшому розвитку та вдосконаленні освітнього процесу.

Ключові слова: е-навчання, тенденції е-навчання, онлайн курси, штучний інтелект (ШІ), віртуальна реальність (VR), доповнена реальність (AR), заклади вищої освіти Німеччини та Австрії

Statement of the problem. With its rapid expansion in recent years, e-learning has become an indispensable element of the curricula in German and Austrian higher education institutions. Within the realm of higher education, e-learning is deemed a critical instrument for fulfilling rigorous academic standards and tackling contemporary challenges. The incorporation of digital technology within universities and polytechnics is increasingly perceived as a strategic imperative aimed at elevating the quality of instruction and broadening access to knowledge. E-learning enables students to pursue higher education from any geographical location worldwide, transcending the constraints imposed by traditional classroom-based instruction. This is particularly pertinent for students who have the flexibility to pursue studies abroad or engage in professional commitments.

The flexibility inherent in e-learning empowers students to advance their knowledge without sacrificing other commitments. The capacity to devise personalized learning pathways stands as a pivotal

aspect of e-learning implementation. Through the utilization of artificial intelligence-driven adaptive learning systems, tailored learning plans can be devised, taking into account the distinct learning styles and requirements of individual students. Enhanced student engagement can be fostered through the deployment of interactive methodologies such as virtual laboratories, online discussion forums, and interactive lectures. These platforms facilitate virtual interactions between students and instructors, fostering active participation in the learning process (Gołąb-Andrzejak, 2022).

Artificial intelligence (AI) finds widespread application in higher education institutions in Germany and Austria, facilitating automated grading of assignments, performance analysis of students, and the creation of customized learning plans. This fosters more efficient and targeted learning outcomes. The adoption of virtual and augmented reality (VR/AR) technologies is also pervasive within higher education settings in Germany and Austria. These technologies enable students to interact with 3D models and explore real-world scenarios, thereby enhancing their comprehension of complex concepts (Ng et al., 2021).

Microlearning is emerging as a favored format for higher education in Germany and Austria, as it allows students to swiftly and effectively grasp brief learning modules. This is particularly advantageous for students contending with constrained study time and opportunities.

Analysis of recent research and publications. The landscape of higher education has undergone significant metamorphosis in recent years, primarily driven by the rapid advancement of digital e-learning technologies, which have fundamentally reshaped the paradigms of learning and knowledge acquisition. Consequently, e-learning, denoting the utilisation of digital platforms to disseminate educational content and facilitate training programmes, is gaining escalating traction owing to its inherent attributes of flexibility, affordability, and cost-effectiveness. Educators, students, and professionals alike must remain cognizant of the latest developments in this domain as e-learning continually evolves, presenting novel avenues for knowledge acquisition. Adherence to these evolving trends in e-learning fosters enhanced participant engagement, enriches the learning process, and sustains its relevance within higher education against the backdrop of digital advancements (Edmunds et al., 2021).

Adapting to emergent trends in e-learning and promptly revising learning materials in accordance with these trends ensures the development of more efficacious and immersive online courses, thereby affording students the opportunity to partake in a personalised learning journey. The exploration of contemporary educational trends, encompassing aspects such as digitization processes, the organisation of e-learning initiatives, distance learning modalities, and the establishment of digital educational environments, has garnered significant attention among both domestic and international scholars, including: O. Akimova, A. Al-Ansi, O. Borovska, N. Dmitrenko, J. Edmunds, M. Eswaran, C. Geißler, E. Gołąb-Andrzejak, O. Ihnatova, M. Jaboob, S. Kizim, N. Lazarenko, D. Matiiuk, K. Migliaccio, S. Nahorniak, B. Oberer, K. Poseletska, E. Pölzl-Stefanec, M. Sapohov, J. Southworth, O. Voloshyna, O. Zhovnych.

The purpose of the article is to provide a concise overview of contemporary e-learning trends within higher education institutions in Germany and Austria, encompassing topics such as online course proliferation, AI integration, adoption of VR/AR technologies, and microlearning methodologies.

Summary of the main material. Institutions of higher education in Germany and Austria actively promote collaborative engagement and social interaction among students via online platforms designed to facilitate discourse on course materials, collaborative project endeavors, and communal study sessions, irrespective of geographical constraints. The educational systems in both nations demonstrate a concerted effort towards the integration of e-learning, evident in the substantial surge in the proliferation and diversity of available online courses. Consequently, students with varying levels of experience and diverse learning goals now enjoy enhanced accessibility to online course offerings that align with their individual schedules and educational requisites (Akimova et al., 2023).

Online courses frequently offer opportunities for customised learning experiences. By employing adaptive curricula, they also broaden access to an extensive array of subjects and fields of study, fostering the cultivation of diverse interests and competencies among students. It is noteworthy that online courses contribute to the cultivation of self-directed organisational abilities, autonomy, and adeptness in navigating digital information environments. These proficiencies hold considerable significance in contemporary society, serving to benefit

students not only in their academic pursuits but also in their vocational and personal endeavors. Taken together, these facets underscore the critical role of online courses as a vital and indispensable facet of modern education, perpetuating transformative shifts in learning methodologies while affording equitable access to high-quality educational opportunities for all (Al-Rahmi et al., 2019).

When analyzing the contexts of Germany and Austria, it is pertinent to acknowledge the existence of two main classifications of online course providers within the realm of higher education: universities, which often administer online courses via their proprietary platforms or through Massive Open Online Courses (MOOCs), and private educational platforms, many of which likewise furnish a diverse array of online course offerings.

Categorized by their nature, online courses available to students in Germany and Austria can be delineated as follows:

Complimentary courses – these courses are devoid of tuition charges but may entail restricted access to content or functionalities.

Fee-based courses – these courses necessitate tuition fees yet typically afford expanded content and functionalities, alongside certificates of accomplishment.

Microlearning – these succinct courses concentrate on discrete skills or subjects (Al-Rahmi et al., 2019; Ihnatova, Lazarenko, et al., 2021).

As an illustration, Technische Universität München (TUM) in Germany provides an extensive array of online courses accessible through the TUMx platform. These courses encompass diverse fields including engineering, science, business, and management. Similarly, Universität Wien in Austria presents online courses available on the OpenLearn platform, spanning a breadth of subjects such as humanities, social sciences, and law.

Online courses, as a trend in e-learning, emerge as a profoundly significant and impactful phenomenon within the modern educational landscape. Their rapid expansion and ubiquity underscore the keen interest of educators, students, and educational institutions worldwide, including those in Germany and Austria, in this mode of instruction. Online courses offer numerous advantages, foremost among them being the flexibility to facilitate remote learning at one's own pace, allowing learners to select the time and location of their studies according to their schedules. Additionally, the option for per-

sonalized learning, which tailors materials and assistance to individual requirements and proficiency levels, merits acknowledgment. The diverse range of subjects and disciplines provided by online courses enables students to nurture a variety of interests and abilities, ensuring equitable access to high-quality education for all, irrespective of social status or geographic location (Ihnatova et al., 2021; Dmitrenko et al., 2023).

Overall, online courses are emerging as an integral facet of modern education, reshaping not only the educational paradigm but also extending increased access to knowledge and opportunities for personal development to millions worldwide. This trend represents a pivotal aspect of the future of education and will continue to transform approaches to learning in the years ahead (Slushnyi et al., 2020).

AI has emerged as one of the most dynamic and rapidly advancing trends within the realm of e-learning in recent times. It presents myriad opportunities for enhancing the educational journey and reshaping pedagogical methodologies. The integration of AI into education furnishes students and educators with cutting-edge tools and assets aimed at refining the learning encounter and attaining superior outcomes. Hence, a meticulous examination of AI's role in contemporary e-learning, its ramifications on the educational sphere, and the advantageous contributions it has bestowed upon the domain is warranted (Chiu, 2024).

It is notable that within the realm of e-learning in Germany and Austria, AI is assuming an increasingly significant role. AI is leveraged to tailor learning experiences, customise content and assignments to individual student needs, and develop virtual assistants to aid in the learning process. Upon scrutinising its function within the higher education landscape of Germany and Austria, AI serves various purposes, including:

Analysing student performance data and learning preferences to formulate personalised study plans tailored to each student's requirements.

Adapting course materials to accommodate individual student needs. For instance, AI can furnish supplementary explanations for intricate topics or propose alternate assignments for students encountering difficulties.

Designing virtual assistants capable of assisting students with their studies. These digital aides can address queries, provide elucidations, and offer encouragement to students.

Automating tasks such as grading and assessing essays thereby affords educators more time to engage in meaningful interactions with students on an individual basis (Shal et al., 2024; Southworth et al., 2023).

An eminent advantage of integrating AI lies in its capacity to tailor educational experiences to the unique requirements and attributes of each learner. Through machine learning algorithms, AI can scrutinise student performance data and dynamically adjust learning materials and tasks to suit their individual needs. This facilitates the provision of personalised assistance and resources to each student, thereby fostering more efficacious learning outcomes. A pivotal application domain of AI pertains to automating assessment processes. AI can autonomously assess assignments and furnish feedback to students, thereby liberating educators' time for personalised interactions with students. Moreover, AI can analyse learning process data and devise adaptive learning schemes that accommodate the individual needs and advancements of each student. Another significant facet of employing AI in e-learning involves the development of virtual learning environments and virtual assistants. These technologies enable students to engage in virtual experiments and inquiries, interact with virtual entities, and receive supplementary feedback. This affords students the opportunity to garner practical experience directly within the online milieu and deepen their proficiency across diverse domains (Chiu, 2024; Gill et al., 2024).

In light of these prospects, it can be discerned that AI will wield a pivotal role in enhancing e-learning initiatives and broadening educational access in the digital era. Its influence on the educational landscape is profoundly significant, furnishing innovative tools and assets that contribute to the enhancement of educational quality and facilitate more efficacious learning experiences for all students (Akimova et al., 2023).

Illustrations of AI's application in higher education encompass Technische Universität München (TUM) in Germany, where AI is harnessed to individualise student learning experiences. AI scrutinises data concerning student performance and learning preferences, subsequently leveraging this information to devise tailored learning schemes. RWTH Aachen University in Germany utilises AI to automate tasks such as grading and assessing essays, thereby affording educators additional time to concentrate on higher-order tasks, such as providing individualised

support to students. Similarly, TU Wien in Austria employs AI to craft virtual assistants aimed at aiding students in their academic pursuits. These virtual aides are adept at addressing inquiries, providing clarifications, and fostering student motivation (O. V. Akimova et al., 2020; Gill et al., 2024).

The utilisation of AI within higher education yields numerous advantages; however, it also confronts several challenges necessitating attention and resolution for the effective incorporation of this technology. Some of these challenges encompass:

Ethical quandaries: The deployment of AI may engender ethical dilemmas, particularly concerning issues of data privacy, algorithmic equity, and responsible technological usage.

Educational disparity: Disparities in technology access and varying levels of technological proficiency may exacerbate inequalities in learning outcomes and educational access.

Absence of standardisation: The absence of standardised methodologies for AI development and implementation in the educational sphere can impede the assessment of these technologies' efficacy and pose risks to educational quality.

Educator training: To facilitate the successful integration of AI into higher education, educators must be equipped with the requisite training and competencies to effectively utilise these technologies in the educational milieu.

Efficacy and reliability: It is imperative to acknowledge that artificial intelligence is susceptible to errors and software flaws, which may impinge upon training quality and result reliability (Shal et al., 2024; Chiu, 2024).

Addressing these challenges and formulating strategies to surmount them are imperative for the seamless integration of artificial intelligence into higher education and for maximising its potential to enhance teaching and learning endeavours.

Hence, AI stands as a pivotal element within e-learning, presenting myriad opportunities and challenges for educational institutions and learners alike. Foremost, AI integration in e-learning facilitates personalised learning experiences by tailoring materials and tasks to the unique needs and learning styles of individual students, thereby enhancing training effectiveness and fostering deeper knowledge assimilation. Furthermore, AI streamlines the evaluation and performance analysis processes, affording educators more time for innovative and personalised student interactions. Moreo-

ver, the utilisation of virtual learning environments and virtual assistants augments students' practical experiences and enriches their comprehension across diverse domains. However, alongside its manifold benefits, the adoption of AI in e-learning encounters several challenges, encompassing ethical concerns, educational disparities, standardisation deficiencies, and the imperative for educator training in technology utilization (Southworth et al., 2023; Gołąb-Andrzejak, 2022).

In summation, AI in e-learning unveils novel avenues for enhancing educational quality and ensuring universal learning accessibility. Its significance within contemporary educational frameworks is paramount, continually reshaping pedagogical paradigms and unveiling new vistas for educational advancement in the future.

VR and AR are being integrated into e-learning to cultivate interactive and immersive learning environments, enhancing educational experiences. These technologies are gaining traction within the e-learning sphere, with VR offering opportunities for simulated environments where students can engage in exploratory activities and experimentation. Similarly, AR enriches learning by superimposing digital content onto real-world surroundings, augmenting the learning experience with visual and interactive elements. VR and AR have emerged as significant trends in e-learning within both the educational domains of Germany and Austria. These immersive technologies offer new pathways for delivering educational content and enriching learning experiences (Al-Ansi et al., 2023).

In higher education institutions in Germany and Austria, there is a growing integration of VR and AR into educational practices to provide students with interactive and captivating learning environments. For instance, universities are developing virtual laboratories and simulations that enable students to conduct experiments and explore intricate concepts in a secure and controlled environment. This hands-on approach to learning fosters deeper comprehension and retention of subject matter across various fields, including science, engineering, and healthcare (Al-Ansi et al., 2023).

Moreover, VR and AR technologies empower educators to craft immersive educational experiences that transcend traditional classroom confines. Students can virtually explore historical sites, architectural marvels, and cultural landmarks, thereby enhancing their understanding of diverse subjects such as history, art, and geography. Additionally, AR applications overlay digital information onto the physical world, enabling students to visualise abstract concepts and interact with virtual objects within their tangible surroundings.

Furthermore, VR and AR facilitate collaborative learning experiences by allowing students to engage with peers and instructors in virtual environments. Through shared virtual spaces and collaborative projects, students can collaborate on assignments, participate in group discussions, and engage in interactive learning activities irrespective of their geographic locations. This fosters a sense of community and promotes peer-to-peer learning, thereby enhancing the overall educational experience (Eswaran & Bahubalendruni, 2022).

Despite their potential advantages, the widespread adoption of VR and AR in e-learning also presents challenges. These include technological hurdles such as the high cost of VR/AR equipment and the necessity for specialised technical expertise to develop immersive educational content. Additionally, concerns pertaining to accessibility, inclusivity, and digital literacy must be addressed to ensure equitable access to VR/AR-enhanced learning experiences for all students (Gandedkar et al., 2021).

Overall, VR and AR represent promising trends in e-learning that have the potential to revolutionise the educational landscape in Germany and Austria. By harnessing immersive technologies, educational institutions can create dynamic and engaging learning experiences tailored to the diverse needs and learning styles of students, ultimately enhancing learning outcomes and equipping learners for the demands of the digital era (Gandedkar et al., 2021).

In the e-learning contexts of Germany and Austria, microlearning has emerged as a prominent trend. This pedagogical approach entails breaking down lessons into manageable segments lasting between five and fifteen minutes. Its increasing popularity within higher education institutions in both countries can be attributed to its ability to cater to the busy schedules of both professionals and students.

A key advantage of microlearning lies in its adaptability, allowing students to engage with course materials at their convenience and seamlessly integrate learning into their daily routines. This flexibility addresses the diverse demands and timetables of modern learners, who may have limited time for extended study sessions. Moreover, microlearning modules are often designed to focus on

specific subjects or skills, enabling students to swiftly acquire targeted knowledge. The modular nature of microlearning empowers learners to select modules tailored to their interests, learning objectives, and proficiency levels, thus fostering personalised learning experiences. This ensures that students receive relevant and engaging content aligned with their educational goals. Additionally, the condensed format of microlearning modules promotes active engagement and knowledge retention, as learners can digest information in manageable increments without feeling overwhelmed (Oberer & Erkollar, 2013; Hardt et al., 2023).

Educational institutions in Germany and Austria are leveraging microlearning to enhance student learning outcomes and complement traditional teaching methods. By integrating microlearning into their curricula, universities and educational platforms are catering to students' diverse learning preferences and promoting lifelong learning in the digital era. Furthermore, microlearning facilitates social and collaborative learning experiences by enabling students to collaborate on projects, exchange ideas, and participate in online learning communities. This fosters a sense of community and peer support, enriching the overall learning experience (Pölzl-Stefanec & Geißler, 2022).

In conclusion, microlearning represents a flexible and effective e-learning strategy in Germany and Austria, offering students the customisation, flexibility, and engagement needed to thrive in today's knowledge-driven world. As long as educational institutions continue to utilise microlearning as a pedagogical approach, its impact on student learning and the educational landscape is expected to be significant.

Conclusions. In summary, the current trends in e-learning observed in higher education institutions across Austria and Germany highlight the rapid evolution of this educational domain within both countries. The escalating integration of electronic technologies, encompassing microlearning, virtual and augmented reality, artificial intelligence, and online courses, underscores the enduring enthusiasm for educational progressions. These advancements promote tailored educational experiences, amplifying the efficacy and accessibility of learning opportunities. Moreover, they broaden students' horizons and cultivate their proficiencies and capabilities in the digital landscape. Embracing contemporary technologies within educational settings emerges as an indispensable facet of modern education, offering students and educational institutions novel avenues for advancement and refinement of the learning process.

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Features of the use of Smart technology in the training of master's students in universities of foreign countries

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Abstract

The article delineates the distinctive characteristics of integrating Smart technologies into the education of master's students at foreign universities. It delineates the fundamental principles of scientific collaboration among European nations in the educational domain, as outlined in the Declaration on the European Higher Education Region within the overarching framework of the Bologna process. Emphasis is placed on key requirements of the Bologna Convention concerning professional training within Master's degree programmes, including the implementation of dual training cycles, fostering European cooperation at the Master's level to ensure educational quality, establishing criteria and methodologies for evaluating higher education quality, and facilitating student mobility opportunities. The Smart Education Concept is expounded upon, grounded on principles such as mobile access for digital services, fostering new knowledge creation for societal modernization, Smart guidance, and the establishment of an intelligent information environment. Specific principles of Smart education are elucidated, encompassing the utilisation of pertinent information to achieve educational outcomes, the organisation of creative, independent cognitive, research, project, and scientific activities, conducting training within an educational environment, and collaboration with employers and other stakeholders. The key features of Smart technologies in education pertinent to cultivating professional and pedagogical competence among master's students are identified, including seamlessness, accessibility, mobility, and continuous access to educational information; autonomy of educational stakeholders; utilisation of diverse motivational models for didactic interaction; assessing educational process effectiveness through competency indicators; and employing flexible approaches in organising educational activities for master's students. The structure of the educational process within the Smart environment is outlined, encompassing informational interaction among education seekers in an open model of asynchronous individual training, repositories, electronic and Smart textbooks, educational complexes, and methodological materials.

Keywords: concept of Smart education, Smart environment of a higher education institution, Smart technologies in education, training of master's students in foreign countries, Smart-accompanying education seekers

Особливості використання Smart-технології у підготовці магістрантів в університетах зарубіжних країн

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Анотація

У статті схарактеризовано особливості використання Smart-технологій у підготовці магістрантів в університетах зарубіжних країн. Визначено основні засади наукового співробітництва європейських країн у галузі освіти закладені у Декларації про європейський регіон вищої освіти, що включена у загальну концепцію Болонського процесу. Виокремлено основні вимоги Болонської конвенції щодо професійної підготовки СВО «магістр»: запровадження двох циклів навчання; сприяння європейському співробітництву на рівні магістратури щодо забезпечення якості вищої освіти; виокремлення критеріїв і методів оцінки якості вищої освіти; надання можливостей для мобільності студентів. Схарактеризована Концепція Smart-освіти, що побудована на таких ідеях: мобільний доступ як можливість отримання цифрових послуг; створення нових знань як засобу модернізації суспільства; Smart-супроводження; створення інтелектуального інформаційного середовища. Розкрито специфічні принципи Smart-освіти: використання актуальної інформації для досягнення освітніх результатів; організація творчої самостійної пізнавальної, дослідницької, проєктної, наукової діяльності; реалізація навчання в освітньому середовищі; співпраця з роботодавцями та іншими стейкхолдерами. Визначено основні характеристики Smart-технологій в освіти, що є важливими для формування професійно-педагогічної компетентності магістрантів такі: безшовність, доступність, мобільність й безперервність доступу навчальної інформації; автономність суб'єктів освітнього процесу; застосування різних мотиваційних моделей дидактичної взаємодії; вимірювання результативності освітнього процесу показниками компетенцій; використання гнучких підходів до організації освітньої діяльності магістрантів. Визначено структуру освітнього процесу у Smart-середовищі, що об'єднує: інформаційну взаємодію здобувачів освіти у відкритій моделі асинхронного індивідуального навчання; репозитарії, електронні та Smart-підручники, навчальні комплекси, методичні матеріали.

Ключові слова: концепція Smart-освіти, Smart-середовище закладу вищої освіти, Smart-технології в освіти, підготовка магістрантів в зарубіжних країнах, Smart-супроводження здобувачів освіти

Statement of the problem. Examination of scholarly literature has led to the observation that international studies and projects concerning the identification and evaluation of competencies in education and the professional training of master's students have delineated a set of specialised competencies for masters. These include the cultivation of knowledge and comprehension within their chosen field of professional specialisation, proficiency in employing research pertinent to their teaching subject, and the ability to uphold values congruent with educational endeavors. Additionally, overarching key competencies at the master's level encompass research acumen, leadership attributes, and the fostering of reflective and cognitive skills. Within the European framework, fundamental theoretical tenets regarding the development of professional competence in contemporary educators stipulate European benchmarks, including identity, professional knowledge, multiculturalism, language proficiency, and European standards for quality, thereby advocating for comparability in qualifications and diplomas.

The evolving landscape of professional teaching in higher education institutions amidst the information society introduces novel dimensions to educators' roles, emphasizing a shift towards functions

such as mentoring, research, and communication. This entails promoting a model of collaborative cognitive engagement, integrating virtual modalities into the educational process through the utilisation of Smart technologies, and ensuring the professional identity, international mobility, and ongoing professional growth of educators.

The Analysis of Sources and Recent Research. The problem of using Smart technologies in the training of master's students in universities of foreign countries was studied by domestic and foreign scientists: O. Akimova, M. Sapohov, Y. Hapchuk (environmental approach in modern interdisciplinary studies on digitalization of education); Ya. Belmaz (professional training of teachers of higher education in Great Britain and the USA); T. Danylyshena (training of masters of pedagogical education in the universities of the USA (end of the 20th - beginning of the 21st century); N. Machynska (pedagogical education of master's students of non-pedagogical institutions of higher education); N. Makhynia (pedagogical education in Germany: history and modernity); S. Podliesnyi, O. Kostikov, B. Borovinskyi (prospects of using innovative Smart education in higher education institutions), M. Sapohov (formation of professional competence of master's students by means of Smart technologies), R. Sharan (professional training of masters of information technology in the US distance education system).

The Purpose of the article is the theoretical analysis and generalisation of various approaches to the problem of using Smart technology in the training of master's students in universities in foreign countries.

The Results of the Research. This study investigates the formation of professional and pedagogical competence among master's students in educational sciences through the lens of Smart technologies within the context of European integration. To achieve this, it examines key trends in higher education development, both domestically and internationally.

The analysis draws upon the Declaration on the European Region of Higher Education (1999), a cornerstone of the Bologna process, highlighting the core principles of scientific cooperation in education across European countries. Additionally, the role of UNESCO in regulating global educational reform and fostering integration processes is emphasized (Machynska, 2014).

In the Communiqué from the conference of European ministers in the realm of education titled "Towards the European Higher Education Area: Responses to Globalization Challenges" (2009), em-

phasis is placed on advocating for the adaptation of national educational systems to the evolving landscape of European integration. Priority directions for higher education development are underscored, encompassing endeavours such as ensuring equitable access to higher education, fostering the establishment of national qualification frameworks, enhancing the flexibility of higher education structures, promoting international transparency, and advancing personalised learning approaches (Communiqué of the Conference of Ministers of European Countries Responsible for Higher Education "The Pan-European Area of Higher Education - Achieving the Goals," n.d.).

Central to our investigation are the stipulations outlined in the Bologna Convention pertaining to the professional preparation within Master's degree programmes: the implementation of dual study cycles (bachelor's, master's); fostering European collaboration at the master's level to uphold higher education standards; delineation of criteria and methodologies for evaluating higher education quality; and facilitating student mobility opportunities. European-wide pedagogical education is distinguished by several key features: the enhancement of pedagogical education's methodological foundation; the systematic progression through stages of professional pedagogical training; alignment with contemporary societal needs; and consideration of labour market demands (Machynska, 2014).

Various international organizations, such as the Distance Professional Training Council (DETC), the International Organization for Standardization (ISO), the International Council for Open and Distance Learning (ICDE), the European Association of Distance Learning Universities (EADTU), the European Distance Education Network (EDEN), the Association for Professional Use of Telecommunications Technologies in Higher Education (ACUTA), the US Distance Education Association (USDLA), and the World Organization for Distance Education (WAOE), play significant roles. Attention is also directed towards the advancement of higher education standards and educational programs tailored for master's students, as well as the methodological and technological support required for open education. The advancement and effective implementation of Smart technologies in Ukraine necessitate active participation in international forums. For instance, ongoing participation in the International Conference "Smart Education and E-Learning

(SEEL) facilitates discussions on research projects concerning Smart education, strategies and principles of Smart teaching, the integration of E-learning, the adoption of Smart technologies and systems in master's degree preparation, the establishment of Smart classrooms and universities, and the training of specialists for engagement in a Smart society based on acquired knowledge (KES-SEEL-20 | KES International Conference on Smart Education and E-Learning, n.d.).

The quality standards of pedagogical education, formulated by a committee of European experts, hold significance for our exploration concerning the cultivation of professional and pedagogical competence among master's students in educational sciences. N. Makhinya conducted an overview of these standards, encompassing the following aspects: the qualifications and expertise of faculty members; the content and components of the master's curriculum; the integration of research with pedagogical practice and the application of research outcomes in educational settings; collaboration with educational institutions and employers; the internationalization of university education, particularly at the master's level, and the cooperation between educational and scientific establishments. Scholars identify the primary features of pan-European pedagogical education as aligning with societal needs amid European integration processes, granting autonomy to higher education institutions, adhering to a structured progression for institutions preparing prospective educators, and considering the demands of the labor market (Makhynia, 2008).

Let us examine the distinctive features of master's-level pedagogical education in prominent nations worldwide. Researchers pinpoint the prominent trends shaping the development of professional and pedagogical competence among master's students in the United States. These include adherence to the directives of the Bologna process, adoption of the credit-module system of education, integration of advanced information and communication technologies as well as Smart technologies, utilisation of interactive teaching methodologies, augmentation of dedicated time for independent study among master's students, and the utilisation of modern information platforms and programmes for monitoring educational quality (Danylyshena, 2011).

Among the distinctive features of master's education in the USA, scholars highlight several aspects. These encompass the primary reliance on funding sci-

entific endeavors as the principal avenue for fundamental research, the predominant organizational structures of scientific activity identified as research and project-based initiatives, and the presence of commercial ventures within university settings. N. Machynska conducted an analysis of the idiosyncrasies in master's student training, exemplified through a case study of the School of Informatics at the University of Berkeley (iSchool, California, USA), drawing from primary source materials (Academic Programs | Office of Planning and Analysis, n.d.).

The author observes that in Berkeley, the academic training complex is designed to equip individuals with the requisite expertise to attain either a master's or doctoral degree, contingent upon the selection of coursework. For instance, the "Master" program is tailored to equip prospective professionals with a Master of Information Systems and Management in Informatics degree. Enrolling in this specific program offers two pathways for preparation: a master's degree track without the requirement of completing a thesis, which is geared towards immediate immersion into practical endeavors within the chosen field of specialization (Machynska, 2013).

In American higher education institutions preparing master's students, the utilization of electronic education and Smart technologies is nearly ubiquitous, facilitated primarily through online portals. These platforms offer a wealth of educational resources, including internet-based courses developed by leading educators and scholars, such as Coursera and Muks. To enhance proficiency in chosen fields, various resources are accessible, such as the Open University (open.ac.uk), where the Open-Learn platform grants access to course materials. Similarly, the Massachusetts Institute of Technology (mit.edu) administers the OpenCourseWare University project, providing educational courses. Tufts University (tufts.edu) offers publicly available OpenCourseWare university curriculum, while Carnegie Mellon University (cmu.edu) provides online courses and educational materials through the Open Learning Initiative program. Stanford University (stanford.edu) is affiliated with iTunes U, enabling access to its full array of courses (Podliesnyi et al., 2019; Akimova et al., 2023).

T. Danylyshena conducted an investigation into the pedagogical education of master's students in US universities, focusing on contemporary educational and civilizational shifts prompted by processes of in-

ternationalization, globalization, and advancements in information and Smart technologies. Of particular significance is the integration of information technology-based professional competence formation within the US higher education landscape, intersecting with domains such as educational philosophy, the cultivation of value-oriented priorities among master's students, and the modernization of educational standards, programs, and quality control and monitoring mechanisms. The author advocates leveraging these transformations within the US educational policy to inform the educational content for master's preparation in educational pedagogical sciences in Ukraine, aiming to enhance and implement cutting-edge forms and technologies for professional training in educational sciences. The study highlights the US experience in training Masters in Pedagogical Education, showcasing a diverse array of master's programs and courses, as well as the adaptation of traditional teaching methods through the incorporation of Smart technologies. Additionally, it underscores improvements in master's class settings through personalized education approaches utilizing contemporary technological resources and leveraging non-formal and informal educational opportunities (Danylyshena, 2011).

In contemporary US master's degree programs, the methodology for fostering professional and pedagogical competence through Smart technologies emphasizes problem-based, research-oriented, and project-driven learning approaches. Key strategies identified for effective master's training include cultivating managerial competence to equip future education specialists with leadership and mentoring skills in educational management, knowledge acquisition facilitation for master's students, and adept practical application. Research and scientific activities are regarded as integral components of master's education in the USA. The establishment of robust research infrastructure within universities enables the selective admission of highly motivated and talented students into master's programs through competitive processes (Danylyshena, 2011; O. Akimova et al., 2022a).

In his investigation into the professional preparation of master's students within the distance education framework of the USA, R. Sharan underscores the active integration of information technologies in education. This integration is driven by significant shifts in the labor market dynamics, emphasizing the imperative for educators to cultivate in-

formation literacy. Furthermore, the increasing prominence of master's training is recognized for its role in shaping the societal elite. These factors highlight the necessity for a revamped IT education paradigm grounded in Smart technologies and novel approaches to master's level professional development. This paradigm shift seeks to revolutionize educational content, leveraging cutting-edge information and Smart technologies within the instructional process, establishing methodological frameworks to support education, and adapting to the evolving roles of educators and students within the educational milieu, including the emergence of tutor functions (Sharan, 2010; O. Akimova et al., 2022b).

The experience of master's education in the United States holds significance for our research into the development of professional and pedagogical competence among master's students in educational sciences through the utilization of Smart technologies. Acquiring a master's degree in the USA entails a careful consideration of the professional aspect within university curricula. This encompasses an appropriate allocation of credit hours to specialization subjects, both core and elective, as well as a defined number of credit hours devoted to supplementary disciplines. Specialization subjects or those directly related to the chosen field of study are designed to equip students with professional expertise under the guidance of designated consultants. Elective courses complement specialization subjects and align with the individual interests and abilities of master's students (Akimova et al., 2022b).

Researchers delineate the guiding principles underpinning the formulation of training courses. These include continuity, which mandates the sequential progression from foundational to more specialized courses; integrability, which reinforces theoretical knowledge through pedagogical practice integrated throughout the program; conceptuality, emphasizing the alignment of educational and societal objectives in teaching practices; fundamentals, necessitating comprehensive psychological, pedagogical, humanitarian, and general cultural training; systematicity, which combines theoretical and practical elements within the program; and cooperativeness, fostering collaboration between the university and other social institutions (Danylyshena, 2011).

The analysis of pedagogical education at the master's level in Germany is also relevant for our research. The generalization of the views of scientists (N. Abashkina, T. Vakulenko, N. Zhmurko, N.

Kozak, L. Pukhovska) regarding the peculiarities of pedagogical education in Germany was carried out by N. Machynska. Based on the analysis of scientific works, the author claims that the process of training specialists in pedagogy in Germany is based on the following principles: education as one of the priorities of the state policy of the European Union countries; development of pedagogical education taking into account new social realities related to globalization, internationalization and computerization of society; the need to strengthen cooperation between pedagogical education institutions and scientific institutions. N. Makhinya, based on the analysis of the scientific works of members of the German Pedagogical Society (G. Mehnert, U. Vyshkon), singled out innovative solutions for reforming university pedagogical education, namely: the unity of the content of the professional and pedagogical training of master's students and the structural similarity of pedagogical education; strengthening the relationship between theory and practice in pedagogical education through participation in projects, scientific schools, creative laboratories (among the forms of educational activity, the following are highlighted: student scientific work, research projects, pedagogical design, etc.); development of pedagogical sensitization (intuition) and social activity; pedagogical reflection and theoretical justification of decisions made; democratization of the educational process based on mutual responsibility for the learning process, the availability of optional disciplines; development of creativity as an ability for pedagogical creativity through the use of various trainings; internationalization of pedagogical education through academic exchanges, mutual recognition of master's training systems, coherence of international programs (Makhynia, 2008; O. V. Akimova et al., 2020).

To exemplify the cultivation of professional and pedagogical competence among master's students through the utilization of Smart technologies in Germany, we will draw upon an illustration from the official website of the Justus Liebig University of Hesse (Germany, 2020). The university offers a virtual environment for students, providing them and their instructors with opportunities not only to fulfill academic tasks and access information but also to engage in remote learning utilizing virtual applications and platforms. One such platform is ILIAS, an educational platform equipped with advanced e-learning features (including web-based training, e-lectures, quizzes, e-portfolios, and group

wikis) that can be seamlessly integrated into teaching practices if the functionalities of Stud.IP are deemed insufficient. The ILIAS functionality can also be directly activated through the Stud.IP-ILIAS interface. Graduate students encountering inquiries about ILIAS or requiring assistance are encouraged to reach out to the Office of Multimedia Coordination (KOMM). The ILIAS central installation is accessible to all members of JLU Giessen. Furthermore, examples of its utilization are evident within the university didactic network Mittelhessen (HDM) and in the field of sports science (sports-edu). Additionally, educational platforms based on ILIAS are utilized by the pedagogical departments of both JLU Giessen and the Philippian University of Marburg (ILIAS, n.d.).

The virtual university website features media updates and resources on e-learning. Graduate students can access the latest developments in e-learning and new media through this platform. Screen recordings are produced using OBS Studio, an open-source software allowing video recording and live broadcasting. Tutorials are available to demonstrate the straightforward creation of screen recordings using free software, a basic webcam, and PowerPoint, along with open consultation sessions on e-learning.

In the process of designing digital teaching and learning scenarios or incorporating digital media and methods into education, various queries often arise regarding individual tools or the pedagogical benefits of specific projects. The website offers explanatory videos utilizing the "glass board" technique, facilitating the effective communication of educational content. Numerous methods for producing such "video sequences" and glass board videos are presented (Slushnyi et al., 2020).

Furthermore, the new ILIAS training module on "Scientific Thinking for the Profession" has been launched, supplementing the existing teaching modules on Master's Research by providing philosophical and practical insights into scientific thinking for professional contexts. Additionally, a training module on "Pedagogy in Smart Learning" has been released as part of the Teaching 4.0 initiative, covering current legal issues in e-learning.

The Justus Liebig University of Hesse (Germany, 2020) offers guidance on e-learning for master's students, providing assistance for planning e-learning projects and utilizing new media in education. Pedagogical support is available throughout students' studies, assisting with information tech-

nology utilization while considering resource allocation, time management, and didactic proposal distribution. Consultations and training sessions are tailored to address individual project needs, ensuring effective integration into the curriculum. E-learning resources complement face-to-face teaching in an engaging and pedagogically sound manner (Beratung Zu E-Learning, n.d.).

As an illustration, we reference the content of the Master's level E-learning Basics Workshop titled "First Steps to Your Own Concept" available on the Justus Liebig University of Hesse website. The workshop description reads: "If you are already utilizing educational platforms such as Stud.IP, ILIAS, or Moodle in your course to disseminate files, send announcements, or manage participant information, would you be interested in exploring additional learning platform tools such as wikis, blogs, or e-portfolios and integrating them effectively into your teaching? This workshop aims to acquaint you with fundamental e-learning tools, allowing you to define pedagogical design flexibility and gain an overview of the potential applications of e-learning in your course. During the initial segment of the seminar, various e-learning tools will be introduced using the ILIAS learning platform as a model. Participants will assume the role of students and engage in hands-on exploration, either in small groups or individually, to familiarize themselves with the functionality and potential applications of discussion forums, blogs, wikis, web-based training (WBT), and e-lectures. Ahead of the in-person session, participants will develop initial concepts for their own small-scale e-learning project, which they will then implement on their university's personal learning platform. Online support will be available during this practical phase. In the final segment of the workshop, participants will present their e-learning concepts during a plenary session and gain insights into other e-learning scenarios drawn from practical experiences." (TH Mittelhessen, 2024).

Conclusions. We conceive of professional and pedagogical competence among master's students in educational sciences as a comprehensive aptitude grounded in foundational subject knowledge and pedagogical principles, as well as contextual and innovative professional skills. This competence encompasses the potential for ongoing professional growth, epistemological awareness, worldview, and cultural perspectives. Additionally, it involves proficiency in utilising cutting-edge educational and Smart technologies, problem-solving abilities related to inclusion and diversity, including addressing giftedness, adherence to pedagogical, professional, and universal values, cultivation of transnational consciousness alongside national identity, and openness to multiculturalism. Language proficiency, encompassing both native and foreign languages, is integral, alongside an emphasis on European quality standards and pedagogical professionalism.

The concept of Smart education is founded on several key principles: the facilitation of mobile access to digital services, the generation of new knowledge to modernise society, Smart support predicated on an IT environment mimicking natural intelligence, and the establishment of an intelligent information environment to enhance efficacy in a digital society. The aim of Smart technologies is to establish an educational and informational milieu conducive to fostering the requisite level of competitiveness among future specialists. This entails fostering collaboration, communication, and teamwork skills, nurturing social responsibility, cultivating critical and creative thinking abilities, and promoting effective problem-solving skills. The educational framework within the Smart environment integrates informational exchange among learners in an asynchronous individual learning model, supported by repositories, electronic and Smart textbooks, educational modules, and methodological resources.

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ACTUAL PROBLEMS OF THE THEORY AND METHODS OF EDUCATION

АКТУАЛЬНІ ПРОБЛЕМИ ТЕОРІЇ І МЕТОДИКИ ВИХОВАННЯ

Creative potential of future social workers: formation in the dual form of education

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Abstract

The development of the national social sector, its progressive ideas are largely ensured not only by professionalism, but also by the creative activity of social workers in the performance of professional functions and the realisation of social expectations of the society. The content of creativity in the implementation of social work technologies is revealed in the following qualities of a specialist: creativity, the ability to successfully combine valid, time-tested and experienced effective ways of working with non-traditional methods of work. The latter are formed only under the influence of effective organisation of the practical component of the educational process.

The article analyses the possibilities of developing the creative potential of social workers through the organisation of practical research as part of course and qualification work, as well as during project activities. Attention is focused on the extent to which student research based on real-life practical situations can contribute to the development of creativity and professional competence. The authors note that creativity and practical research are unknown structures and require a tolerant attitude to uncertainty.

It is noted that uncertainty can be overcome by taking into account the conditions: the problem and obstacles to its solution are determined by clear criteria obtained through empirical research; when conducting student research in the framework of dual education, attention should be paid to certain conditions that provide students with a reliable basis.

It is stated that the possibility of acquiring the creative potential of a specialist and providing simple research tools and strategies is possible through expanding students' practical capabilities and supervisory support for research projects with elements of reflection and feedback from the teacher.

Keywords: creative potential, creativity, competence, practical research, social workers, dual form of education

Творчий потенціал майбутніх соціальних працівників: формування за дуальною формою навчання

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Анотація

Розвиток вітчизняної соціальної галузі, її прогресивні ідеї багато в чому забезпечуються не лише професіоналізмом, а й творчою активністю соціальних працівників у здійсненні професійних функцій і реалізації соціальних очікувань суспільства. Зміст творчості в реалізації технологій соціальної роботи розкривається в таких якостях фахівця: креативність, здатність вдало поєднувати в своїй діяльності валідні, перевірені часом і досвідом ефективні способи діяльності з нетрадиційними прийомами роботи. Останні формуються лише під впливом ефективної організації практичної складової освітнього процесу.

У статті проаналізовано можливості розвитку творчого потенціалу соціальних працівників через організацію практичних досліджень в межах курсових та кваліфікаційних робіт, а також під час проєктної діяльності. Увагу акцентовано на тому, якою мірою студентські дослідження, що засновані на реальних практичних ситуаціях можуть сприяти розвитку креативності та професійної компетентності. Автори зазначають, що творчість і практичні дослідження є невідомими структурами і вимагають толерантного ставлення до невизначеності. Зазначається, що невизначеність можна подолати з урахуванням умов: проблема та перешкоди до її вирішення визначаються за допомогою чітких критеріїв, одержаних в процесі емпіричних розвідок; під час проведення студентських досліджень в межах дуального навчання увага має приділятись певним умовам, які забезпечують студентам надійну основу.

Констатовано, що можливість набуття творчого потенціалу фахівця та надання простих дослідницьких інструментів і стратегій можливе через розширення практичних можливостей студентів та супервізійну підтримку дослідницьких проєктів з елементами рефлексії та зворотним зв'язком з боку викладача.

Ключові слова: творчий потенціал, креативність, компетенція, практичні дослідження, соціальні працівники, дуальна форма здобуття освіти

Statement of the problem. Modern society is undergoing rapid changes in all areas of life much faster than 50-70 years ago. The expansion of the Internet, social media, digital gadgets, and artificial intelligence is changing humanity at a rapid pace. Many of the things that seem obvious to us now and that we take for granted will no longer be in demand tomorrow. For example, social workers often face ambiguous situations in which neither the target criteria nor the means necessary to resolve them are known. Situations that are difficult to understand arise not only when providing emergency assistance to people. When refugees, migrants and other asylum seekers are involved, social workers are faced with completely new conditions. As a result, they can only rely on ready-made solutions, models or theories to a very limited extent. In order to solve complex problems, they need to be open to new experiences. From the point of view of learning psychology, curiosity about new things is one of the main factors of success in learning (Stumm, et al., 2011). Allowing students to follow new and unknown paths, formulating challenging tasks with different solutions, and encouraging research-based learning can create a smart educational strategy at every

level of education. Practical research is the search for solutions with uncertain outcomes.

Therefore, the didactic use of uncertainty gives students the opportunity to achieve sustainable learning success. The effectiveness of developing creative potential increases when research (project) work is based on real-life practical situations. This is possible in the process of training specialists in the dual form of education. The study of foreign and domestic experience will further improve the professional training of future dual-format specialists.

Analysis of research and publications. The problem of forming creative thinking and creativity of future specialists in the context of university training has been studied by domestic experts: O. Akimova, V. Haluziak, Z. Kurlyand, V. Kaplinskyi, S. Sysoieva, V. Frytsiuk, N. Khamska and others; training of specialists in the dual form was studied by: N. Abashkina, S. Amelina, O. Davlikanova, R. Hurevych and others.

Among foreign scholars, it is worth highlighting the works of H. Vaske, who notes that a person manifests his creative thinking and creative abilities even in an unconscious state, for example, during meditation (Vaske, 2018). Foreign psychologist Stefan Bornemann argues that creative solutions require a constant focus on research. This type of thinking not only allows you to find the next logical step (convergent thinking), but, above all, to generate alternative solutions (divergent thinking). From the point of view of cognitive psychology, both forms of creative thinking are subject to the laws of information processing in the human brain. This processing is not always conscious. In unconscious processes, the limbic system is of particular interest to researchers of the cognitive approach (Bornemann, 2012); Gerhard Roth believes that people perceive their activities only indirectly as affects, feelings, desires and ideas (Roth, 2003).

Therefore, creative processes often take place between logical rationality, on the one hand, and intuitive feelings, on the other hand. According to Ernst Pöppel, the brain is overloaded with information processing when unexpected things happen because it immediately tries to recognise and activate a well-known pattern (Pöppel, 2005). However, creativity is designed to discover unknown patterns. That is why a logical decision in favour or against something often has to be postponed and alternative ways to find it have to be sought through divergent or even lateral thinking. Stepping into unknown territory through lateral thinking requires creative practitioners to have

a high degree of tolerance for exploration and the courage to make mistakes. If you give students a research task at the beginning of their studies, you activate and use the resource of creativity.

We believe that creative thinking is a way to look at problems or situations from a different perspective. Creativity involves the ability to think laterally, draw analogies and put seemingly unrelated issues, problems and ideas into context. It often includes aspects that are born out of uncertainty.

In psychology, the quality and productivity of human thinking was initially considered almost synonymous with creativity. Jacob W. Getzels and P. W. Jackson distinguished between creativity and intelligence. Solutions that were effective and useful, but were achieved using familiar and habitual patterns are intellectual solutions. Creative solutions leave the usual framework and create new models of solutions (Getzels, & Jackson, 1968).

According to D. Dörner, scientific research is problematic only when a certain goal is set that the researcher seeks to achieve, but the path to it is unknown or blocked by certain barriers. Accordingly, the solution to the problem is to overcome the unknown barrier. The researcher identifies three different barriers:

- the interpolation barrier, in which the initial state is known, and the goal is clearly defined, but the means of achieving the goal are unknown. The barrier is that it is necessary to find the right sequence of means to solve the problem;

- the synthesis barrier: the initial and desired states of the problem are known. However, the necessary means of solving it are unknown. The researcher needs to find the right means and arrange them in the appropriate sequence. Here we are talking about the creation of appropriate means;

- dialectical barrier: only certain criteria of the research problem are known. However, there is no specific goal. The solution is in the dialectical process. Accordingly, the project or proposed solution to the problem is checked for certain aspects until all contradictions are resolved. Overcoming interpolation barriers requires effort (Dörner, 1999).

When researchers open up a completely new field, they also need to move quickly from the present to action. Under what circumstances can people break away from their own thoughts and desire to plan and act? Julius Kuhl considers this ability to be part of the personality. Accordingly, he distinguishes between situation-oriented and action-oriented people. Students with a research assignment

also face similar problems. If the desired outcome is unknown, they gather information. Gathering is successful when people move towards an initially undefined goal and take action. Then, based on the new information, any adjustments can be made to the course (Kuhl, 2001).

The central task of practice-based learning is to assign students tasks where the definition of the problem is initially unclear. An important skill is the ability to research, understand and structure problems, as well as to work independently to solve them. Some scholars note that developing a problem concept may be more important than solving it (Getzels, & Jackson, 1968).

Accurately conceptualising a problem is important because otherwise there is a risk of simply moving towards obvious solutions that do not address the original problem. Defining the problem is the first step towards solving it and is the main process in almost all models of creative processes. Therefore, students should also acquire problem-solving competences. Problem solving includes researching, formulating, constructing, identifying and defining problems. Students can practice mastering these steps and increase their overall problem-solving ability.

Action research is primarily an empirical method that works with qualitative and quantitative survey and evaluation methods. Unlike traditional research, it focuses not only on collecting data to draw conclusions, but also, as Maja Heiner emphasises, on the study of practice with the aim of changing it in a targeted way (Heiner, 1998). Heinz Moser argues that practice research can also come from practice itself. Research through "professional practice" is possible when the concepts "emphasise the need for scientific connections and focus on the acquisition of scientific knowledge" (Moser, 2015). According to Werner Thole, practice-based research opens up specific approaches to socio-educational fields of activity, as practice is not only researched, its methods and research strategies directly intervene in practice - they are researched in practice and together with it (Thole, 1999).

Ш. Chantal Munsch considers this type of research to be "socio-educational research" and even refers to the term "action research", which first appeared in the 60s of the twentieth century as part of the movement for education reform (Munsch, 2002). Action research now focuses on the intensive participation of researchers and research subjects. For S. Munsch, equality of researchers and practitioners is

a central factor in the relationship and can lead to relevant results in practical research (Munsch, 2002).

Thus, practice-based research aims to contribute to empirically based changes and improvements in the field. To some extent, we can already talk about collaboration here, which brings us to one of the central challenges of social work. It is closely related to the practice-based research approach and the characteristics of the future.

The purpose of the article is to analyse the process of formation of student research activity, which promotes the development of creative potential and increases adaptability to changes and complex professional challenges.

Presentation of the main material. Dual education is a symbiosis of theoretical and practical parts of training, when a student receives the necessary knowledge at the university and processes it at an enterprise (company, organisation) which the educational institution cooperates with (Hurevych, et al., 2022).

Based on foreign experience, we note that the training of social sector professionals is often implemented in a dual form. For example, the Internationale Studien- und Berufsakademie, Freiburg, the International University of Cooperative Education, Darmstadt, the Internationale Berufsakademie Darmstadt, the International Cooperative Academy, Kassel, Germany. Kassel Internationale Berufsakademie, Internationale Studien- und Berufsakademie, Göttingen Academy of Business and Management (Verwaltungs- und Wirtschaftsakademie und Berufsakademie Göttingen), Wilhelmshaven University of Cooperative Education (Berufsakademie Wilhelmshaven), Internationale Berufsakademie in Münster, etc. We consider it relevant to borrow foreign experience and implement certain ideas in the national process of professional training of social sector specialists.

An analysis of domestic and foreign scientific literature on the issue has made it possible to state that the academic success of social work students is largely related to the aspect that determines the ability to innovate and be creative. These qualities are particularly effective in the process of practical training and research, as part of project assignments, coursework, and qualification papers.

Social activity is an important tool for ensuring free personal development. In its professional actions, this profession must adhere to the principles of human rights and ensure social justice. Professional methods and ethical principles help in the fol-

lowing areas of social work: health care for children and young people, care for the elderly, care for the disabled, general social assistance, social education, social pedagogy, etc. Social workers help people solve their social problems through counselling, care, support and, if necessary, monitoring. Thus, the essence of social and pedagogical work is to help those who seek help. Thanks to the professional actions of social workers, recipients of social assistance have the opportunity to lead an independent and autonomous life. To achieve this goal, they are counselled, educated, supported, coached and accompanied in the process of problem solving.

Social workers or educators deal with the life situations of the people they help, the specific problems, skills and deficiencies of those seeking help, and find specific methodological approaches to solve or initiate a process of problem solving. This approach has led to a fundamental shift in perspectives in the social work profession: "Instead of focusing on the 'problem', people who are identified as having the capacity to act and who may need support come to the fore" (Bornemann, & Schneider, 2022).

In this view of social work, the concept of orientation to the world of life, developed in the 70s of the twentieth century, is almost synonymous with the understanding of professionalism in social work. The pluralisation of life situations, individualisation of life and complication of its conditions lead to the fact that social workers have an increasingly wide range of methods and strategies of assistance aimed at constructively shaping the life world of recipients (Bornemann, & Schneider, 2022).

Thus, social workers and educators offer assistance in overcoming life difficulties. Recipients are viewed as subjects of their own lives, and they have to regain direct influence on their own life situation with the help of specialists - they solve their problems themselves, not social workers. The professional help offered by social work creates a specific "coping environment" in which service recipients can act (Bornemann, & Schneider, 2022). In other words, it means that professional helpers create the right favourable conditions. These conditions are different for each person seeking help. Therefore, different approaches and different ways of achieving the goal are required.

Working together between a social worker and a client is like moving into the unknown. Solutions need to be found and created. In this respect, social work requires a high level of creativity when using specific intervention options. Creativity as the main resource

of social workers is not sufficiently represented in the theoretical foundations of social work. Therefore, it is necessary to strengthen creative skills in the structure of social and pedagogical education.

Thus, the main subject of social work is shaping and changing the future through the development of the individual's potential. In addition to providing emergency care, social work is about creating something new - something that does not yet exist, but which will improve the current situation. Therefore, this definition is closely related to the purposeful description of creativity. There is a close connection between social work, practical research and the broader concept of creativity, which is to some extent an integral part of the profession. Trust in people's capacity for development should also be a basic position of university teachers. This is facilitated by a number of factors that need to be addressed as an integral part of education. These include: the time factor for developing the problem under study and getting acquainted with the methodological approach to solving it; the time factor for intensive problem solving; and the time factor for making mistakes and finding ways to solve them.

When creating curricula, the teacher should not only strive to develop research as a key competence, but also consider it as an integral part of the curriculum. In the dual study programme at the International University of Cooperative Education in Munster (Germany), academic work and socio-pedagogical research are taught as compulsory modules in the first three semesters. In the fourth semester, students are required to carry out practical work with empirical elements. The experience and knowledge gained are then confirmed in the bachelor's thesis with a new empirical part (Bornemann, 2012).

The motivation for research-based learning is, in particular, to strengthen and empower students in their uncertain research activities. The teacher gave them time, confidence, and now they need a framework for their actions. In the 1980s, psychologists Edward L. Deci and R. M. Ryan developed a theory of motivation at the University of Rochester, which became known as the theory of self-determination and is an extension of extrinsic and intrinsic motivation (Deci, & Ryan, 1993).

Self-determination theory offers a way to successfully organise practical research in higher education. The theory of self-determination is based on the expansion of the categories of internal and external determination. The need for social integration can be realised in the student environment through

numerous individual and peer feedbacks. Basically, teachers and supervisors should initiate the process of supervision and monitor all students. The purpose and essence of student support is to convey confidence that all problems and obstacles are not an individual phenomenon or a consequence of a lack of ability, but are a purposeful process that is an integral part of any research, because it is a movement into the unknown, and it is necessary to have a certain tolerance for uncertainty. This applies to both students and experienced researchers. The need for autonomy and self-determination can be seen as a basic constructivist principle: there is no right or wrong, only a process of finding individual solutions.

Constructivist learning environments do not encourage the solution of didactically prepared problems, but rather the independent search and construction of problems in authentic teaching and learning situations. Thus, constructivist didactics aims to ensure the learning process through independent and often self-organised activities of students (Bornemann, & Schneider, 2022). Students take centre stage, while teachers take a back seat. The role of the teacher is to provide students with freedom of action in a field that is in fact highly regulated and pre-structured. If this is successful, the motivational need for autonomy and self-determination is almost satisfied.

Therefore, teachers in inquiry-based learning can only provide guidance within a relatively broad framework. Although research is a process guided by certain rules, the ways and interpretation of these rules can be shaped by the researchers themselves. We need to give students this opportunity and room for manoeuvre. Quick and visible success is the easiest way to overcome resistance and fear of failure. Therefore, students need quick wins, especially for their own research projects during their studies.

Quick wins require deliberate planning and communication on the part of teachers. Therefore, the focus should be on successes, as failures are usually the first thing that comes to mind for students. It is therefore important to identify, highlight and celebrate small successes. The problems that arise are used to develop solutions together with the participants and thus strengthen their ability to act. Another main goal of accompanying students in practical research during their studies is to properly handle the complexity of empirical research. First of all,

the focus is on recognising their own research competence and building it up in small steps.

Conclusions and Prospects for Further Research. Thus, in the process of studying the topic, we have come to the conclusion that creativity is directly related to the development of new strategies for overcoming previously unknown problems. The creative process can be understood as a form of problem solving that leads to completely new solutions and goes beyond the known patterns. New solutions can be found, for example, by removing certain problematic barriers. It is important to first identify these specific barriers in order to find appropriate solutions. They can serve as points of reference that can be used to expand your own competence and to be creative. A case study is an appropriate framework that allows students to become aware of these barriers and expand their ability to act creatively.

It is established that action research is a way of systematically studying fuzzy and unclear problems and making it possible to assess them more clearly. Action research is subject to the same quality criteria as other empirical research strategies: validity, reliability and objectivity. In order to meet these criteria, knowledge and experience of tried and tested survey and evaluation strategies are required. The main difference from traditional empirical research is the collaboration of researchers with the people being studied and the strong intention to change or improve practice in the field specifically. The before mentioned intention requires intimacy between the researchers and the field under study. This leads to the conclusion that only professionally trained researchers can conduct research. Therefore, it is important to mention that cooperation between professionals and clients is the main competence of a specialist.

We state that the possibility of acquiring the creative potential of a specialist and providing simple research tools and strategies is possible through expanding the practical capabilities of students and supervisory support for research projects with elements of reflection and feedback from the teacher.

As prospects for further research in this area, we note the following: development of ways and directions for the formation of practical skills of future social workers in theoretical activities at the university and practical work with organisations providing social services and those in need of social assistance.

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Adherence to the principles of academic integrity in the educational and scientific environment of higher education institutions

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Abstract

This article analyses the concept of academic integrity in terms of quality culture. The aim is to contribute to the competitiveness of European education by ensuring its quality through the awareness of the need to develop a culture and disseminate best practices in this area. It is widely acknowledged that academic integrity is currently facing a crisis, which can be attributed to the increasing availability and use of online information resources and technologies that allow for the free dissemination of intellectual property results to the Ukrainian scientific and educational community. The Guidelines for Higher Education Institutions to Support the Principles of Academic Integrity cover the mechanism for maintaining academic integrity in Ukraine. These guidelines are based on six main blocks and were developed as part of the SAIUP Project for Promoting Academic Integrity in Ukraine with the support of the US Embassy. The analysis of international experience demonstrates that developing practical skills for high-quality academic writing is a complex process that requires constant and persistent effort. This text considers and analyses the principles of successful academic writing training. Academic integrity is widely recognised as a fundamental aspect of personal development, character stability, and moral consistency. This text presents ways to improve academic integrity in the preparation of written works by higher education students.

Keywords: quality of education, ensuring academic integrity, higher education, educational activities, students

Дотримання принципів академічної доброчесності в освітньо-науковому середовищі ЗВО

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Анотація

У статті проаналізовано поняття «академічна доброчесність» з огляду на культуру якості, яка сприяє підвищенню конкурентоспроможності європейської освіти завдяки забезпеченню її якості через усвідомлення необхідності розвивати культуру і поширювати найкращий досвід у цій галузі. Встановлено, що особливо актуальною криза академічної доброчесності постала в умовах сьогодення у зв'язку із розвитком, впровадженням та широким використанням інформаційних інтернет-ресурсів та технологій для подання у вільному доступі результатів інтелектуальної власності серед української наукової та освітньої спільноти. З'ясовано, що механізм дотримання академічної доброчесності в Україні із врахуванням положень Проєкту сприяння академічної доброчесності в Україні – SAIUP за підтримки Посольства США висвітлений у Методичних рекомендаціях для закладів вищої освіти з підтримки принципів академічної доброчесності, в основу якого закладено шість основних блоків. За результатами аналізу світового досвіду доведено, що напрацювання практичних навичок якісного академічного письма – то є складний процес, опанування якого потребує самовдосконалення, постійних і наполегливих зусиль. Розглянуто та проаналізовано засади успішного навчання академічному письму. Доведено, що академічна доброчесність у сучасному світі є тим основним важелем, який будує фундамент внутрішньої гармонії людини, стійкість її характеру та послідовність морального образу. Представлено способи покращення академічної доброчесності під час підготовки здобувачами вищої освіти письмових робіт.

Ключові слова: якість освіти, забезпечення академічної доброчесності, вища освіта, освітня діяльність, студенти

Statement of the problem. The issue of academic integrity in the educational environment is of great importance in today's society. The crisis of academic integrity has become particularly relevant due to the widespread use of internet information resources and technologies that provide free access to intellectual property results among the Ukrainian scientific and educational community. These information resources offer the opportunity to utilise scientific ideas from other researchers (Dmitrenko, et al., 2020; Gurevych, et al., 2019; Sikora, et al., 2022).

The principles of academic integrity are honesty, trust, respect, fairness, and responsibility. These principles should be observed by all participants in the academic space. The lack of a deep understanding of academic integrity and the proce-dures that ensure it is the main reason for its emergence in Ukraine (Hubina, 2023; Hurevych, 2020).

Academic integrity is a fundamental principle of state policy in the field of education and educational activity. For instance, Article 42 of the Ukrainian Law 'On Education' defines academic integrity as a set of ethical principles and rules established by law. These principles and rules should guide participants in the educational process during learning, teaching, and conducting scientific (creative) activities. The aim is to ensure confidence in learning outcomes and scientific (creative) achievements (*Zakon Ukrainy «Pro osvitu», zatverdzhenyi Verkhovnoiu radoiu Ukrainy vid 05.09.2017 r. № 2145-VIII*, 2017).

Analysis of recent research and publications. To promote academic integrity, the Ministry of Educa-

tion of Ukraine created comprehensive guidelines for higher education institutions in October 2018 (*Metodychni rekomendatsii dlia zakladiv vyshchoi osvity z pidtrymky pryntsypiv akademichnoi dobrochesnosti,* 2018). These guidelines were the result of extensive discussions and debates on academic integrity. Additionally, a supplementary Extended Glossary of Academic Integrity Terms and Concepts was presented (*Rozshyrenyi hlosarii terminiv ta poniat st. 42 «Akademichna dobrochesnist» Zakonu Ukrainy «Pro osvitu» (vid 5 veresnia 2017 r.).* The glossary provides clear and accessible definitions, serving as a useful guide for both teachers and students in higher education institutions. These materials were developed as part of the Supporting Academic Integrity in Ukraine Project (SAIUP), with support from the US Embassy. The Guidelines for Higher Education Institutions to Support the Principles of Academic Integrity (*Metodychni rekomendatsii dlia zakladiv vyshchoi osvity z pidtrymky pryntsypiv akademichnoi dobrochesnosti,* 2018) cover the mechanism for maintaining academic integrity in Ukraine. The guidelines are based on six main blocks and were developed with the support of the US Embassy as part of the SAIUP Project.

The first section is titled 'Acquisition of competences in academic integrity and skills of quality academic writing by students. It discusses the competences necessary for research and teaching staff to maintain academic integrity, which should be mastered by higher education students. The section also explains methods for teaching students proper academic writing.

The second section provides recommendations for working with teaching staff. In particular, the ways of motivating teachers, the requirements for them and how to create an atmosphere of academic integrity in the institution.

The third section is devoted to the sanctions that can be imposed on teachers and students for violations of academic integrity.

The fourth section provides recommendations on the establishment of a code of academic ethics and an ethics commission of a higher education institution to improve internal integrity procedures.

The fifth section offers guidance to institutions regarding the requirements for written work to ensure academic integrity. Additionally, this section provides methodological recommendations on how to defend written works.

The sixth block of the Methodological Recommendations is devoted to the peculiarities of checking for academic plagiarism of dissertations and their public defence (Hurevych, 2020).

The aim of the article is to analyse how participants in the educational and research process can ensure compliance with the principles of academic integrity to improve the quality of education in higher education institutions.

It is important to note that academic integrity is the foundation of a virtuous academic environment in higher education institutions. All members, including research and teaching staff and students, must understand the need to comply with the principles of academic integrity (Gromov, et al. 2020; *Infohrafika: taksonomiia Bluma).* Academic integrity builds trust between colleagues, employers, customers of educational and scientific services, sponsors, grantors, and other stakeholders. The availability of intellectual property can attract the best students, teachers, and researchers, who will contribute to the reputation, sustainable development, and competitiveness of the higher education institution in the educational field.

The Results of the Research. Developing practical skills of high-quality academic writing is a complex process that requires self-improvement, constant and persistent efforts. Successful teaching of academic writing should be based on the following principles:

- The inclusion of academic writing should be a separate component in educational programmes. Specifically, bachelors should be taught the basics of academic writing, including the inadmissibility of plagiarism, the ability to formulate and prove their own thoughts and conclusions, and text formatting in accordance with standards. Students can acquire more advanced skills in developing their own author's style when writing a final qualification work (project) as full-fledged research of the chosen topic. For postgraduate students, important issues include academic writing in a foreign language and the structure of scientific articles.

- Teaching academic writing within a specific discipline should include the preparation of written assignments. If the academic writing course is separate, it may be taught by a different teacher. However, students should be able to apply the tools they have mastered in this course when preparing an assignment in another discipline. A separate writing course should not be perceived in isolation from the

context of another discipline and the needs of the student within it.

- The essence, features, and reasons for the harmfulness (inadmissibility) of plagiarism should be explained at the beginning of the discipline.

- It is important to pay attention to the detailed explanation of the requirements for a written assignment. Provide a detailed explanation of the requirements for written assignments. Vague and insufficient requirements are a common complaint among Ukrainian students.

- Sanctions for plagiarism should be imposed only after the instructor has made sure that students understand how to avoid plagiarism; sanctions should be appropriate to the extent of plagiarism and should be actually applied to most offences, otherwise there is injustice to those who are not sanctioned for integrity violations and to those who have done their work in good faith (they receive the same grade as the "offenders").

- Research shows that insufficient training in the necessary techniques for completing assignments is a much more significant reason for plagiarism than any intentional deception. Therefore, it is important to provide clear explanations and learning opportunities to students while respecting their dignity. It is also important to avoid assuming that students who struggle with assignments are not interested in learning.

- The preparation of tasks for independent written work should be as specific as possible. This can be achieved by providing a narrow question for the student to answer, specifying the methods to be used, providing specific statistical information, or assigning sources such as publications, videos, or films for the student to study. Another effective approach is to assign an analysis and comparison of two qualitative works that argue opposing points of view on a particular issue.

- Submitting questions for the exam based on the content of specific sources studied during the semester.

- The Use of Bloom's taxonomy in formulating tasks of the third and higher levels; answers to tasks formulated through verbs of the first two levels can be easily copied from the Internet; Bloom's system is based on the nesting doll principle: completion of a higher level task is possible only through mastering the relevant information of lower levels; that is, if a teacher offers a task to assess certain information, a qualitative answer to it will inevitably

show knowledge and understanding of the material (*Infohrafika: taksonomiia Bluma*).

- The task requirements and assessment criteria should be clearly explained.

- Non-standard and creative tasks should be developed, and tasks should be updated regularly.

- Examples of finished works should be provided to higher education students, and discussions should be held with them regarding quality and poor academic writing.

The most effective measures for avoiding plagiarism are to process unique data, work with detailed sources, clearly identify sources and their usage, correctly cite borrowed ideas or information, and provide a moral assessment of actions in line with professional norms.

In recent years, academic integrity in Ukraine has become recognised by the educational and scientific community, although it was previously a novelty.

The implementation of academic integrity principles in Ukrainian higher education institutions aims to enhance the quality of education and the reputation of these institutions. This, in turn, will increase their rating, enable recognition of university diplomas at the European and global levels, and enhance the competitiveness of their graduates (Hubina, 2023; Oliinyk, 2023).

Academic integrity is a crucial aspect of personal and moral character. Higher education plays a significant role in promoting intellectual dignity and respect for diverse opinions and ideas through teaching and research. This fulfils its social mission (Satsyk).

Academic integrity requires higher education students, academic staff, and researchers to adhere to the principles of honesty and integrity in their work and studies. It prohibits plagiarism, cheating, and the unauthorized use of others' work.

According to an international study that surveyed respondents from various parts of the world, including Ukraine, academic fraud is most prevalent in our country, while US representatives are least likely to engage in such misconduct (Satsyk).

To increase integrity, it is important to promote good educational practices in higher education institutions where they have been insufficiently implemented in the past. This requires meeting the following prerequisites:

1) Sustainable results in implementing academic integrity norms are only achievable if the institution's management makes persistent efforts to promote

these values. As resolving this issue is not a quick fix, it is insufficient for a university to simply adopt a code of ethics or subscribe to a plagiarism detection system and report that the problem has been solved.

2) Academic staff should possess suitable qualifications in modern academic writing, knowledge of fair and unfair teaching practices, their causes, and tools for responding. Additionally, they should have experience in editing texts with elements of plagiarism. Therefore, it is necessary to organise training for academic staff on this issue.

3) Furthermore, it is important to motivate academic staff to work on the basis of academic integrity. The reluctance of educators to address these concerns is not unique to Ukraine, but is also prevalent in many other countries.

4) One solution is to openly discuss academic integrity with colleagues. Keeping the issue silent will not lead to a resolution. It is recommended that department colleagues regularly share their experiences with implementing best practices and discuss this matter as a team every one to two months.

5) Higher education students should be informed about the policies of the educational institution to foster a sense of honesty within the academic community. It is important to explain the benefits of integrity and motivate students to uphold the high values of the academic community, which enable the preservation and creation of new knowledge about the surrounding reality.

6) The ability to plan and conduct educational activities that effectively assist higher education students in avoiding plagiarism.

7) The ability to identify instances of plagiarism in texts.

To improve academic integrity when higher education students prepare written works, it is recommended to conduct at least one intermediate review of a draft version of the written work with feedback and recommendations. Additionally, structuring the work in a timely manner with intermediate checks of each stage of its preparation can be helpful.

- Provide students with clear criteria for evaluating their work, enabling them to review each other's work objectively.

- Avoid publicly announcing to higher education students that plagiarism has been found in their work, as this statement can cause a defensive reaction. Instead, demonstrate how to revise and check the revised work.

- If possible, demonstrate to higher education students the results of checking their texts in text borrowing detection systems, which can be a useful tool (Nikolaiev, 2018).

Academic integrity encompasses more than just plagiarism. It is important to maintain objectivity and avoid biased language. It involves trust, responsibility, and mutual respect within the scientific community, where justice and honesty are crucial.

Conclusions and Prospects for Future Research. In the context of global higher education standards, academic integrity is a crucial tool for ensuring the quality of higher education.

It is essential that all participants in the educational process accept and support the principles of academic integrity, as this is a guarantee of a good employment record and the foundation of a successful life strategy.

In the research field, citation errors may occur due to violations of academic ethics. Such errors can lead to distortion of scientometric indicators of scientists and scientific publications, thus violating the rights of the real authors.

The correct citation of translations is a controversial issue. This is because the process of translation inevitably introduces changes in the understanding of the text, which can distort the author's original position.

In some fields of knowledge, including management and administration, it is common for Ukrainian educators and researchers to present their publications or reviews as a collection of fragments borrowed from various sources. Unfortunately, these fragments are not always correctly formatted, even when they are direct quotations, resulting in confused references.

The concept of self-plagiarism remains controversial in academic circles. According to Ukrainian legislation, self-plagiarism is defined as the publication, in part or in full, of one's own previously published scientific results as new scientific results (*Zakon Ukrainy «Pro osvitu», zatverdzhenyi Verkhovnoiu radoiu Ukrainy vid 05.09.2017 r. № 2145-VIII*, 2017*).*

Improving academic integrity requires possessing tools and methods for monitoring its observance, such as using regulatory documents developed by the educational institution.

Academic responsibility measures are effective when all participants in the educational process understand the rules, grounds, and procedures for bringing academic responsibility. Clear and under-

standable procedures for reviewing cases and making decisions regarding alleged violations are crucial for ensuring academic integrity.

Based on the above, it can be concluded that academic integrity is a comprehensive concept. It refers not only to the general corporate culture of the higher education institution but also to the internal culture of the individual.

Academic integrity means the ability to honestly admit mistakes, take responsibility for learning and research, use only verified data, avoid plagiarism, and correctly cite the work of others.

There are six fundamental values that are important to every researcher: honesty, trust, fairness, respect, responsibility, and courage. Honesty is the basis for the provision of educational services. All the following key values can be realized through honesty. Trust means that all participants in the scientific process can share their thoughts and ideas without fear. Fairness implies clear requirements and transparent assessment. It involves treating others and their work with dignity and consideration. Respect is essential in the academic environment and should be reciprocal. Courage is also important, as it requires standing up for the core values of academic integrity and taking action when necessary.

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GENERAL AND SUBJECT DIDACTICS

ЗАГАЛЬНА ТА ПРЕДМЕТНА ДИДАКТИКА

The formation of the cognitive component of students' professional thinking in the context of digital transformation of higher education

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Abstract

The article considers the ways of forming the cognitive component of students' professional thinking in the context of digital transformation of higher education. European trends that affect the quality of educational services are highlighted; attention is focused on the problems of globalisation, the use of artificial intelligence and robotics, the use of cloud technologies, which together affect the nature of human life and the peculiarities of the development of educational institutions. Among the newest ways to solve these problems, the article highlights the following: creation of a digital educational environment for professional training of specialists competitive in the employment market. It is proved that digital transformation is of great importance in the globalised world, and the modernisation of education is aimed at solving the latest global problems. The article identifies the following modern trends in information development that influence the process of digitalisation of education: development of artificial intelligence, "machine learning", neural networks; further development of mobile-oriented tools; widespread introduction of blockchain and cryptocurrency technologies; the development of cloud computing and virtualisation technologies, cloud computing technologies; the development of augmented reality and virtual reality; widespread introduction of chatbots and virtual assistants, etc. The article considers the trends of digitalisation of the educational environment in higher education institutions in Germany and Austria, including digital ecosystems, which in the form of open learning systems offer the latest design structure for using the possibilities of modern digitalisation in the network economy. It is proved that SMART-education provides new opportunities related to the use of e-learning technologies; ensures mobility and accessibility of educational information; allows the format of autonomy of the teacher and students using mobile devices in the educational process; makes it possible to provide flexible educational services in terms of individual capabilities of the master's student; provides support for individual programmes for the personal development of each student.

Keywords: professional thinking, the structure of professional thinking, the cognitive component of professional thinking, digital transformation of higher education, ways of developing digital transformation in higher education

Формування когнітивної складової професійного мислення студентів в умовах цифрової трансформації вищої освіти

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Анотація

У статті розглянуті шляхи формування когнітивної складової професійного мислення студентів в умовах цифрової трансформації вищої освіти. Виокремлено європейські тенденції, що мають вплив на якість надання освітніх послуг; закцентовано увагу на проблемах глобалізації, застосування штучного інтелекту та робототехніки, використання хмарних технологій, що в єдності впливають на характер життєдіяльності людини та особливості розвитку освітніх інститутів. Серед новітніх шляхів вирішення визначених завдань у статті виокремлено: створення цифрового освітнього середовища для професійної підготовки фахівців, конкурентоспроможних на ринку працевлаштування. Доведено, що цифрова трансформація має велике значення у глобалізованому світі, а модернізація освіти спрямована на вирішення новітніх проблем світового масштабу. До сучасних напрямів інформаційного розвитку, котрі впливають на процес цифровізації освіти у статті віднесено такі: розвиток штучного інтелекту, «машинне навчання», нейромережі; подальший розвиток мобільно орієнтованих засобів; широке запровадження технологій блокчейн та криптовалют; розвиток технології хмарних обчислень та віртуалізації, технології туманних обчислень; розроблення доповненої реальності і віртуальної реальності; широке запровадження чат-ботів та віртуальних помічників тощо. Розглянуто тенденції цифровізації освітнього середовища у закладах вищої освіти Німеччини та Австрії, до яких віднесено цифрові екосистеми, котрі у формі відкритих систем навчання пропонують новітню структуру дизайну для використання можливостей сучасної цифровізації в мережевій економіці. Доведено, що SMART-освіта забезпечує нові можливості, що пов'язані із використанням технологій електронного навчання; забезпечує мобільність і доступність навчальної інформації; дозволяє формат автономності викладача й студентів з використанням мобільних пристроїв в навчальному процесі; уможливлює гнучкість надання освітніх послуг точки зору індивідуальних можливостей магістранта; забезпечує підтримку індивідуальних програм щодо індивідуального розвитку кожного здобувача освіти.

Ключові слова: професійне мислення, структура професійного мислення, когнітивна складова професійного мислення, цифрова трансформація вищої освіти, шляхи розвитку цифрової трансформації у вищій освіті

Statement of the problem. An urgent problem of creating a modern educational environment of a higher education institution is its digital transformation, as Ukraine has moved into a new era of digitalisation of all spheres of public life. The main factors that led to this transformation were the processes of integration and globalization, new requirements related to the development of society, which in their unity determined the current requirements for the exchange of information, its transformation and storage, as well as the peculiarities of the educational process in difficult conditions of war. An important factor determining the development of modern higher education is European integration, which requires the coordination of Ukrainian and European higher education standards, and above all, the digitalization of the educational environment in educational institutions. European integration processes in the national higher education suggest the implementation of the advanced nature of education development, a high level of professional training and competitiveness of future specialists in the European labor market, which requires the creation of an innovative model of the information and educa-

tional environment. In this context, the study of the problem of developing the cognitive component of professional thinking of students in the digitalized society is relevant and appropriate.

Analysis of recent research and publications. The problem of the formation of the cognitive component of students' professional thinking in the context of the digital transformation of higher education has been studied by the following Ukrainian scientists: O. Akimova, M. Sapohov, Ya. Hapchuk (digital transformation of the educational environment of higher education institutions in German-speaking countries); M. Sapohov (formation of professional competence of masters by means of smart technologies); O. Akimova, L. Dudikova, A. Kolomiets, Yu. Ostraus (formation of the cognitive component of professional and communicative culture); Ya. Hapchuk (digital transformation of the educational environment of higher education institutions in German-speaking countries); D. Matiiuk (the development of lifelong learning in German-speaking countries); S. Nahorniak (debates as a method of formation of professional thinking).

The purpose of the article is analysis of different ways of forming the cognitive component of students' professional thinking in the context of digital transformation of higher education.

Summary of the main material. Rapid changes typical of innovative development of social and educational institutions actively influence the professional training of future teachers. The challenges of the twenty-first century transform the goals and objectives of the entire education sector and each individual higher education facility as an important social institution, and the modernization of the education sector involves the use of the latest ways to solve these problems. Among the European-level tendencies that influence the formation of the quality of educational services, scientists identify globalization, the use of artificial intelligence, robotics, and cloud technologies, which together affect the nature of human life and the peculiarities of the educational institutions development. Among the newest ways to solve these problems, scientists and educators point to the creation of a digital educational environment for the professional training of specialists who are competitive in the labor market. Thus, digital transformation is of great importance in the globalized world, and the modernization of education is aimed at solving the latest global problems. These processes are gaining great influence on the devel-

opment and updating of theoretical approaches to the functioning and constant development of national education systems. The organization and implementation of digitalization in the educational process is based on the environmental approach aimed at the personal and professional development of teachers, especially by means of information support and the use of cloud technologies, which together change the nature of the cognitive activity of the individual and determine the peculiarities of the functioning of educational institutions. Scientists identify the continuing development and improvement of the digital educational environment of a higher education institution for the purpose of training the specialists as one of the innovative ways to solve the tasks (Sapohov, 2021).

Scientists O. Akimova, L. Dudikova, A. Kolomiets, Yu. Ostraus, who studied the problem of forming the cognitive component of the professional and communicative culture of future family doctors by means of the information and educational blog, argue that the cognitive component of the professional and communicative culture of future family doctors covers several elements, namely: linguistic competence - knowledge of the state and foreign language at the phonetic, lexical, grammatical, syntactic and stylistic levels; communicative knowledge – generalized experience in communicative activity, reflection in the consciousness of communicative situations in their cause-and-effect relations and relationships, which is the basis for any communication; ethical and etiquette knowledge - knowledge of professional ethical norms, rules of language etiquette. Improving the professional and communicative culture of future family doctors is an urgent task of higher medical education, due to the social demand of modern Ukrainian society for a family doctor who not only has a wide range of professional knowledge, skills and abilities, but also certain personality traits, communicative knowledge, skills, and a culture of communication that ensure success (Akimova, 2013). Let's briefly outline the goals and content of each section of the blog defined by the authors. The main page of the blog was used to draw students' attention to the problem of professional communication of doctors, to increase their interest and motivation to learn English, and to encourage them to use English for self-education and self-development. In order to achieve this aim, the page is being constantly updated with new posts, which can be divided into several types according to their purpose. The first type is motivational posts that highlight the

significant role of communication in the professional activities of doctors, emphasize the need to develop their professional and communicative culture, and focus on the need for medical students to learn English. The second type includes articles that aim to increase students' curiosity about their future profession with interesting facts about people, medicine, communication, languages, and the English language. The third type is professional posts, which provide text and video material on topics studied in the disciplines of Foreign Language and Foreign Language for Professional Purposes. These posts, in addition to attracting students' attention and motivation, can also improve the teaching of these disciplines, as the videos presented in them provide visualization of educational information and can be used in the classroom. The fourth type includes the posts that provide information on the organization of students' individual work in the discipline, encouraging them to self-education and self-development. For example, such articles recommend online explanatory dictionaries, textbooks for self-study of English grammar, or online resources containing English-language medical educational texts or medical scientific articles for students (Akimova, et al., 2020).

The "Pedagogical insight" was used to form the cognitive component of the development of professional thinking by the researchers O. Akimova, O. Slushnyi, A. Kolomiets, E. Hromov, N. Khamska (Slushny, et al., 2020).

The problems of digital transformation of the educational environment have been studied by V. Bykov, who, in his article "Digital Transformation of Society and Development of the Computer Technology Platform of Education and Science of Ukraine" analyzed the development of the national education and science system, taking into account the possibilities of its digitization in the context of globalization problems. Digitalization of education, as stated in the "Concept for the development of the digital economy and society of Ukraine for 2018-2020", is one of the stages of its informatization and implies filling the educational environment with electronic and digital means and devices, providing the necessary electronic communication exchange, which enables the integrated interaction of the physical and virtual, thus creating a cyber-physical educational space. V. Bykov lists the following trends in information development that influence the process of digitalization of education: the development of artificial intelligence, machine

learning, neural networks; further development of mobile-oriented tools; widespread application of blockchain and cryptocurrency technologies; development of cloud computing and virtualization technologies, fog computing technologies; the development of augmented reality and virtual reality; widespread application of chatbots and virtual assistants, etc (Hurevych, 2005). New tendencies in the digitalization of the educational environment in higher education institutions in Germany and Austria include digital ecosystems, which, in the form of open learning systems, offer the most recent design structure for using the opportunities of modern digitalization in the net-work economy. The educational processes in the ecosystem provide individualized learning design, personalized learning based on intelligent systems, and a stronger link between scientific research and learning (Akimova, et al., 2022a). The consequences, risks, and potential of digitization and its interdependence on human actions, cause-and-effect processes, the nature of digital processes, and algorithmic control are often understood only by experts, so the problem of continuing digitization is excluded from the broader social debate, but it affects all the areas of the educational activity. Existing infrastructures for the digital society and their design are currently highly widespread, but their capabilities for acquiring knowledge and skills are being developed individually or within specific groups. This also applies to expert organizations, such as universities, although during the so-called "Corona-Semester" they quickly moved learning, teaching, and scientific activities into the digital space. In the German scientific discourse, several approaches to understanding the category of digital education are considered, so we believe it is appropriate to briefly highlight their main models (Akimova, et al., 2022b).

1. Teaching and learning model – digital education is included in both the educational process and its results, which requires appropriate learning conditions and the availability of related digital tools, resources and data; organization of activities and communication; consideration of social and cultural conditions, tools and resources and their importance in the educational process, which distinguishes this model from purely analog forms of education. Digital academic learning organized in this way includes digital media (content), it is based on algorithmic and methodological principles, and is evaluated in terms of

added value compared to traditional analog approaches.

2. The Research and Information Transfer Model – involves the application and analysis of the potential of digitalization for cognitive activity, the ability to use big and small data, and facilitates the use of artificial intelligence in education, its mechanisms and potential. The model serves to create knowledge and innovations in disciplines, fields of study and interdisciplinary research areas, in teaching, information transfer, management and internationalization of knowledge in general, as well as in digital innovations, which have to be fully developed. This process is carried out on the basis of scientific theories and an understanding of responsibility for overcoming major educational challenges. Thus, digital education takes place at the professional and interdisciplinary as well as cross-curricular levels in research, learning and teaching (Akimova, Sapohov, & Romashchuk, 2023).

3. The model of professional growth is based on the value of high qualification, constant improvement of its level, expansion of rights and opportunities for digitization of educational activities, it provides for the implementation of all components in full. The leaders of the educational process take responsibility for the high-quality preparation of students for their future professional and personal life, for expanding opportunities in the process of studying disciplines and participating in all areas of the university's activities, and for ensuring digital sovereignty. Digital education provides continuous, dynamic and change-responsive, technical, scientific and professional training for effective individual development, critically reflective use of digital tools, resources and data.

4. Digital competence model. Digital education facilitates the development of competencies based on knowledge embedded in time and culture. The social and individual development of the individual becomes possible, among other things, through the acquisition of the necessary skills of reflection and work in the digital environment and the world. Thus, in this model, digitalization is viewed as a process and a result that promotes individual development in a socially determined context.

5. Individuality and diversity model. In this model, digital education takes into account the starting points of different types of learning, professional requirements, and previous experience particular to each generation. The perspective of learning is fo-cused on the result in the form of developed competencies based on the use of digital technologies, taking into account the subjective background that affects the acquisition of skills (Profesiine stanovlennia osobystosti maibutnoho vchytelia: monohrafiia. 2018).

6. A model for creating a modern educational environment at the university. Digital education in this model is based on an integrated digital infrastructure that combines resources, tools and information into a powerful digital ecosystem (Akimova, et al., 2022a; Akimova, et al., 2023).

The main tasks of the information and educational environment in accordance with the principles of the environmental approach include the following: organization of educational activities of students using e-learning tools, development of skills in the use of information technologies in professional activities, and the main functions include educational, developmental, nurturing, reflective and informational. The educational function involves the implementation and monitoring of the educational process; its value depends on the integrity and awareness of the acquired special knowledge and skills, as well as the experience of creative activity. The expanding function of the information and educational environment involves the development of the motivational, intellectual and emotional areas of the student's personality during the period of preparation for professional activity (Profesiine stanovlennia osobystosti maibutnoho vchytelia: monohrafiia. 2018). The effectiveness of this function depends on the qualitative selection of didactic, technological and information resources and the ability to engage students in interactive activities as subjects of the educational process. The nurturing function is focused on the formation of the outlook, life and professional values and ideals of students, their interests and motives, moral and aesthetic views. The informational function is related to the quality of educational and scientific information, its storage and use to meet the needs of all subjects of the educational process, and its result should be the formation of the ability to effectively interact with information using ICT. The reflexive function is aimed at promoting the processes of self-development and self-improvement of the subjects of the information environment (Akimova, et al., 2023). The scientific literature also presents the main criteria for the effective functioning of the educational environment, which include the

following: 1) conceptual and content assurance (teaching and methodological complexes, innovative work programs); application of the experience of domestic and foreign educational innovations; theoretical justification of the goals and objectives of specialists training; cognitive activity, understood as the ability and willingness of students to apply theoretical, methodological and organizational skills to complete the tasks of the curriculum; 2) information and communication assurance, which provides for the available methodological literature, periodicals, access to global educational networks, implementation of distance learning and available electronic manuals; professional skills, i.e. the ability to implement the latest approaches to educational activities; professional reflection and self-control of own experience (Akimova, et al., 2022b).

The cognitive component of professional thinking includes critical thinking, which is viewed as a complex process that begins with familiarization with information and ends with making a specific decision, and consists of several sequential steps: analyzing different points of view, choosing one's own point of view; comparing with other points of view; selecting arguments to support the chosen position; making decisions based on evidence. Creative thinking is independent, analytical, logical, and social thinking is aimed at optimal problem solving and development of one's own solutions. It has its own structure (problem statement, information search, clear reasoning, decision making) and implies the use of intellectual and communication skills. The work of a teacher should be aimed at teaching students to express and prove their opinions and build constructive relationships with others. The development of critical and creative thinking helps to prepare a new generation of specialists who are able to argue, communicate, collaborate and generate new ideas (Akimova, & Shamanska, 2022).

D. Matiiuk has studied the tendencies of lifelong learning development in German-speaking countries of Europe. The author underlines its importance for the personal and professional development of the personality and singles out perspective directions of extrapolation in the education system of Ukraine, which can have a positive impact on the development of professional thinking of the student in the context of digital transformation of higher education (Matiiuk, 2017; Matiiuk, 2020).

The scientists O. Akimova, M. Sapogov, Y. Hapchuk considered modern approaches to the study and use of SMART technology in the preparation of masters. Special importance is now being attached to intelligent technologies in the field of master's training, which are aimed at enhancing the efficiency of the educational process and improving the quality of the educational services provided. SMART-education provides new opportunities related to the use of e-learning technologies designed for remote learning; enables the transition from one platform to another; ensures mobility and accessibility of educational information; allows the format of autonomy of the teacher and students using mobile devices in the educational process; makes it possible to provide educational services in terms of individual capabilities of the master's student; provides support for individual programs for the individual development of each student; use of the latest motivational learning models; constant consideration of the requirements of stakeholders and employers regarding the content of educational programs (Sapohov, 2021). The authors also consider new approaches to the study of SMART technologies in the professional training of master students, which include, in particular: the interpretation of informatization of education as an important feature of its development, which provides a new worldview and reassessment of the values in the labor market; knowledge, which is considered a commodity in the information society, becomes more important with the development of Smart education. Higher pedagogical education at the master's level responds to global trends in social development and is ready to apply the concept of Smart education, the conceptual basis of which includes the ideas of: mobile access to digital educational services; acquisition of new knowledge as the main way to modernize the social sphere; creation of SMART methodological support and IT environment identical to natural intelligence, which serves as the main concept of smart education (Akimova, et al., 2023; Akimova, et al., 2022b).

It is worth noting that not only formal but also non-formal education is important for the formation of students' professional thinking in the context of digital transformation of higher education. Therefore, it is important to study the experience of the leading countries of Europe in this direction. For example, the innovative experience of Germany in the development of non-formal education, in particular the projects "Learn to teach German" (German

"Deutsch Lehren Lernen"), "Children's Digital University" (German "Digitale Kinderuni"), "German Teens' Digital University", (German "Deutsche Digitale Junioruni"), "Content and Language Integrated Learning", studied by D. Matiiuk, can be valuable for the extrapolation into the educational and scientific space of Ukraine. The participation of students in the projects mentioned above can have a positive effect on the professional thinking of the students and can motivate them to continuing professional development (Matiiuk, 2020).

As a result of critical analysis of the scientific literature, we can conclude that professional thinking is a type of thinking that allows problem solving, conceptual analysis, use of reasoning paths, recognition of abstract structures, distinguishing between two situations, and making logical decisions through various comparisons and conclusions. Professional thinking also demonstrates similarities and differences with other types of thinking. The most commonly used types of thinking associated with professional thinking are critical, creative, systematic, reflective, and analytical thinking. Blended learning is called the "third generation" of distance education systems (Akimova, & Nahorniak, 2023). In general, blended learning refers to any combination of learning methods, mostly including face-to-face learning through asynchronous and/or synchronous computer technologies. Hybrid learning is another term that was used as a synonym for blended learning. The educational technologies used in blended learning can be in the form of learning management systems (LMS), such as Edmodo, Moodle, Schoology, and others. LMS is an online learning platform that utilizes access to the Internet. LMS is widely used to make online learning easier in blended learning for all subjects. According to the research, blended learning has become a good way for students to de-velop logical thinking skills. Blended learning is a suitable teaching method to overcome the challenges of face-to-face learning that are time constrained. In addition, blended learning allows students to learn with different resources at their own pace. The learning environment in blended learning contributes to the development of professional thinking through such parameters as: support for independent learning, support for collaborative learning, discussion, practice and performance, support for feedback, and knowledge construction (Kartolapov, et al., 2021). Among the motivational factors for the successful development of students' professional thinking in the process of blended learning, it can be noted that the learning environment promotes the development of professional thinking not only during online sessions, but also in the process of asynchronous work. In addition, blended learning can support students in discussion without being limited by time. This method provided an opportunity for all students to actively participate in the discussion, do self-reflection, and collaborate with other students to expand their understanding of the learning material, evaluate the topic with other students, and build their understanding on the learning materials, exploring questions and explaining ideas (Akimova, Sapohov, & Koval, 2023).

Conclusions. Thus, the formation of the cognitive component of students' professional thinking in the context of the digital transformation of higher education has its own peculiarities and implementation ways. Among the newest ways to solve these tasks is the creation of a digital educational environment for the professional training of specialists who are competitive in the employment market. Digital transformation is of great significance in the globalized world, and the modernization of education is aimed at solving the latest global problems.

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PROBLEMS OF TEACHER TRAINING

ПРОБЛЕМИ ПІДГОТОВКИ ВЧИТЕЛЯ

Improvement of communicative support of teacher's activities as a factor in enhancing the quality of education

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Abstract

The article is devoted to the study and analysis of effective strategies for improving the communication skills of teachers in the higher education system. The authors consider the importance of interaction between teachers and students as a key aspect of a successful teaching-learning process and highlight the impact of quality communication on the overall level of the educational process. It is important to note that modern means of communication open up new opportunities for the implementation of the process of education. The article provides a detailed description and characteristics of the concept of communicative support in higher education institutions.

The analysis of the scientific literature on the outlined topic has been carried out. The main types of communication support in institutions of higher education have been considered and their impact on improving the quality of education has been analyzed. The necessity to introduce new forms and methods of learning that contribute to the development of communicative competence of higher education students has been substantiated.

The article analyzes modern approaches to improving the communicative interaction of teachers and students, considering pedagogical, technological and psychological aspects. Methods of increasing the effectiveness of teachers' communication with students are taken into account, including the use of interactive methods, the use of modern means of communication and the development of teacher empathy.

Statistical data are provided that give an estimate of the popularity of certain forms of communication between teachers and students. Statistical analysis is carried out in the article. The main trends in the development of communicative support of the educational process are outlined.

The article notes that increasing the level of communicative competence of teachers is a key factor in improving the quality of education. The recommendations and practical advice given in the article can serve as a basis for the development of the programs and trainings to improve the communication skills of teachers in higher education institutions.

Keywords: communicative support, educational process, students, teacher, quality of education

Вдосконалення комунікативного забезпечення діяльності викладача як фактор підвищення якості освіти

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Анотація

Стаття присвячена вивченню та аналізу ефективних стратегій поліпшення комунікативних навичок викладачів у системі вищої освіти. Автори розглядають важливість взаємодії між викладачем та здобувачами вищої освіти як ключовий аспект успішного освітнього процесу та висвітлюють вплив якісної комунікації на загальний рівень освітнього процесу. Зазначається, що сучасні засоби комунікації відкривають нові можливості для реалізації освітнього процесу. У статті наведено детальний опис та характеристика поняття комунікативного забезпечення в закладах вищої освіти.

Здійснено аналіз наукової літератури з окресленої теми. Розглянуто основні види комунікативного забезпечення у закладах вищої освіти та проаналізовано їх вплив на підвищення якості освіти. Обґрунтовано необхідність впровадження нових форм і методів навчання, які сприяють розвитку комунікативної компетентності здобувачів вищої освіти.

У стаття проаналізовано сучасні підходи до вдосконалення комунікативної взаємодії викладачів та здобувачів вищої освіти, враховуючи педагогічні, технологічні та психологічні аспекти. Розглядаються методи підвищення ефективності спілкування викладачів із здобувачами вищої освіти, включаючи застосування інтерактивних методик, використання сучасних засобів комунікації та розвиток емпатії викладача.

Наведено статистичні данні, що дають оцінку популярності тих чи інших форм комунікації між викладачами та здобувачами вищої освіти. У статті здійснено статистичний аналіз. Окреслено основні тенденції розвитку комунікативного забезпечення освітнього процесу.

У статті зазначається, що підвищення рівня комунікативної компетентності викладачів є ключовим фактором підвищення якості освіти. Рекомендації та практичні поради, наведені в статті, можуть слугувати основою для розробки програм та тренінгів з підвищення комунікативних навичок викладачів у вищих навчальних закладах.

Ключові слова: комунікативне забезпечення, освітній процес, здобувачі вищої освіти, викладач, якість освіти

Statement of the problem. The teacher's communication skills are becoming an integral part of his or her professional competence in the modern educational space. Effective communication not only contributes to better learning by the students, but also makes the learning process more interesting, dynamic and productive.

Modern educational processes in higher education institutions are characterized by significant communication complexity. On the one hand, the educational process involves active interaction of all the participants: teachers, students, staff, and parents. On the other hand, modern means of communication not only open up new opportunities for the implementation of the educational process, but also create new challenges.

In this regard, it is important to study the communication support of the educational process in higher education institutions. Such a study will help to identify the main trends in the development of communication support for the educational process, identify its strengths and weaknesses, and develop recommendations for its improvement.

Analysis of recent research and publications. There is a significant amount of research in the scientific literature on the communication support of the educational process. Research in this area has been conducted by the following scientists: P. Volynets considers communication as one of the main conditions for the successful implementation of the educational process in higher education institutions; S. Dembitska, I. Kobylianska, S. Pugach analyze the role of communication in the professional training of future specialists in distance learning; R. Gurevych studies the impact of information and telecommunication technologies on the development of communication support for teachers' activities; V. Voitko, S. Bevz, S. Burbelo, P. Stavytskyi, O. Khoshaba, N. Rysynets, O. Teplova, A. Smolarz, S. Smailova, A. Mussabekova, B. Yeraliyeva consider the impact of neural networks on the communication support of the educational process.

The research reveals various aspects of the communication support of the educational process in higher education institutions and suggests ways to improve it. However, we believe that the issue of improving the communication support of the teacher's activities as a factor in enhancing the quality of education has not been fully explored.

The purpose of the article is to study and analyze the impact of improving teachers' communication skills on the overall quality of the educational process in higher education institutions. The tasks of the article include analyzing the current state of communication interaction, identifying the key aspects of teacher communication, developing strategies for improving communication competence, analyzing the results of the implemented strategies and determining their impact on the overall quality of education, student performance and satisfaction with the educational process.

Summary of the main material. Personal communication is the most important type of communication in higher education institutions. It is carried out during classroom lessons, consultations, extracurricular activities, as well as in the process of independent work of students.

For example, during classroom sessions, a teacher communicates with the students by explaining the material, answering the questions, and discussing problematic issues. During consultations, the teacher and the student communicate with each other face to face to discuss individual tasks and problems. During extracurricular activities, students communicate with each other to exchange information, ideas, opinions, and have fun. In the process of independent work, students communicate with teachers and classmates to get advice, help, and discuss the results of their work (Stavnycha N.O., 2023).

Distance communication is becoming increasingly popular in modern higher education institutions. It is carried out through electronic means of communication, such as e-mail, chats, video conferencing, etc. (Dembitska, S. V., Kobylianska, I. M., & Pugach, S. S., 2020).

Group communication is carried out within the framework of group forms of education, such as seminars, workshops, laboratory work, etc. Group communication allows the participants of the educa-
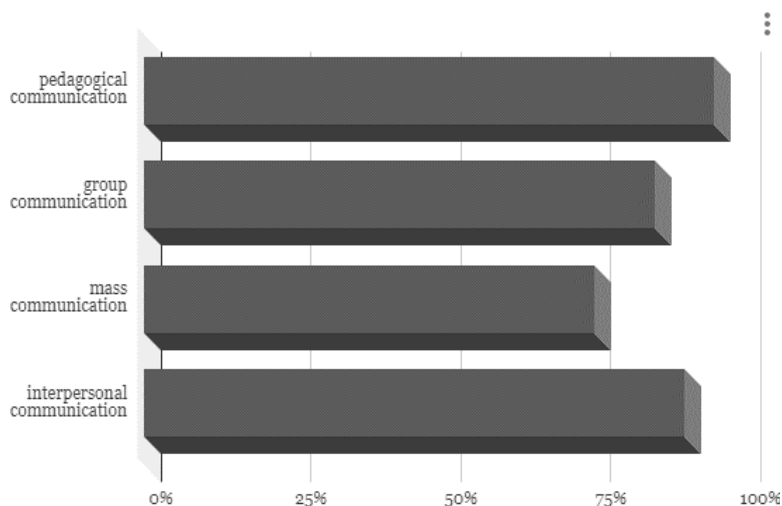
Fig 1. Types of communication support of the educational process.

tional process to work together on common tasks, develop cooperation and teamwork skills. Thus, during the seminars, students discuss problematic issues and work on joint projects. During practical classes, students work in pairs or groups to complete tasks. During laboratory work, students work in groups to conduct experiments.

Public communication is carried out during student speeches at seminars, conferences, competitions, etc. It helps the students to develop presentation and public speaking skills.

According to a study conducted by the Institute of Educational Analytics of the Ministry of Education and Science of Ukraine in 2023, the most commonly used types of communication support for the educational process in Ukrainian higher education institutions are the following: pedagogical communication – 95%, group communication – 85%, mass communication – 75%, interpersonal communication – 90% (Fig. 1).These data show that pedagogical communication is the main type of communication support for the educational process.

Pedagogical communication is a system of purposeful, mediated by the content of education, interactions between teachers and students, aimed at creating conditions for the acquisition of knowledge, personality formation and the development of individual abilities.

Here are some specific examples of the use of different types of communication support for the educational process in Ukrainian higher education institutions:

- Pedagogical communication: lectures, seminars, laboratory work, individual consultations, online learning, etc.
- Interpersonal communication: personal conversations, group discussions, joint projects, etc.
- Group communication: group discussions, debates, project work, etc.
- Mass communication: television, radio, print media, social networks, etc.

An important condition for the successful use of different types of communication support for the educational process is their interconnectedness and complementarity.

According to a study conducted by the Institute of Educational Analytics of the Ministry of Education and Science of Ukraine in 2023, students' satisfaction with communication with teachers is 70%. At the same time, 25% of the students are dissatisfied with communication with teachers, and 5% have no contact with them at all.

The study by R. Gurevich (2005) notes that the use of information and communication technologies (ICT) in the educational process is an important element in improving the efficiency and quality of education. According to the Institute of Educational Analytics of the Ministry of Education and Science of Ukraine, in 2023, 95% of higher education institutions use ICT in the educational process. At the same time, 80% of higher education institutions use ICTs to organize distance learning, 70% to
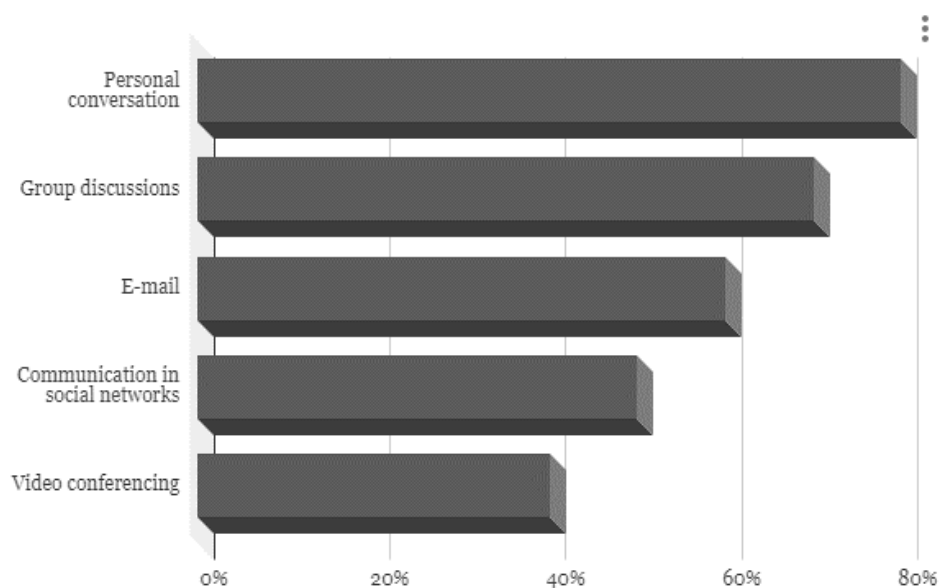
Fig 2. Forms of communication between the participants of the educational process.

improve the skills of teachers, and 60% to organize students' independent work.

According to the study, the most common forms of communication between the participants in the educational process are the following:

Personal conversation – 80%;

Group discussions – 70%;

E-mail – 60%;

Communication in social networks - 50%;

Video conferencing – 40% (Fig. 2).

Statistical analysis shows that communication support of the educational process in Ukrainian higher education institutions is an important task. However, there are certain problems that need to be addressed. In particular, it is necessary to increase the level of quality communication between higher education students and teachers, as well as to inten-

sify the use of ICT and neural networks in the educational process (Voitko, Bevz, Burbelo, Stavytskyi, Khoshaba, Rysynets, Teplova, Smolarz, Smailova, Mussabekova, Yeraliyeva, 2021).

The following methods should be used to improve the communication support of the educational process:

1. Development and implementation of teacher training programs on communication;

2. Organization of trainings and workshops on the development of communication skills for students;

3. Introduction of new forms and methods of teaching that contribute to the development of students' communicative competence;

4. Creation of a favourable psychological climate in the HEI that promotes effective communication between the participants in the educational process.

Table 1

The impact of improving the communication support of teachers' activities on enhancing the quality of education.

Enhancing the communicative, educational and cognitive activities of higher education students	Effective communication helps teachers create a motivating and dynamic educational environment that promotes active participation of students in the learning process.
Improving learning effectiveness	Good communication enables teachers to effectively explain complex concepts and materials in a way that is understandable to students. Teachers should be open to questions and clarifications.
Developing interpersonal skills	Interaction between teachers and students contributes to the development of interpersonal skills, such as listening, empathy, and the ability to notice the individual needs of the students. Strengthening interpersonal relationships creates a positive environment that fosters an open exchange of ideas and promotes critical thinking.
Developing critical thinking skills	Through effective communication, the teacher can promote the development of critical thinking of students, motivating them to make analytical conclusions and show independence in solving the problems identified.
Increasing the motivation of students	Positive and motivating communication is a factor that can increase interest in learning and motivate students to achieve high results. An individual approach to each student significantly increases their interest in the educational process.

Communicative support of the teaching and learning process is an important aspect of the educational process that promotes effective interaction between the participants of the academic process,

the formation of students' communicative competencies, which are necessary for their successful life.

Improving the communication support of the teacher's activities has a significant impact on improving the quality of education, as effective com-

munication is a key factor in the successful learning and the development of students.

Let us consider in more detail how this process contributes to improving the quality of education in Table 1.

Improving the communication support of the teacher's activity is a key factor in improving the quality of education by creating a motivating educational environment.

The improvement of the communication support of the teacher's activity is an ongoing process that requires self-improvement, creativity and the use of modern methods and tools. This is the key to improving the quality of education and forming competent, competitive individuals.

Let's consider the methods of improving the communication support of the teacher's activity.

1. Use of interactive teaching methods: discussions, brainstorming, project work, case method.

2. Application of modern information and communication technologies: online courses, webinars, forums, social networks.

3. The development of public speaking and presentation skills.

4. Use of active teaching methods: educational games, simulations.

5. Organization of meetings and communication with students outside the classroom (Dmit-renko, N.Ye., Voloshyna, O.V., Kizim, S.S., Mnyshenko, K.V., Nahorniak, S.V., 2023).

Conclusions. Communication support in higher education institutions means a system of interaction and information exchange between the participants in the educational process: teachers, students, administration and other stakeholders. Thus, communication support in higher education is a key element for ensuring the quality of education, comprehensive development of students and preparing them for a competitive professional environment. Pedagogical communication is an art that requires constant development. A teacher with perfect communication competence can significantly improve the quality of education and make the learning process as effective as possible.

The study of this topic has significant potential for the development of pedagogical theory and practice. The results of the research on this topic can be useful for teachers who want to master communication skills and use various methods and tools of communication support, methodologists who develop teacher training programs, university managers who seek to improve the educational process, researchers who study the problems of pedagogical communication.

Improving communication support is the key to successful teaching and upbringing, the formation of competitive individuals who meet the challenges of the modern world.

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The problem of professional mobility as one of the characteristics of functioning of the future teacher

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Abstract

The article reveals the essence of professional mobility as one of the characteristics of the successful functioning of the future teacher in professional activity. A description of the concepts «mobility», «professional mobility» is provided. The need to organize such a system of professional training of future teachers is emphasized, which can ensure a purposeful process of forming their readiness for continuing professional self-development, desire and ability to constantly raise the level of professional skills, which would ensure their efficiency and competitiveness in future professional activities. It has been found that the professional mobility of future teachers testifies to their internal readiness for qualitative changes, is manifested in the ability to quickly acquire and generalize new professional competencies; willingness to make decisions and the ability to adapt in the event of a change in the tasks of professional activity, which will ensure their efficiency and competitiveness in future professional activity. It has been determined that a significant amount of theoretical research on the problem of the formation of professional mobility of teachers has been accumulated in the pedagogical literature. The results of the research aimed at identifying the needs and opportunities of modern teachers for continuing professional improvement and changes in professional activity are appropriate. It has been revealed that the future specialist should be open to innovation, be included in teamwork, which will characterize him as a socially competent specialist capable of displaying creativity in professional activity. It has been emphasized that professional mobility is a value-meaningful, dynamic, integrative and integral quality of an individual, which is manifested in his or her specific activity through readiness, reaction and ability to innovate, improve, develop and realize himself in professional activity, ensuring the effectiveness of specific tasks solution within the limits of his or her profession, mastering new techniques and technologies, determining social activity and effective adaptability to transformation processes.

Keywords: mobility, professional mobility, future teachers, professional competence, personal qualities of the future specialist, higher education institution

Проблема професійної мобільності як одна з характеристик функціонування майбутнього педагога

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Анотація

У статті розкрито сутність професійної мобільності як однієї з характеристик успішного функціонування майбутнього педагога у професійній діяльності. Подано характеристику понять «мобільність», «професійна мобільність». Наголошено на необхідності організації такої системи фахової підготовки майбутніх педагогів, яка б забезпечувала цілеспрямований процес формування їхньої готовності до безперервного професійного саморозвитку, бажання та спроможності постійно підвищувати рівень професійної майстерності, що забезпечить їхню ефективність і конкурентоспроможність у майбутній професійній діяльності. З'ясовано, що професійна мобільність майбутніх учителів засвідчує їхню внутрішню готовність до якісних змін, виявляється у здатності до швидкого набуття й узагальнення нових професійних компетентностей; готовності до прийняття рішень й здатності адаптуватися у разі зміни завдань професійної діяльності, що забезпечить їхню ефективність і конкурентоспроможність у майбутній професійній діяльності. Визначено, що у педагогічній літературі накопичена значна кількість теоретичних досліджень з проблеми формування професійної мобільності педагогів. Доцільними є результати проведених досліджень з метою виявлення потреб та можливостей сучасних викладачів до постійного професійного вдосконалення та зміни професійної діяльності. Виявлено, що майбутній фахівець повинен бути відкритим до інновацій, включатися в командну роботу, що буде характеризувати його як соціально компетентного фахівця, здатного до прояву креативності у професійній діяльності. Наголошено, що професійна мобільність є ціннісно-смислова, динамічна, інтегративна та інтегральна якість особистості, яка проявляється в її конкретній діяльності через готовність, реакцію та здатність до інновацій, удосконалення, розвитку та реалізації себе у професійній діяльності, забезпечуючи у межах своєї професії результативність вирішення конкретних завдань, освоєння нових технік та технологій, детермінуючи соціальну активність та ефективну адаптивність до процесів перетворень.

Ключові слова: мобільність, професійна мобільність, майбутні педагоги, професійна компетентність, особистісні якості майбутнього фахівця, заклад вищої освіти

Statement of the problem. In contemporary conditions, important qualities of the personal and professional training of modern teachers include their ability to act quickly, make decisions, swiftly accomplish tasks, and successfully adapt to changing conditions in professional activities. These changing conditions include digitization of education, reflected in the expansion of the range of modern technical teaching tools; transition to educational standards of the new generation, involving significant changes in the scientific-research, methodological and technological components of a teacher's work; the implementation of innovative teaching technologies (distance learning, project-based learning), and so on. Professional mobility is a crucial characteristic of the future specialist. The presence of professional mobility allows individuals to quickly adapt to various changes in the professional sphere, think and act unconventionally, effectively solve professional tasks of different levels, and be ready for professional self-development and self-improvement (Wójcik et al., 2023).

The Analysis of Sources and Recent Research. The issue of professional mobility has been studied

by both foreign and domestic scholars. Pedagogical aspects of forming professional mobility have been explored by N. Vasylenko, O. Horanska, T. Gordeeva; the pedagogical conditions of this process have been studied by Ye. Ivanchenko, N. Kozhemyakina, N. Latusha, L. Sushentseva, O. Yanenko; the impact of external and internal factors has been considered by T. Kuzmich, I. Khomyuk, and others. Social and psychological aspects of professional mobility have been investigated by G. Bulgakova, A. Vashchenko, L. Voronovska, N. Dyachok, R. Prima, and others.

The purpose of the article is to clarify the essence of professional mobility as one of the characteristics for the successful functioning of future educators in their professional activities.

The Results of the Research. In recent years, there has been a rapid growth in scientific interest in the issue of mobility as one of the characteristics of social and professional functioning of individuals in the modern world. From the perspective of pedagogy, mobility is understood as the internal self-improvement of an individual based on stable values and the need for self-development, representing a sign of their internal freedom (Shamanska, & Burlaka, 2021). In today's extremely mobile and dynamic world, an individual with high psychological flexibility can make choices and creatively transform the surrounding space in a given situation. Researcher N. Dyachok (2019) considers mobility as an integrative quality of educators, characterizing their ability to quickly change their status or position in the social, cultural, or professional environment under the influence of changing situations and circumstances of interaction.

The rapid development of science and technology, the emergence of new professions combining diverse knowledge, has led to frequent changes in the types of professional activities throughout a person's life, which is considered a natural phenomenon. Professional mobility has shifted from being exclusively sociological to being perceived more often as a personal characteristic that is not rigidly dependent on a person's initial belonging to a specific social group. From this perspective, most researchers, revealing the psychological aspect of the concept, define professional mobility as a personal integrative ability. In these terms, Y. Klymenko presents the phenomenon under study as a dynamic, systemic, multi-level personal problem characterized by a set of socially significant professional qualities, which in a generalized form

reflect the teacher's ability and readiness to change the nature of their professional activity (Klymenko, 2011). A similar viewpoint is held by K. Aymedov, who argues that the essence of professional mobility is an integrative and integral quality of personality that determines the ability to adopt innovations in education, readiness for self-improvement, self-development, and self-realization in professional activities. The scientist's addition to the generalized definition includes emphasizing the successful adaptation of a professionally mobile individual to changing conditions in professional activities (Aymedov, 2014).

From the perspective of competitiveness, N. Latusha studies pedagogical professional mobility, emphasizing the special role of a teacher's ability to effectively perform specific tasks and demonstrate social activity (Latusha, p. 16). N. Latusha presents professional mobility as a set of professional competencies that are formed, actualized, and activated in the activities of specialists as problems arise, thereby ensuring their professional status and the level of professional demand (Latusha, p. 16).

In several pedagogical studies, professional mobility is considered as a value-meaning system manifested in a teacher's response to professional situations in constantly changing conditions of life and work (Frytsiuk, & Herasymova, 2019; Shamanska, & Burlaka, 2021; Wójcik et al., 2023; Gorbatiuk, et al., 2020; Kovtoniuk et al., 2022). Looking at it from the perspective of the fundamental pedagogical value that contributes to organizing actions to address challenging pedagogical situations, this system is studied by L. Sushentseva. In her research, professional mobility is presented as a value-based cognitive construct that aligns with professional competence and the personal qualities of a teacher (Sushentseva, 2011, p. 130).

The comprehensive direction reflecting various aspects of professional mobility is evident in the research of T. Prokhorenko. She believes that the precision of defining the concept lies in the triad of the following components: the quality of personality, ensuring the internal mechanism of human development through the formation of key, general professional competencies; the activities of an individual determined by changing events, the result of which is reflected in self-realization of people in their profession and life; the process of transforming oneself and the surrounding professional and life environment by the individual (Prokhorenko, 2017).

In the context of the presented trends in defining the concept of "professional mobility," it is logical to turn to the types of professional mobility outlined by N. Bryzhak. The researcher identifies four similar "types" of professional mobility: 1) changing specialization within one profession; 2) moving to a higher position within the same profession, which may involve managerial activities to a greater or lesser extent; 3) switching to a "related" profession, i.e., one that is close in type of activity and does not require the acquisition of fundamentally new knowledge and skills; 4) a radical change of profession, "which involves the ability to start life from scratch" (Bryzhak, 2016, p. 68).

Being a value-meaning construct for the realization of basic and specialized competencies, professional mobility influences not only the nature and dynamics of professional activity but also the outcomes in improving qualities such as activity, adaptability, readiness, and creativity (Hubina, & Kotov, 2018).

In the conditions of reforming the education system, teachers are supposed to mobilize all their internal resources, be ready for innovation, have a desire for self-improvement, expand the boundaries of their competence, and reconstruct their usual activity structure. At the same time, as many experts point out, education is a huge inertial system where the development and implementation of new methodologies take years and decades (Haluziak, & Boiko, 2023).

Illustrating the real situation in higher education institutions are research results aimed at identifying the needs and opportunities of modern educators for continuing professional development and changing professional activities. Approximately 58% of educators do not know what they would like to achieve professionally in the next three years, meaning that more than half of the respondents have not determined their direction and do not have a specific goal for their short-term professional development. 30% of those surveyed have never changed their professional activities, and 48% reluctantly adopt new types of their professional activities. Therefore, it is evident that about half of the educators lack experience in implementing internal professional mobility.

The problem of identifying the psychological determinants of a teacher's professional mobility becomes acute, aiming to enable higher education institutions to meet the modern demands placed on educators. There is an opinion that only a mobile individual can raise a mobile person. We believe that the professional mobility of a teacher is a crucial quality of a competent professional. The pedagogical activity of a teacher will be productive only when they are ready to change roles, completely abandon familiar clichés, and communication stereotypes. Teachers employ various techniques and strategies in their professional activities. An authoritarian or leadership approach does not always guarantee success in pedagogical leadership with students; requests, irony, compromise can also be effective. In other words, teachers succeed when they can be flexible and rational in changing their individual teaching style according to the current circumstances of communication.

However, the multitude of requirements placed on a teacher's instructional and educational work can lead to emotional burnout. This occurs when a teacher becomes stuck in a certain role, unable to change it, resulting in strained relationships and a decrease in the effectiveness of their work.

Conclusions and Prospects for Further Research. In pedagogical literature, a considerable amount of theoretical research has accumulated on the issue of fostering professional mobility among educators. Future professionals should be open to innovations, engage in teamwork, which will characterize them as socially competent professionals capable of demonstrating creativity in their professional activities. Professional mobility is a valuable, meaningful, dynamic, integrative, and integral quality of an individual, manifested in concrete activities through readiness, reaction, and the ability to embrace innovations, improvement, development, and self-realization in professional activities. It ensures effectiveness in solving specific tasks within their profession, mastering new techniques and technologies, determining social activity, and effective adaptability to transformation processes. The question of developing, justifying, and experimentally testing a model for preparing educators for professional mobility in the process of practical training requires further investigation.

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Development of leadership qualities of masters in Germany

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Abstract. The evolution of leadership attributes emerges as a pivotal facet for contemporary professionals, delineating a trajectory towards triumph in career pathways and exerting influence within their milieu. Master's programmes within the German educational milieu meticulously integrate these imperatives, furnishing a refined platform for the cultivation of leadership acumen adeptly attuned to contemporary exigencies. Germany, renowned for its educational eminence, stands as a vanguard in the realm of nurturing and honing the leadership proficiencies of master's students. This discourse elucidates the elemental constituents underpinning master's programs in leadership, encompassing theoretical underpinnings, personal metamorphosis, pragmatic managerial competencies, and the intricacies of intercultural discourse. The emphasis is laid on the transformative potential of such initiatives in crafting well-rounded leaders primed to tackle multifarious challenges across divergent spheres of existence, thereby catalysing societal advancement. German tertiary institutions offer an extensive array of programmes designed to furnish students with a comprehensive understanding of leadership theory, foster personal development, inculcate pragmatic management skills, and facilitate adept navigation of intercultural dynamics. These programmes are instrumental in endowing students with the requisite knowledge and proficiencies to emerge as adept leaders across diverse domains encompassing business, politics, civil society, academia, and research. They serve as conduits for the cultivation of strategic cogitation, judicious decision-making, proficient communication, and adept team leadership. Furthermore, they serve to fortify the fabric of leadership by engendering qualities such as accountability, ethical rectitude, adaptability, and cross-cultural fluency. Moreover, they serve to galvanise independence, foster ingenuity in problem-solving, and impart skills in strategic foresight and planning, essential facets of efficacious leadership.

Keywords: leadership, academic leadership, leadership qualities, master's programmes, development of leadership qualities, leadership development in Germany

Розвиток лідерських якостей магістрів у Німеччині

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Анотація

Лідерські якості стають ключовими уміннями для сучасного фахівця, оскільки вони є визначальними для успішної кар'єри та впливу на оточуюче середовище. Магістерські програми в Німеччині враховують ці вимоги та пропонують якісний розвиток лідерських якостей, адаптуючись до сучасних викликів. Німеччина, як країна з відомою якістю освіти, виявляється лідером у навчанні та розвитку лідерських якостей магістрів. У статті розглядаються ключові складові магістерських програм з лідерства, включаючи теоретичні аспекти лідерства, особистісний розвиток, практичні навички управління, міжкультурне спілкування. Обговорюється значущість таких програм для формування повноцінних лідерів, готових вирішувати складні завдання в різних сферах життя та впливати на соціальний прогрес. Університети Німеччини пропонують широкий спектр програм, які дають можливість студентам опанувати теорією лідерства, розвинути особисті якості, набути практичних навичок управління, а також опанувати міжкультурне спілкування. Магістерські програми дають студентам можливість отримати знання та навички, необхідні для того, щоб стати успішними лідерами в різних сферах, таких як бізнес, політика, громадські організації, освіта та наука. Навчальні програми відкривають перед студентами широкі можливості для розвитку стратегічного мислення, вміння приймати обґрунтовані рішення, ефективного спілкування та управління командою. Крім того, вони сприяють формуванню особистісних якостей лідерів, таких як відповідальність, етичність, адаптивність та здатність працювати в міжкультурному середовищі, а також стимулюють самостійність, творчий підхід до вирішення проблем, навчають робити стратегічні аналізи та планування, що є важливими складовими успішного лідерства.

Ключові слова: лідерство, академічне лідерство, лідерські якості, магістерські програми, розвиток лідерських якостей, розвиток лідерства в Німеччині

Statement of the problem. The development of leadership qualities among masters in Germany is a complex and multifaceted process that contributes to the formation of highly qualified and influential leaders in various fields of activity. Germany is known for its high quality of education and progressive approach to the development of leadership competencies. One of the key aspects of the development of leadership qualities in Germany is the system of higher education, which provides students with not only theoretical knowledge but also practical skills necessary for successful leadership. Many German universities offer specialised leadership programmes that help students develop communication, strategic, and analytical skills. In addition, Germany has a developed system of support for and development of talented young leaders. This includes internships in prestigious companies, the opportunity to participate in projects and initiatives aimed at developing leadership skills, as well as scientific research in cooperation with designated institutes and organizations. The culture of leadership development in Germany also promotes the importance of teamwork and collaboration. Masters learn to work in teams, make decisions together, and solve problems that arise, relying on the opinion of each member of the group. An equally important factor is the innovative spirit inherent in the German higher education system. Students have the opportunity to explore new approaches and methods that help them develop the creativity and initiative necessary for successful leadership in today's world.

Analysis of recent research and publications. Various aspects of the problem of developing mas-

ter's leadership qualities were studied by domestic and foreign scientists: O. Akimova, M. Sapohov, Y. Hapchuk (digital transformation of the educational environment of higher education institutions and training of future masters in Germany) (Akimova et al., 2022; Akimova et al., 2023; Akimova et al., 2022b); O. Tsiuniak (professional training of future teachers in conditions of digital transformation of education) (Tsiuniak, 2021); Y. Karlinska (professional development of a teacher based on the principles of leadership) (Karlinska, 2021); O. Palamarchuk, Yu. Skyba (the role of the teacher in the development of the student's leadership qualities) (Palamarchuk & Skyba, 2023); N. Semenii (leadership qualities of future teachers) (Semenii, 2022); J. Jameson, M. Cai, R. Essex (forming digital leadership in higher education) (Jameson et al., 2022); E. Ossiannilsson (leadership in digital transformation) (Ossiannilsson, n.d.); T. Arnold (development of leadership qualities in conditions through the support of joint learning in corporate training in Germany) (Arnold, 2016).

The purpose of the article is to consider the key aspects and factors influencing the formation of highly qualified and influential leaders among master's students in Germany.

Summary of the main material. In the contemporary dynamic landscape, the pivotal determinant of success resides in the existence of proficient and influential leaders adept at navigating through evolving challenges and steering society towards significant objectives. Germany emerges as a prominent hub where the cultivation of such leaders is rigorously pursued, distinguished for its distinguished educational standards and pioneering methodologies for fostering leadership capabilities.

Contemporary global trends impose prerequisites on the leadership attributes of youth, who are poised to navigate forthcoming social, economic, and cultural metamorphoses. The pivotal role of educators in nurturing the leadership traits of students is of paramount significance. It is imperative that prospective educators are equipped to unearth the latent leadership capacities within students, as this underpins the cultivation of the succeeding generation poised to shape the trajectory of their society (Hapchuk, 2023).

As is widely acknowledged, the cultivation of leadership proficiencies among master's students is a multifaceted process that occurs both within the academic milieu of universities and beyond their confines. Among the myriad factors implicated in the maturation of students' leadership capabilities, researchers have underscored the significance of students' disciplinary specialisation and gender. A seminal investigation conducted by Astin and Astin (2000) elucidated that the efficacy and centrality of leadership development among students hinge primarily upon their engagement with peers, faculty members, and diverse extracurricular activities within the university milieu (Astin & Astin, 2000).

Furthermore, it is deemed imperative to delineate the conceptual contours of "leadership" in a broader sense and its specific manifestation as "academic leadership". Scholarly discourse reveals diverse conceptualizations of the term "leadership". For instance, Bijur (2000) posits that leadership entails the augmentation of human potential, emphasising the establishment of conducive environments for nurturing leadership skills, underpinned by lucid and efficacious communication. Concurrently, effective governance entails fostering unity and coherence throughout the decision-making process and subsequent execution (Bijur, 2000).

Academic leadership emerges as a distinctive facet of leadership, constituting an integral component within the broader landscape of leadership, particularly within academic settings or institutions. Harman (2002) delineates key attributes of academic leadership, including the cultivation of highly skilled graduates, pioneering research endeavours, and the integration of innovative methodologies. Harman (2002) further elucidates three pivotal determinants for the ascendancy of leading universities: the amalgamation of talent, the allocation of adequate resources to facilitate conducive learning environments and progressive research initiatives, and the cultivation of a supportive governance structure characterised by autonomy, academic freedom, strategic foresight, and a culture of excellence (Harman, 2002).

Scholarly literature posits that effective academic leadership in higher education ensues from the intricate interplay of various contributory factors, including but not limited to:

Leadership in pedagogy, entailing the introduction of innovative teaching methodologies within departments or the provision of conducive environments for high-quality teaching;

Leadership in research, characterised by the inspiration of budding scholars and their motivation through personal exemplification;

Strategic vision, encompassing the delineation of developmental trajectories for departments and the facilitation of collaborative leadership endeavours;

Effective management, denoting adept delegation and the meticulous organisation of administrative units;

Interpersonal communication proficiencies manifest through effective discourse and empathetic engagement with others (Hapchuk & Sapohov, 2019; Seminikhyna, 2020; Akimova, Sapogov, & Romashchuk, 2023).

Traditionally, universities foster and nurture leadership competencies through formal instruction as well as experiential learning modalities, encompassing learning from peers, on-the-job experiences, and crisis management learning.

Scholars in the realm of pedagogy delineate leadership as a composite of attributes encompassing accountability, initiative, adeptness in motivating others, and strategic acumen. The pedagogue must wield a repertoire of methodologies and approaches conducive to eliciting these traits in students while being oriented towards perpetual refinement, self-enrichment, and the augmentation of professional adeptness. Such a dynamic stance facilitates adaptation to societal fluxes, enabling the adept adaptation of teaching methodologies to suit evolving student needs (George, 2022).

Within teacher education, the exploration of contemporary instructional methodologies and diagnostic modalities assumes pivotal importance. Theoretical scrutiny of leadership within pedagogy delineates it as a constellation of personal attributes enabling efficacious interaction with students, colleagues, and administration (Akimova et al., 2022b).

Professional preparation serves as a crucible for honing leadership potential, necessitating not merely the acquisition of theoretical erudition but also the cultivation of pragmatic managerial, communicative, and collaborative competencies.

Empirical techniques for nurturing leadership attributes engender self-awareness, instill a penchant for introspective analysis, and catalyse self-improvement. Additionally, educators must be primed to engage with diverse student cohorts, attuned to their idiosyncratic exigencies and characteristics. Immersion in authentic educational milieus furnishes the educator with experiential insights, enabling the application of acquired proficiencies in practice, thereby fostering a nuanced comprehension of students' leadership developmental requisites (Hapchuk & Sapohov, 2019).

Germany stands as a global exemplar in the realm of education, renowned not solely for its undergraduate curricula but also for its master's programs. German universities offer an extensive array of master's programmes, fostering the cultivation of leadership acumen among students and priming them for flourishing professional trajectories. Salient attributes rendering German master's programmes conducive to leadership development encompass an emphasis on experiential learning, an internationalised academic milieu, robust support mechanisms including mentoring initiatives, dedicated leadership programmes, and favourable accessibility (Akimova et al., 2022).

Central to the German educational ethos is a pronounced emphasis on the pragmatic application of knowledge. This ethos engenders ample opportunities for students to engage in hands-on projects, internships, and practical undertakings, thereby honing their leadership competencies within authentic contexts. Notably, many master's programmes in Germany are delivered in English, facilitating the enrollment of a diverse cohort of students from across the globe. This cosmopolitan environment fosters cross-cultural collaboration, enhancing students' adeptness in communication, collaboration, and adaptability (Kameyama, 2023).

German universities are distinguished by their provision of comprehensive support structures and mentorship initiatives. These encompass personalised counselling sessions with faculty members, career guidance services, and mentorship programmes tailored to nurture leadership aptitudes. Moreover, a plethora of specialised programmes and initiatives are instituted across German campuses, dedicated to fostering leadership qualities among students through tailored courses, seminars, training sessions, and exchange opportunities (Palamarchuk & Skyba, 2023).

Notably, Germany offers competitive tuition fees for international students, complemented by an array of scholarships and grants aimed at facilitating educational pursuits. This commitment to accessibility renders German master's programmes an attractive proposition for aspiring leaders seeking to harness their potential within a supportive and enriching academic environment.

It is necessary to outline a number of exemplary master's degrees in leadership development provided by reputable German universities: Technical University of Munich: MSc in Management and Technology (with the possibility of specialisation in

"Leadership and Innovation") (The Entrepreneurial University - TUM, 2024); Free University of Berlin: MSc in Political Management and Leadership and MSc in Global Leadership and Governance (Freie Universität Berlin, n.d.); University of Cologne: MSc in Management and Leadership and MSc in Organisational Psychology and Leadership (UNIVERSITÄT ZU KÖLN, 2001); University of Mannheim: MSc in Management and Leadership and MSc in Global Leadership (Universität Mannheim | Universität Mannheim, n.d.); University of St. Gallen: MSc in Management Consulting and Leadership and MSc in Leadership and Innovation (Sg, n.d.).

Drawing from the German experience, a compendium of methodologies and strategies can be delineated that contribute to the elucidation of leadership attributes among master's students:

- Project-based pedagogy: Facilitators foster student engagement in projects, enabling them to assume leadership roles, delegate responsibilities, troubleshoot, and engage in collaborative endeavours.
- Case-based analysis: The examination of authentic cases from various domains affords students the opportunity to glean insights from both successful and less effective leadership paradigms, thereby honing their decision-making acumen.
- Simulations and role-playing exercises: These experiential modalities provide a safe space for students to experiment with diverse leadership styles, garner feedback, and glean lessons from their experiential errors.
- Socratic dialogues and debates: Active involvement in scholarly discourses augments students' prowess in argumentation, critical analysis, and persuasion.
- Leadership workshops and seminars: These educational avenues furnish students with theoretical underpinnings and practical competencies in leadership, motivation, team dynamics, and communication strategies.
- Mentoring initiatives: Seasoned leaders from various sectors offer mentorship, imparting their wisdom and experiences to nurture the leadership acumen of students.
- Individual coaching sessions: tailored coaching sessions enable students to assess their leadership proficiencies, delineate objectives, and devise strategies for attainment.
- Ongoing feedback mechanisms: Regular evaluations from instructors and peers afford students insights into their leadership competencies, facilitating iterative refinement.
- Reflective practice: encouraging self-reflection aids students in scrutinising their leadership approaches, drawing insights from personal experiences to inform future actions.

Experiential learning opportunities: Many German master's programmes integrate internships, providing students with real-world contexts to apply their theoretical knowledge and hone their leadership skills (The Entrepreneurial University - TUM, 2024; Freie Universität Berlin, n.d.; UNIVERSITÄT ZU KÖLN, 2001; Universität Mannheim | Universität Mannheim, n.d.; Sg, n.d.).

Master's programmes aimed at fostering leadership qualities at German universities encompass diverse facets of leadership and management. The cultivation of pivotal leadership competencies such as strategic acumen, decision-making prowess, motivation, teamwork, and effective communication, alongside preparation for successful careers spanning various sectors including business, politics, non-profit organisations, and education, underscores the primary objectives and imperatives of these educational initiatives. Additionally, the nurturing of personal attributes such as self-awareness, accountability, ethical discernment, and adaptability assumes paramount significance within these programmes (Jameson et al., 2022).

Integral to leadership training curricula are essential modules designed to engender multifaceted leadership proficiencies:

Theoretical Foundations of Leadership: Delving into seminal theories and frameworks of leadership, encompassing transformational, situational, and transactional paradigms, among others. Analysing prominent examples of leaders and their strategic approaches is also integral to this component.

Development of Personal Leadership Attributes: Engaging in coursework aimed at enhancing communication aptitudes, emotional intelligence, teamwork skills, decision-making capabilities, and conflict resolution prowess (Hapchuk, 2023).

Practical Management Competencies: Familiarisation with project management methodologies, task delegation strategies, strategic decision-making processes, and the cultivation of effective managerial skills.

Organisational Context of Leadership: Exploring the impact of organisational culture, structure, and strategy on the formulation of leadership prac-

tices and the evolution of leadership within organisational settings.

Leadership in Innovation and Change: Investigating the dynamics of innovation and change management within organisational contexts, devising strategies for innovation implementation, and navigating change processes (Karlinska, 2021).

Intercultural Leadership: Studying the nuances of leadership within intercultural milieus, fostering cultural competence, and honing effective communication skills across diverse cultural contexts.

Leadership in Social and Public Organisations: Analysing the role of leadership within non-profit entities, public organisations, and political movements and honing skills in influence and resource mobilisation to advance societal objectives.

Ethics and Leadership: Deliberating upon the ethical dimensions of leadership, resolving ethical dilemmas, fostering moral values, and elucidating the leader's responsibility to the community (Akimova, Sapogov, & Romashchuk, 2023).

The developmental process of educational modules for leadership programmes encompasses a myriad of pedagogical approaches, including lectures, seminars, case studies, project-based learning, workshops, simulations, role-playing exercises, scholarly debates, mentoring initiatives, specialised leadership seminars, coaching sessions, professional internships, and other interactive learning modalities tailored to the cultivation of leadership skills and competencies (Arnold, 2016).

Master's programmes in leadership development in Germany equip students with the requisite knowledge and competencies essential for assuming leadership roles across diverse domains, including business, politics, civil society, academia, and research. These programmes afford students extensive avenues for fostering strategic acumen, adept decision-making capabilities, proficient communication skills, and adept team management aptitudes. Moreover, they facilitate the cultivation of inherent personal traits characteristic of effective leadership, such as accountability, ethical integrity, adaptability, and intercultural competence. Furthermore, these programmes foster autonomy, foster innovative problem-solving approaches, and impart skills in strategic analysis and planning, which constitute pivotal facets of effective leadership (Ossiannilsson, n.d.).

Conclusions. Upon scrutiny of the progression of leadership aptitudes among master's students in Germany, it is evident that German universities and their master's programmes assume a pivotal role in nurturing prospective leaders across diverse professional arenas. These programmes afford students a comprehensive educational experience, encompassing both theoretical knowledge and practical competencies requisite for navigating contemporary career trajectories successfully. A fundamental facet of these initiatives lies in the cultivation of personal attributes, ethical precepts, and intercultural acumen, thereby engendering the emergence of well-rounded leaders equipped to tackle multifaceted challenges across various spheres of endeavor. This pedagogical ethos fosters an environment conducive to the cultivation of a new cadre of leaders poised to steer societal progress and address epochal challenges.

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HISTORY OF PEDAGOGY

ІСТОРІЯ ПЕДАГОГІКИ

The peculiarities of organizing pedagogical courses in Podillia in the first quarter of the twentieth century

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Abstract. Based on archival and literary sources, the article examines the history of the creation of Vinnytsia short-term pedagogical courses for school, preschool and out-of-school education workers, Higher permanent 3-year pedagogical courses (Vinnytsia, Tulchyn, Bershad, Olgopil, Haysyn, Tyvriv, Khmilnyk, Nemyriv, Zholoby, etc.), which were established to provide teachers for all types of schools in Podillia in the first quarter of the twentieth century. The changes and innovations in the educational process of pedagogical courses have been considered, the peculiarities of the professional training of future teachers in the history of the formation of the national pedagogical system have been highlighted. It has been proven that pedagogical courses were almost the only pedagogical training that provided the retraining of teachers in the conditions of the transition period of pedagogical education, and as a result - the actual lack of professional training of future teachers, which negatively affected the entire educational system of Podillia, where graduates of pedagogical courses were working. It has been proven that pedagogical education has undergone numerous reforms and will continue to require in-depth study in the first quarter of the twentieth century in Podillia. Pedagogical courses were intended to improve the professional training of future teachers, to upgrade their future activities - to systematize purely pedagogical training, to acquaint them with the basics of didactics and methodology, with the best methods and techniques of teaching. It has been proven that, during the researched period of practice, the courses were assigned the same tasks that were to be performed by the pedagogical educational institutions, however, they could not replace the training of teachers in special pedagogical educational institutions.

Keywords: pedagogical courses, Podillia, professional preparation of the teacher

Особливості організації педагогічних курсів на Поділлі в першій чверті 20 століття

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Анотація

В статті на основі архівних та літературних джерел розглянуто історію створення Вінницьких короткострокових педагогічних курсів для працівників шкіл та працівників дошкільної та позашкільної освіти, Вищих постійних 3-річних педагогічних курсів (Вінницьких, Тульчинських, Бершадських, Ольгопільських, Гайсинських, Тиврівських, Хмільницьких, Немирівських, Жолобянських та ін.), які буди створені для забезпечення вчителями всіх типів шкіл Поділля першої чверті 20 століття. Розглянуто зміни та новації в освітньому процесі педагогічних курсів, виділено особливості професійної підготовки майбутніх учителів в історії становлення вітчизняної педагогічної системи. Доведено, що педагогічні курси були чи не єдиною педагогічною підготовкою, яка забезпечувала перепідготовку вчителів в умовах перехідного періоду педагогічної освіти, і як наслідок – фактична відсутність професійної підготовки майбутніх педагогів, що негативно вплинуло на всю освітню систему Поділля, в якій працювали випускники педагогічних курсів. Доведено, що на Поділлі в першій чверті XX ст. педагогічна освіта зазнала численних реформ і надалі потребує поглибленого вивчення. Педагогічні курси мали сприяти покращенню професійної підготовки майбутніх вчителів, вдосконаленню майбутньої діяльності учителя – систематизації суто педагогічної підготовки, ознайомлювати їх з основами дидактики й методиками викладання, із кращими методами і прийомами викладання. Доведено, що на практиці в досліджуваний період на курси були покладено ті ж завдання, що мали виконувати навчальні заклади педагогічного спрямування, проте, вони не змогли замінити підготовку вчителів у спеціально-педагогічних освітніх закладах.

Ключові слова: педагогічні курси, Поділля, професійна підготовка вчителя

Statement of the problem. The implementation of large-scale educational reforms is impossible without a fundamental modernization of the entire system of pedagogical workers training, which can be implemented only when the teacher acquires a decent social status. Orientation of society towards European standards and values and the best international traditions requires appropriate systemic changes in the education area. Solving the complex tasks of integrating national education into the global educational space is impossible without a thorough study of one's own historical past, thereby, the experience of pedagogical courses prepared by pedagogical personnel, in particular in Podillia of the first quarter of the twentieth century, is relevant. The study and analysis of literary sources and archival materials of the first quarter of the twentieth century allows us to assert that the new socio-economic conditions required changes in the entire education system, and in this regard, the problem of fundamental changes in the system of teacher education arose.

Analysis of recent research and publications. A holistic view on the training of future teachers in Podillia becomes possible thanks to the formation of both modern editions and editions of the Soviet period and archival documents. Many works of scientists of the Soviet period are devoted to the study of this problem: M. Zotina, Ya. Mamontova, Ya. Ryappo, S. Syropolka, S. Chavdarova, Ya. Chepiha and others. Among modern scientists, we should highlight the following ones: L. Anokhina, L. Berezovska, M. Demyanenko, O. Dubaseniuk, M. Yevtukh, T. Zuziak, O. Komarnytskyi, V. Kurilo, O. Lavrynenko, V. Luhovy, V. Maiboroda, O. Sukhom-

lynska, O. Trinus, and others, who paid attention to the training of teachers of the mentioned period. At the same time, the problem of training a future teacher in Podilia in the first quarter of the twentieth century is not fully studied in philosophical, historical and pedagogical scientific works. The exception is Tetyana Zuziak's monographic study "The Establishment and Development of Pedagogical Education in Podillia (late eighteenth - beginning of the twentieth century)", published in 2017. The source base of the study comprised with the materials of the State Archive of Vinnytsia region.

The purpose of the article is to consider the peculiarities of the organisation of pedagogical courses and determine their role in the system of teacher training in Podillia in the first quarter of the twentieth century.

Summary of the main material. In order to improve the quality of teacher training in Podillia, permanent one-year, two-year, and temporary general pedagogical courses and summer vacation courses were organised in the early twentieth century to deepen scientific knowledge of pedagogy and psychology. The main aim of the introduction of teacher training courses was to prepare young people with lower education for the primary school teacher examination and to acquaint them theoretically and practically with the organisation of the primary school process, as well as to increase the number of people eligible to hold teaching positions. Besides, in June 1907, the Ministry of Education issued new regulations on permanent pedagogical courses, according to which pedagogical courses could be two-year and three-year. In 1910, a new law was issued to reorganise one-year pedagogical courses into two-year courses. However, the aim of the courses remained the same, and the programme of theoretical and practical knowledge was expanded. Singing, music, gardening, horticulture, and beekeeping were allowed to be taught in accordance with the specifics of local needs. In accordance with the above-mentioned "Rules" in 1912, 4 groups of pedagogical courses were established in Podillia: in Kamianets at the men's two-class school, as well as at the Vinnytsia women's higher primary school, Baltsky and Proskurivskyi men's higher primary schools. In 1912, 1914, 1916, summer short-term pedagogical courses were organized at the Vinnytsia Teachers' Seminary. The peculiarity of the classes was that some (theoretical) classes were held with all the students, while other special classes were held with separate groups (theoretical and practical). The first

classes were organised for students who needed to expand their outlook, while others were for those who wanted to deepen their knowledge of the profession and master more modern teaching methods (Zuziak, 2017, p. 273).

With the occupation of Ukraine by the Bilshovyk troops, in March 1919, a new school reform was initiated by the decision of the 8th Congress of the RCP(b). In May 1919, by the order of the Podillia Provincial Committee, educational institutions began to gradually close, including the Vinnytsia Teachers' Seminary. By the end of 1919, almost all educational institutions in Vinnytsia ceased to exist (Popovych, 1998, p. 588). The above-mentioned facts testify to the lack of pedagogical personnel in Podillia during the mentioned period, since not all pre-revolutionary pedagogical workers shared the ideas and principles of Soviet education and upbringing and were ready to put them into practice. That is why the new government was acutely faced by the problem of training future teachers.

The closure of pedagogical educational institutions, the shortage of a great number of teachers, and the Bilshovyks' desire to train new personnel on communist ideas forced local authorities to organise special courses for school and pre-school and out-of-school education staff. Thus, according to the decision of the Vinnytsia Provincial Department of Public Education dated June 14, 1919, 5-week pedagogical courses were organized to train employees of the unified labor school (DAViO, F. R.-254, sheet 2). Among the main educational problems discussed at the meetings of the authorities were questions regarding types and kinds of courses; the number of students who were to be covered by them; involvement of lecturers in conducting classes; budget of events, etc. The members of the commission decided the following: to organize courses for employees of schools and preschool education institutions. It was also decided to take the necessary measures to organize special courses for those working in the field of extra-curricular education in the nearest future, together with the Hubviyskyi education campaign, through the inclusion of courses in special disciplines to the program, the organization of a children's playground, etc. In terms of numbers, the training courses for school staff were to cover 320 to 340 students, and for preschools - 60 to 80. Considering the lack of teachers, it was decided to invite the best teachers from Kyiv to teach the courses, providing them with a decent salary, apartments, and equipment. In addition, measures were taken to

provide cadets with daily allowances, an apartment and a desk (DAViO, F. R.-254, sheet 2).

The content of educational programs has also undergone some significant changes. In particular, the unified labor school (pedagogical and theoretical innovations), social education, physical education, child labor hygiene, physical and spiritual life, basic issues of extracurricular education, etc., took a significant place among the subjects (DAViO, F. R.-254, sheet 4). Courses for school workers were served by 3 counties: Vinnytsia, Bratslav, and Lityn with the cities of Zhmerinka, Bratslav, Tulchyn, Nemyriv, Lityn, and Khmilnyk. Preschool courses covered, in addition to the mentioned ones, the Haysyn district with the city of Haysyn, as well as other counties. In addition, during the specified period, the same short-term courses were started in Vinnytsia, Kamianets-Podilskyi, Olhopil, Mohyliv-Podilskyi and Tulchyn (DAViO, F. R.-254, sheet 23).

The first Soviet educational institutions appeared already in 1920 after the reform of higher education in Ukraine. So, in the same year, the Vinnytsia Teachers' Seminary was transformed into a pedagogical school, which was later transformed into "Higher Permanent Three-Year Pedagogical Courses" (*Zapysky Vinnyts'koho ukrayins'koho pedahohichnoho tekhnikumu,* 192, p. 127). However, the conditions at the courses were extremely difficult. The message of the Podillia gubernatorial committee of professional education dated August 29, 1921 stated: "It is difficult to imagine worse conditions for school work than those in 1921-1922 for the pedagogical courses. One more year like this and nothing will be left of the school, only the name. Teachers are almost unpaid, they only have to work for firewood and vegetable gardens. It is difficult for people to remember their own responsibilities in such a situation. In winter, they had to work in such cold weather that the listeners had to wonder how they withstood it" (DAViO, F. R.-254, sheet 28).

The analysis of archival sources gives reason to claim that in 1922 the Vinnytsia "Higher Permanent 3-Year Pedagogical Courses" were renamed as "3-Year Social Education Pedagogical Courses". Since then, the gradual process of reforming the institution began, with its peak in 1923-1925 (DAViO, F. R.-256, sheet 219). Regarding the organization of training, there were implemented the following organizational forms during the courses: teacher's diary; unit distribution of student work; unit diary. Besides, the laboratory system was introduced: several more laboratory rooms were added to the existing ones - organic nature, inorganic nature, pedagogical and agronomic - and the number of them was increased to 10-11. Classrooms and the bell system were cancelled (DAViO, F. R.-256, sheet 221). There were also short-term preparatory courses to prepare listeners for recruitment. The courses covered the initial course of the Ukrainian language, Ukrainian literature, linguistics, mathematics, physics, biology, pedology, pedagogy, didactics, administrative management, school hygiene, organization of the work of educational institutions, economic geography, political economy, Soviet law, historical material, zoology, botany, fine arts, methods of comprehensive training, methods of professional education (DAViO, F. R.-256, sheet 41).

"Higher permanent 3-year pedagogical courses" began their work on the entire territory of Podillia. In particular, during a short period of time, course classes began in Zholobiansk (Yampil district), Bershad, Tulchyn, Olhopil, Haysyn, Tyvriv, Khmilnyk, Mohyliv-Podilsk, Nemyriv, Kamianets-Podilskyi (DAViO, F. R.-254, sheet 2). After completing the 3-year pedagogical courses, students were intitled to teach in folk labor schools, as well as to enter the institutes.

As for the peculiarities of the organization of the educational process, the pedagogical courses had three cycles - pedagogical, social science and production. During the pedagogical course, students studied: the work of children's institutions; general psychology; anatomy and psychology; general principles of pedagogy; labor education, its history and forms of organization in terms of modern pedagogical tendencies; pedagogical systems in their historical change; didactics of labor school; hygiene of childhood and the sanitary condition of children's institutions (DAViO, F. R.-842, sheet 11). At the Tulchyn courses, the pedagogical cycle included the study of pedagogy, social education, pedology, labor school didactics, defectology, singing, music, anatomy and physiology, preschool education, political literacy, the alphabet of communism. An important role in the training of future teachers was assigned to the subjects of the artistic and aesthetic cycle, in particular fine arts. For example, the course included the following topics: elementary drawing, life drawing, perspective, technique, composition, sculpture technique, its types - bas-relief, high relief, theory and history of art (ancient, medieval, renaissance, contemporary) (DAViO, F. R.-847, sheet 18).

Special attention was paid to pedagogical and social work in rural areas in the spring and summer

trimester. In particular, students of Tulchyn higher 3-year pedagogical courses were offered the following topics: "Rural life (in the household life - farming, handicraft production, trade)", "Family, christenings, public and political holidays", "Cultural and educational institutions, religion, beliefs, superstitions", "The nature of the village and the dependence of agriculture on it", "Natural resources, communication routes. The influence of the specified conditions on the nature of the peasantry, its social and economic activity", "The village council and its departments (economic, administrative, cultural and educational)" and others (DAViO, F. R.-847, sheet 20).

The statute for higher 3-year pedagogical courses also provided for the organisation of own experimental children's institutions for active and passive pedagogical practice. In particular, in order to achieve the appropriate level of practical training, in 1922, at the Vinnytsia 3-year pedagogical courses, pedagogical practice was organised in an experimental model school, but after the first pedagogical conference in 1922, it was eliminated. The property of the school, students and employees was transferred to the 1st labor school named after M. Kotsyubynskyi, and the practice of students, both active in the thrd year and passive in the second year, was organized in mass institutions of social education, mainly in labor schools. However, over the next few years, the practice was limited to passive study of the organization of work in children's institutions (Zapysky Vinnyts'koho ukrayins'koho pedahohichnoho tekhnikumu, 192, p. 113).

The poor preparation of future students also had a negative impact on the quality of education. Thus, according to archival data, in 1925, only 8 people with relatively appropriate training (vocational school, second-class teacher's school) entered the Tulchyn pedagogical courses for 80 vacant places. At the same time, the educational committee noted that, in the absence of a preparatory course, it will be impossible to complete the first course of the 1926–1927 academic years (DAViO, F. R.-847, sheet 292).

It is also worth emphasising that the intensity of academic work among students has decreased due to the difficult conditions of the students' stay in the courses. These included: fatigue caused by difficult financial situation, malnutrition, and overload of community service; short duration of the workshop in the countryside due to difficult living conditions and hunger; lack of relevant literature and inability to purchase it. The documents of that time stated: "Higher pedagogical 3-year teacher training courses are a pedagogical educational institution due to the ideological necessity, since education in general is needed in such cases" (DAViO, F. R.-254, sheet 31). The above facts from archival sources show that pedagogical courses were almost the only pedagogical training that provided retraining of teachers in the conditions of the transitional period of teacher education, and as a result, the actual lack of professional training of future teachers. This had a negative impact on the entire education system in Podillia, where graduates of pedagogical courses worked.

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Scientific and pedagogical preconditions for the development of the problem of formation of research competence of masters in educational sciences

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Abstract. University education as a historical and cultural phenomenon has its own history, traditions, transformative and renewing potential. It realizes its mission and performs functions that turn it into a special value, in particular, it exerts a cultural and ideological influence on public consciousness; acts as a mechanism for the selection and socialization of the ruling elites; provides new knowledge and carries out scientific research; prepares qualified specialists; transfers cultural capital.

The article reveals the content and significance of research activities based on higher education institutions in a retrospective aspect, the content of the concept and the main requirements for the educational and qualification level of a master's degree as a scientific degree.

The preconditions for the emergence and the development of the idea of the formation of scientific and research competence of students at domestic universities have been considered.

The problem of applying the research approach as a basis for training specialists in higher education has been studied. It has been established that the research approach in education is a set of pedagogical goals aimed at developing students' readiness for research work through its implementation in the educational process.

Research work is defined as a special type of intellectual and creative activity of students, which arises as a result of the functioning of individual mechanisms of search activity and involves independent research aimed at theoretical and experimental study of phenomena and processes, substantiation of facts, identification of regularities using methods of scientific knowledge.

Keywords: research competence, scientific research work, science, scientific research, master's degree, student, historical development

Науково-педагогічні передумови розвитку проблеми формування дослідницької компетентності магістрів з освітніх наук

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Анотація

Університетська освіта як історико-культурний феномен має свою історію, традиції, трансформативно-оновлюючий потенціал, реалізує місію та виконує функції, які перетворюють її на особливу цінність, зокрема, здійснює культурно-ідеологічний вплив на суспільну свідомість; виступає механізмом відбору та соціалізації панівних еліт; надає нові знання та здійснює наукові дослідження; готує кваліфікованих фахівців; передає культурний капітал.

У статті розкривається зміст та значення науково-дослідної діяльності на базі закладів вищої освіти у ретроспективному аспекті, зміст поняття та основні вимоги до освітньо-кваліфікаційного рівня магістра як наукового ступеню.

Розглянуто передумови виникнення й розвитку ідеї формування науково-дослідницької компетентності здобувачів вищої освіти вітчизняних університетів.

Досліджено проблему застосування дослідницького підходу як основи підготовки фахівців у вищій школі. Встановлено, що дослідницький підхід у навчанні – це комплекс педагогічних цілей, які спрямовані на розвиток готовності студентів до науково-дослідницької роботи через її реалізацію у навчальному процесі. Науково-дослідницьку роботу визначено як особливий вид інтелектуально-творчої діяльності студентів, який виникає в результаті функціонування індивідуальних механізмів пошукової активності і передбачає самостійне дослідження, спрямоване на теоретичне й експериментальне вивчення явищ і процесів, обґрунтування фактів, виявлення закономірностей за допомогою методів наукового пізнання.

Ключові слова: дослідницька компетентність, науково-дослідна робота, наука, наукове дослідження, магістр, здобувач вищої освіти, історичний розвиток

Statement of the problem. The active involvement of students in research has always been the prerogative of university education. This problem becomes particularly relevant today, when university pedagogical education is undergoing reform, and state standards are being established. A significant role in solving these tasks is played by the accumulated century-old experience in the development of research work based on higher education institutions. After all, the formation of the system of education in the process of reforming higher education in Ukraine is the result of centuries-old achievements of the national education and science system, since the practice of education in Ukraine has been known since the Middle Ages. The institution of master's studies has been an instrument for preparing scientific personnel since its establishment.

Analysis of recent research and publications. An analysis of the source base indicates a deep interest of domestic and foreign scientists in the problem of forming research competence of students throughout the entire period of the development of Ukrainian science and the improvement of its forms. In particular, A. Balyuk, I. Soloshych, O. Akimova, O. Povidaychik, T. Derevyanko, N. Bugayets in their research paid attention to the peculiarities of preparing masters for research activities, and the historical aspect of the development of the problem of forming research competence has been highlighted in the research by N. Teretyeva, H. Klovak, T. Patuk.

The purpose of the article is to characterize and substantiate the scientific and pedagogical preconditions for the development of the problem of forming research competence of masters.

Science is a complex social system and one of the important forms of human activity, the function of which is to obtain, develop, and theoretically systematize objective knowledge about the surrounding reality. Today, the concept of "science" is considered from several basic positions: theoretical, as a generalization of acquired knowledge; professional, as a special type of human social activity; practical, as the application of the conclusions of scientific activity for the benefit of society (Bosenko, et al., 2014).

One of the forms of the implementation and the development of science is scientific research – purposeful study of phenomena, processes, analysis of the influence of various factors on them, as well as study of the interaction between phenomena in order to obtain convincingly proven and useful for science and practice decisions (Akimova, et al., 2023).

The scientific research work of master's students contributes to the preparation of highly qualified specialists through the development of research competencies aimed at acquiring skills of search and research activities, abilities for creatively solving educational tasks in the conditions of higher education, as well as forming skills of applying research techniques and methods to solve practical issues of education and upbringing (Frytsyuk, et al., 2024).

Studying the phenomenology of the concept of "scientific research work of masters," Y. I. Raikhman notes that a person who has obtained a master's level of education should not only possess in-depth knowledge in the chosen specialty but also have skills of scientific research activities that are formed in the process of organizing and conducting research and educational seminars, experimental testing of innovative technologies of psychological and pedagogical work, etc. The author notes that it is precisely the research-oriented approach that is a strong point of master's training, as it shapes a specialist, especially in pedagogical education, who clearly sees the directions of the development of pedagogical science and is capable of combining subject teaching with research activity.

The author interprets the scientific research work of masters as activity expressed primarily in independent creative research, which presupposes explaining phenomena and processes, establishing their connections and relationships, theoretical and experimental justification of facts, identification of patterns using scientific methods of cognition. Thus, the results of subjective searches acquire objective significance and novelty (Raykhman, 2015).

Ukrainian scientists (V. Andriiev, O. Antonova, O. Akimova, N. Hlovin, M. Knyazyan, Ye. Kulyk, V. Lytovchenko, E. Meiman, S. Omelchuk, V. Opanasenko, L. Repeta, O. Rohozina, etc.) believe that the research approach in education is a way to familiarize higher education students with the methods of scientific cognition, an important means of shaping their scientific worldview, developing thinking and cognitive independence, and forming readiness for research and development activities in professional activities.

As T. Derevyanko points out, the professional activity of a teacher involves constant improvement and development of personal and professional qualities, pedagogical skills and creativity, which are based on the development of the ability to implement a number of research functions (creative, imperative, adaptive, formative) (Derevyanko, 2017).

The emergence of the first forms of scientific research activities began to develop in the Ancient World, according to N. Bugaets (2016).

J. Comenius underlined the importance of research activity in the process of education. He suggested a system of education where the main figure is a teacher who can organize the educational process taking into account the results of research of the abilities and capabilities of listeners, where the scientist himself was considered as a teacher-researcher in the modern interpretation of this concept; J. Pestalozzi argued that the source of knowledge, both for the teacher and students, lies in the independent research of phenomena of nature and the surrounding environment, in the process of which, in his opinion, the development of abilities, the ability to think logically, compare, generalize facts and, based on them, form their own concepts occurs; J. J. Rousseau, supporting the ideas of his predecessors, suggested to build education taking into account the research stimulus. He believed that special requirements should be presented to a teacher who organizes independent research of students, A. Disterweg noted that "without a desire for scientific work, a teacher falls into the power of three demons: mechanization, routine, mediocrity. He becomes stiff, limited, degraded" (Povidaychyk, 2017).

The dissertation work of O. Mykytyuk (2004) is interesting or us from the point of view of the subject of our study. It reveals the peculiarities of the development of science as a precondition for the for-

mation of research competence of students in higher education institutions of Ukraine in the XVI-XVII centuries, characterizes the activities of universities as centers of research work in the nineteenth century. I stage (1804–1834) The emergence of the system of development of research activities, definition of its role, functions, forms; establishment of scientific relations with foreign universities; emergence of Kharkiv (1805), Kyiv (1834) universities. The emergence of the first associations, scientific societies; II stage (1835-1862) Revitalization of research activities of teachers and students, increasing the role of auxiliary institutions (laboratories, observatories, libraries). The development of scientific societies; III stage (1863-1883) Creation of a system of research activity, stimulation of research activity, control of results, increase of material and technical base; opening of Novorossiysk University (1865) Emergence of educational societies; IV stage (1884-1900) Raising the level of science in higher education institutions, strengthening the content, fundamentality of research, improving the forms and methods of student research activity (Mykytyuk, 2004).

The question of the possibility and necessity of including the research component in the professional activity of a teacher was finally formed in the second half of the XIX century. In order to promote scientific work among students, universities annually proposed topics for scientific works, the best of which were awarded with medals and prizes, and later published in university publications at the expense of the educational institution. Such involvement of the young generation in scientific research activity facilitated their entry into the scientific community. Under the guidance of the leading scientists and educators, scientific schools were formed from various fields of science as structured associations of scientists of several generations around and based on new ideas, methods, and research methodologies. These associations were cemented by moral traits and relationships laid down by their founders (Patuk, 2014).

During this period, a significant contribution to the development of the idea of teacher research activity and its implementation in daily pedagogical work has been made by R. Armstrong, A. Gerd, T. Huxley, N. Corf, P. Lesgaft, M. Pyrohov, M. Stasiulewicz, K. Ushynsky, and others.

At the turn of the 19th and 20th centuries, an important tool for the training of scientific personnel on a legally established basis was the institute of magistracy, which operated based on a number of formed traditions that included careful selection of candidates and organization of their research activities, the result of which was the publication and public defence of dissertations. This paved the way for magistrands to enter the scientific community and largely determined the prospects of their scientific life and career development.

It is important to note that during this period, there were no higher educational institutions with Ukrainian as the language of instruction in the entire territory of Ukraine, which unfortunately was a serious limitation for the development of education in Ukrainian society.

The events of 1917 significantly changed the social order and put on the agenda the issue of creating a new national higher education system with new teaching staff.

The development of scientific research was facilitated by the introduction of a new system of academic degrees and titles and the procedure for their conferral. Thus, in October 1918, all academic degrees and titles that existed in the Russian Empire were abolished. Only in January 1934, the Council of People's Commissars of the USSR adopted the Resolution "On Academic Degrees and Titles," which approved the academic degrees: "Candidate of Sciences" and "Doctor of Sciences." In Soviet times, educational and qualification levels were firmly established: "junior specialist" (on the basis of a technical school or college) and "specialist" (on the basis of higher education institutions), as well as the academic titles of professor and associate professor and the academic degrees of doctor and candidate.

In the 1920s-1930s, the issues of the research activity of the teacher were actively developed by P. Blonsky, K. Geiler, A. Zinkevich, S. Shatskyi.

From the point of view of modern researchers of the history of pedagogical thought (A. Dzhurynskyi, B. Kornetov, A. Piskunov, Z. Ravkin, etc.), the twenties of the last century were characterized as the peak of teachers' creative activity. The teacher increasingly and confidently acted as a researcher, organizer and participant in the educational process (Kostenko, 2009).

In the 30s and 50s, due to well-known socio-political reasons, the research and creative activity of teachers declined. However, in the second half of the twentieth century, a new wave of growth in research activities at higher education institutions began.

In fact, the formation of the Ukrainian higher education system lasted until the beginning of 1939.

On the eve of World War II, there were already 129 higher education institutions in the Ukrainian SSR, and a national university system was formed that included six classical universities: Kyiv, Kharkiv, Lviv, Odesa, Dnipro, and Chernivtsi.

In the early 60s of the last century, the idea of a research-based approach to education was re-emerging, made possible by the growth of teachers' research competence and their active participation in theoretical and empirical subject research. Various aspects of the research activities of teachers and educators have been the subject of special research by many psychologists and educators (S. Arkhangelsky, Y. Babansky, V. Bespalko, A. Bodnar, I. Dziubko, V. Zahviazynsky, P. Kondrukh, and others) (Povidaychyk, 2017).

The 50s and 70s of the twentieth century were a stage of promising development of universities as centers of scientific thought, where education and science, basic and applied research are combined with their further implementation in the educational process through the relevant academic disciplines.

Thus, in 1959, the process of adopting research programs, increasing the degree of concentration of scientific forces and means on the most important research of theoretical and practical importance (defined by the state as priority areas) began, which involved training of relevant specialists at universities and research institutions (Kylymnyk, 1961).

The late 1960s and early 1970s saw a combination of education and science, fundamental and applied research. Regular scientific symposiums on the management, planning, and organization of scientific and technical research became common. University education became more scientifically oriented. Centers of scientific thought were research institutions and universities, which significantly contributed to the pace of scientific and technological progress. N. Terentieva (2016) identified the following as the main directions of scientific and pedagogical research of that time: methodology of teaching basic sciences, educational work in primary schools, education and upbringing of children in boarding schools and schools with extended day groups, general education of adults; content, forms, and methods of educational work in educational institutions, the theory of education, and so on.

In the 1980s, the development of university education as a leading component of higher education was guided by the assertion that the educational process should provide a combination of high theoretical and applied training, a differentiated approach to the training of graduates for pedagogical, research, and production activities; develop the training of specialists in new areas at the intersection of sciences. By the mid-1980s, there were already 146 higher educational institutions in the Ukrainian SSR, including 30 pedagogical institutes (Patuk, 2014).

The wide development of the education system ensured a high level of education among the population of Ukraine. As of 1987, the number of people with higher and secondary (complete and incomplete) education exceeded 28 million out of a total population of over 52 million. 84% of the employed population had this education. Overall, higher and secondary specialized schools fulfilled their important task of training personnel for the economy, science, and culture.

The level of training of highly qualified personnel largely depended on the quality and quantity of the scientific and pedagogical staff of higher educational institutions. Prominent scientists who taught at higher educational institutions contributed to the activation of students' scientific work. Their fundamental scientific research became a cultural asset of the entire world population ("On the State of Implementation of the Gradual Higher Education in Accordance with the Law of Ukraine 'On Higher Education'").

Against the background of these events, the development of research became a priority for universities as centers of scientific thought, where education and science, fundamental and applied research, were combined with their further implementation in the educational process through relevant academic disciplines.

Since the early 1990s, there has been a trend towards overcoming the narrowly utilitarian approach to higher education through the implementation of such concepts as student-centered, diversification of education, and multi-level education. From the first steps of their studies at higher education institutions, every student was involved in scientific research, planned research by teachers, and the implementation of their scientific achievements into practice. Student participation in research conducted at higher education institutions in collaboration with scientific institutions was encouraged.

After gaining independence in 1991, Ukraine began to shape its own educational policy and higher education system. According to Terentieva (2016), the higher education of this period aimed to solve the following problems: improving the quality of teaching, organizing the educational process on a scientific basis, updating the content of higher edu-

cation, introducing effective pedagogical technologies, organizing education as continuous scientific and production activity, creating educational and scientific complexes, integrating Ukraine into the transcontinental system of computer information by producing new technologies.

Since 1992, the stepwise system of training specialists has been revived in independent Ukraine. The Law of Ukraine "On Higher Education" provided for educational and qualification levels of higher education: junior specialist, bachelor, specialist, and master.

In accordance with the Bologna agreements, Ukraine actively engaged in work to adapt the domestic higher education system to the conditions of the Bologna Process. Therefore, the intensification of the use of objective scientific knowledge and the application of scientific achievements in higher education gradually increased in Ukraine, which, in turn, adjusted the content of university education, giving it an applied character (Sydorenko, 2002).

Reform processes in the context of European integration became the driving force of new social demands and public requests, prompting higher education to synchronize with the general trends of human society development through fundamental reorganization in the university education sector in the context of the Bologna agreements and treaties.

Therefore, the issue of quality training of graduates of higher educational institutions for scientific research activity becomes particularly relevant in this period. One of the leading tasks of master's students, which is formed at this stage, is the comprehensive development of their creative abilities and research skills. The development of research competencies is aimed at acquiring future teachers and researchers the skills of search, research activities, abilities of creative solution of educational tasks in the conditions of higher education, as well as forming the skills of applying research techniques and methods of solving practical issues of education and upbringing (Balyuk, 2015).

Conclusions and prospects for further research. Thus, based on the analysis of scientific literature, we have investigated the gradual development of the formation of research competence based on the stages of the formation and development of higher education in educational institutions in Ukraine. Historical analysis has shown that the process of forming research competence of masters has taken place under the influence of massive integration and socio-cultural processes.

Currently, Ukraine has officially declared the formation of the country's intellectual potential in institutions of higher education as a social order of the state and has undertaken to create conditions for the realization of citizens' intellectual potential, to provide an innovative fund for scientific research, and declared the development of science as a priority direction.

Prospects for further research include studying the ways of implementing foreign experience in forming the research competence of masters.

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