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REFLEXIVE AND CREATIVE PROFESSIONAL DEVELOPMENT IN ECONOMIC EDUCATION THROUGH FOREIGN LANGUAGE LEARNING

This study explores the role of reflexive and creative components in economic education through foreign language learning, particularly in contexts affected by war, uncertainty, and rapid transformations in educational processes. Students face multiple challenges, including decreased motivation, disruption of academic trajectories, and adaptation to hybrid and remote learning models, while simultaneously aligning their knowledge and skills with evolving European educational standards, emerging international requirements, and rapidly changing professional expectations. The research investigates how digital mind mapping, scenario-based exercises, collaborative problem-solving, and interactive pedagogical methods support the development of reflexivity, creativity, adaptability, and strategic thinking. Through iterative activities, learners visualize, revise, and project their competencies, knowledge, and potential professional trajectories over time, strengthening their understanding of interconnections between academic content, practical skills, and future career opportunities. Results indicate that these practices enhance self-awareness, innovative problem-solving, and resilience, enabling students to navigate complex socio-economic and cultural environments. Reflexive and creative approaches promote lifelong learning, professional autonomy, and flexibility, allowing learners to anticipate challenges and design adaptable career pathways even in uncertain or rapidly evolving contexts. Integrating structured, visually-oriented, and interactive strategies into curricula strengthens engagement, motivation, and the capacity to apply theoretical knowledge in practical and professional settings. The study demonstrates that embedding reflexive and creative practices in economic education equips graduates with the skills required to respond effectively to dynamic, unpredictable professional realities, fostering sustainable personal and professional development.

Keywords: *reflexive learning; creative thinking; professional self-design; English for economics.*
Tab. 2. Ref. 13.

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РЕФЛЕКСИВНО-КРЕАТИВНИЙ РОЗВИТОК ПРОФЕСІЙНИХ КОМПЕТЕНЦІЙ В ЕКОНОМІЧНІЙ ОСВІТІ ЧЕРЕЗ НАВЧАННЯ ІНОЗЕМНОЇ МОВИ

У статті досліджується роль рефлексивно-креативного компонента в економічній освіті через навчання іноземних мов. Аналізуються трансформації навчального процесу в умовах війни, дистанційного та змішаного навчання, а також європейської інтеграції. Використання ментальних карт і інтерактивних методів сприяє розвитку саморефлексії, креативності, адаптивності та формуванню гнучких професійних траєкторій студентів, підвищенню навчальної залученості та готовності до професійних змін.

Ключові слова*: рефлексивне навчання; креативне мислення; професійне самопроєктування; англійська для економістів.*

Problem Statement. Economic education in Ukraine is currently facing unprecedented challenges due to the ongoing war, associated socio-economic instability, and the rapid adoption of hybrid and remote learning modalities. These conditions have led to interruptions in academic trajectories, decreased student motivation, and observable attrition from higher education institutions. At the same time, universities are under increasing pressure to align curricula with European educational standards, integrate international best practices, and prepare graduates capable of meeting evolving professional requirements. Such multifaceted pressures underscore the urgent need for innovative pedagogical strategies that extend beyond the conventional delivery of disciplinary content.

Central to addressing this challenge is the development of reflexive and creative competencies among students. Reflexivity equips learners to critically assess their academic experiences, recognize personal strengths and gaps, and make informed decisions about their learning and professional trajectories. Creativity fosters the generation of novel solutions, exploration of alternative career pathways, and adaptive responses to dynamic socio-economic contexts. Together, these competencies form the foundation for lifelong learning, professional autonomy, and resilience, enabling students to navigate uncertainty and design flexible career trajectories in a rapidly changing environment.

Foreign language education, particularly English courses for economic students, presents a uniquely

effective platform for embedding these competencies. Language courses inherently engage cognitive processes, enhance intercultural awareness, and develop professional communication skills, while offering opportunities to integrate reflexive and creative exercises. Techniques such as digital mind mapping, scenario-based tasks, and interactive problem-solving enable learners to visualize and iteratively refine their competencies, knowledge, and professional plans. Such strategies promote deeper understanding, self-directed learning, and the ability to apply theoretical knowledge in practical contexts, aligning both with national priorities and European educational standards.

Despite theoretical recognition of these approaches, empirical research remains limited. Few studies examine structured interventions that systematically combine reflexive and creative practices within economic education under crisis-driven conditions. This study addresses this gap by investigating how pedagogical strategies centered on reflexivity and creativity can enhance student engagement, motivation, and the construction of flexible, adaptive professional trajectories in hybrid and remote learning environments.

Literature Review / Theoretical Background. Economic education in Ukraine faces complex challenges due to the ongoing war, socio-economic instability, and the rapid shift to hybrid and remote learning formats. These conditions have led to decreased student motivation, disruptions in academic trajectories, and a notable outflow of learners from higher education institutions. In this context, developing reflexive and creative competencies is critical to preparing students who can adapt to uncertainty, anticipate challenges, and construct flexible professional pathways. English language education provide an effective environment for fostering these competencies, as they combine cognitive engagement, intercultural communication, and interactive pedagogical strategies.

Beyond structural and curricular challenges, the ongoing war has imposed significant psychological burdens on students, exacerbating feelings of insecurity, uncertainty, and stress. he combination of external crises and uncertainty has also contributed to heightened student insecurity, anxiety, and stress, which can hinder reflective and creative engagement in academic activities [9]. By embedding structured reflection and creative exercises, language education can help mitigate the negative impact of stress and insecurity, supporting self-directed learning and professional self-design [11]. Recent research demonstrates that Ukrainian university students exposed to wartime conditions experience high levels of depression, anxiety, and post-traumatic stress symptoms, which are directly associated with reduced academic engagement, critical thinking, and professional self-design [9]. Addressing these challenges requires structured, interactive pedagogical strategies that integrate reflection, creativity, and professional planning, helping students mitigate stress while enhancing critical thinking, metacognitive awareness, and self-directed professional development.

In this context, foreign language courses provide a particularly effective platform for embedding reflexive and creative competencies. Techniques such as digital mind mapping, scenario-based tasks, and interactive problem-solving allow students to *visualize and iteratively refine their competencies*, mitigating the negative impact of stress and uncertainty while fostering engagement, motivation, and professional self-design.

Recent pedagogical research highlights the effectiveness of project-based learning in developing communicative competence in English language education, indicating that structured, interactive tasks can strengthen both reflexive and creative capacities in higher education contexts. Evidence from a study of international students shows that project technologies enable learners to engage purposefully with professional English content and to internalize communicative strategies that support professional self-design [12]. This aligns with the broader goal of integrating disciplinary content with reflexive and creative exercises to prepare students for dynamic professional environments.

Reflexivity allows students to critically assess their own learning experiences, recognize strengths and gaps, and make informed decisions regarding personal and professional development [4]. Creativity complements this by enabling learners to generate novel solutions, explore alternative professional scenarios, and respond adaptively to dynamic socio-economic changes [10]. Together, these competencies form the foundation for lifelong learning, professional autonomy, and resilience – skills essential for navigating volatile educational and labor market conditions.

Design thinking offers an iterative approach to problem-solving where outcomes are unpredictable and solutions emerge through continuous reflection and evaluation [2]. Meta-Design extends this framework by conceptualizing students as designers of the systems and processes they subsequently use, allowing them to construct flexible, evolving structures for knowledge acquisition and professional planning [4]. These theoretical approaches are particularly relevant in English language education, where reflective and creative exercises can be seamlessly integrated with disciplinary content to support students' professional development.

Recent research demonstrates that the use of digital mind mapping and interactive exercises in English language education can enhance students' metacognitive awareness, strategic thinking, and the ability to connect theoretical knowledge with practical professional tasks. These strategies not only support the development of cognitive and professional skills but also help students cope with uncertainty and insecurity arising from external socio-economic and geopolitical pressures. For example, Dubrova (2025) found that

implementing mental maps in professional English courses for technical students helps develop cognitive, communicative, and creative competencies [3]. Such practices encourage reflection, allow learners to visualize and plan their professional trajectories, and enhance engagement and self-directed learning, supporting the integration of disciplinary knowledge with practical skills in a rapidly changing educational environment. Empirical research further supports the role of visual and interactive tools in promoting higher-order thinking. For example, Hazaymeh and Alomery (2022) found that the use of visual mind mapping strategies significantly improved critical thinking skills and reading comprehension among English language learners, with experimental groups showing statistically greater gains on standardized measures compared to control groups [6]. Such findings underscore the value of structured visualization techniques in enhancing students' analytical and reflective capacities in foreign language contexts.

Practical experience at Simon Kuznets Kharkiv National University of Economics further demonstrates the effectiveness of these approaches. In courses combining professional English with interactive exercises, students were able to visualize their competencies, engage in reflective practice, and plan potential professional trajectories, confirming that reflexive and creative methods support the development of cognitive and strategic skills in economic education [12].

International research confirms the effectiveness of interactive and learner-centered approaches in foreign language education, which aligns with the objectives of developing reflexive and creative competencies in economic education. Studies indicate that mind-mapping and other visual tools support the visualization and structuring of linguistic and professional content, stimulate associative and creative thinking, and encourage reflective engagement with learning tasks. Systematic reviews further show that mind-mapping contributes to the development of vocabulary, comprehension, and written communication skills, while also positively influencing learner motivation and engagement in foreign language learning [5]. Research on digital and cloud-based mind-mapping tools highlights their potential to foster learner autonomy, reflexivity, and the integration of theoretical knowledge with practical, professionally oriented tasks in English language courses [1]. At the same time, existing studies rarely address how such structured reflexive and creative practices in English language education support professional self-design and the construction of flexible professional trajectories, especially in conditions of socio-economic instability, war, and hybrid learning formats.

Overall, the literature indicates that the structured integration of reflexive and creative components into English language courses can strengthen cognitive, metacognitive, and professional competencies. The use of digital mind mapping, scenario-based tasks, and interactive exercises allows students to visualize and iteratively refine their knowledge, skills, and potential professional trajectories. This integrated approach helps learners manage stress and feelings of insecurity while fostering engagement, reflective practice, and creative problem-solving. These strategies prepare learners to adapt to rapidly changing socio-economic conditions and to develop flexible, resilient career pathways. This highlights the urgent need for empirical investigation into how structured interventions in English language courses can systematically foster reflexive, creative, and adaptive competencies, supporting both student engagement and resilient professional trajectory planning under crisis-driven conditions.

Aim of the Study. Building on the identified theoretical frameworks and empirical gaps, this study investigates how English language education can serve as a structured platform for developing reflexive and creative competencies in economic students. Specifically, it examines the implementation of digital mind mapping, scenario-based tasks, and interactive exercises to foster critical self-reflection, enhance creative problem-solving, and support strategic thinking. The study also explores how these interventions enable learners to construct flexible, adaptive professional trajectories in contexts of hybrid and remote learning, socio-economic instability, and ongoing war. Finally, the research considers alignment with European educational standards, promoting engagement, motivation, and interdisciplinary knowledge integration, positioning English language education not only as a tool for communication but also as a pedagogical space for reflective and professional development.

Methodology. The study was conducted at Simon Kuznets Kharkiv National University of Economics with first- and third-year undergraduate students enrolled in courses combining professional terminology, economic scenarios, and interactive exercises. Participants had diverse academic backgrounds and professional experience, which allowed the research to capture differences in reflexive and creative engagement. Participation was voluntary, and students provided informed consent for the use of their digital artefacts and written reflections.

The pedagogical intervention utilized digital mind mapping and interactive tasks to support the development of reflexive and creative skills. Prior research has demonstrated that guided inquiry and mind mapping strategies can significantly enhance critical thinking and problem-solving abilities among learners, indicating their pedagogical relevance for fostering higher-order competencies [8]. Although this study was conducted with secondary education students, its findings are applicable to higher education contexts, particularly in courses that require integrative thinking and professional skill development, such as economics

and business English education. Moreover, the use of structured visual mapping encourages learners to reflect on their prior knowledge, explore alternative approaches, and iteratively refine their professional trajectories, linking critical thinking with creativity and reflexivity. In the context of socio-economic instability and hybrid learning formats in Ukraine, such strategies provide a scaffold for students to navigate uncertainty, strengthen metacognitive awareness, and develop adaptive professional planning skills.

Initially, students created mind maps representing their current competencies, interests, and perceived challenges within economic contexts, expressed in English. These maps were subsequently revised to incorporate new knowledge, insights from peer discussions, and reflections on socio-economic and global conditions affecting professional pathways. In the final stage, students projected potential future professional scenarios, adapting their mind maps to reflect evolving career goals, emerging opportunities, and possible challenges. The use of digital tools allowed for continuous modification, visualization of interconnections, and simulation of professional trajectories, integrating disciplinary content, language acquisition, and reflective practice into a cohesive learning experience.

Data were collected through multiple qualitative methods to capture both cognitive and affective dimensions of student learning. Reflective artefacts included successive versions of mind maps produced throughout the course. Students also provided written narratives describing their learning experiences, challenges encountered, and insights gained in constructing their professional projects. Semi-structured group discussions allowed participants to share perspectives on the role of English language education as a tool for reflective and creative development. An iterative thematic analysis was applied to identify patterns related to reflexivity, creativity, self-awareness, and professional project design, with attention to differences between first- and third-year students. Themes were coded based on theoretical frameworks of d*esign thinking, meta-design*, and *creativity*, as well as emergent patterns from the collected data, ensuring both alignment with literature and relevance to observed practices.

Ethical standards were strictly maintained. Students were fully informed about the study's objectives, participation did not affect assessment, and anonymity and confidentiality were ensured. Integrating English language learning with digital mind mapping and interactive exercises provided students with tools to visualize, reflect upon, and iteratively refine their professional trajectories while simultaneously developing communicative, cognitive, and creative competencies. This approach was particularly valuable in the context of war, remote and hybrid learning, and alignment with European educational standards.

Results & Discussion. The study examined how English language education, enriched with project-based tasks and digital mind mapping, facilitate the development of reflexive, creative, and adaptive competencies in economic students under complex conditions, including war, socio-economic instability, and hybrid learning environments. Data were collected using multiple qualitative methods, including successive versions of student mind maps, written reflections, and semi-structured group discussions. These methods allowed for capturing both cognitive and affective dimensions of learning, providing comprehensive insights into how students construct, visualize, and iteratively refine their professional trajectories.

The findings indicate that digital mind mapping, combined with project-based tasks, effectively enhances students' reflexivity and self-awareness by offering a structured framework to map competencies, learning objectives, and potential career paths. First-year students typically produced descriptive mind maps, emphasizing immediate skills such as economic terminology and English language proficiency. In contrast, third-year students developed more complex, multi-layered maps that integrated language skills, disciplinary knowledge, and prospective professional trajectories, demonstrating the cumulative development of reflective and strategic thinking.

Engagement in project-based activities – such as preparing English-language reports, delivering presentations, and simulating professional scenarios – encouraged students to critically assess their competencies and identify gaps in their knowledge. One first-year student noted, *"By visualizing my professional trajectory, I could see which skills I need to strengthen before entering the labor market". A third-year student reflected, "Creating my mind map allowed me to see how my language skills could open new career paths I hadn't considered before".* Group discussions and peer feedback further reinforced these processes, prompting students to consider alternative strategies, evaluate assumptions, and deepen metacognitive awareness.

The comparison of first- and third-year students, summarized in Table 1, highlights the progression of reflexive, creative, and adaptive competencies across the course of study.

Importantly, the competencies outlined in Table 1 did not develop in isolation. Reflexivity, creativity, and adaptability emerged as interrelated outcomes of repeated engagement in structured tasks, where visualization, discussion, and revision functioned as cumulative learning mechanisms rather than isolated activities.

While the table provides a snapshot of development, it does not capture the specific pedagogical strategies that support this growth. Understanding the "how" behind these results requires examining the concrete activities through which students practice and refine their skills.

Table 1

Development of Reflexive and Creative Competencies by Year of Study

Competency	First-Year Students	Third-Year Students	Observations
Reflexivity / Self-Awareness	Moderate	High	Third-year students integrate language, discipline, and professional goals.
Creativity in Project Planning	Low-Moderate	High	Third-year students explore alternative pathways and innovative scenarios.
Adaptability / Lifelong Learning	Low	Moderate-High	Awareness of contingencies and flexibility in professional planning.

Project-based exercises and digital mind mapping serve as the primary mechanisms for translating the trends observed in Table 1 into practical learning experiences. By mapping professional competencies, projecting career scenarios, and simulating hypothetical business challenges, students actively apply disciplinary knowledge while engaging in reflective and creative thinking. Peer discussions and iterative feedback further reinforce learning, promoting critical evaluation and adaptation of ideas. Additionally, the use of digital mind mapping demonstrated a positive psychological effect: it helped students reduce feelings of insecurity and anxiety during learning, providing a structured visual framework that supports reflective thinking and creative problem-solving.

Table 2 presents specific examples of mind map components and project-based exercises that operationalize these pedagogical strategies. Each component is designed to integrate language skills with professional content, stimulate creative problem-solving, and enhance reflexivity and adaptability. Through these tasks, students not only consolidate existing knowledge but also explore alternative professional pathways and prepare for dynamic socio-economic and labor market conditions.

Table 2

Examples of Mind Map Components and Project-Based Exercises

Mind Map Component	Exercise / Task	Learning Outcome
Professional competencies	Mapping economic terminology in English	Integration of linguistic and disciplinary knowledge
Career scenarios	Projecting professional pathways	Reflexive thinking and planning
Problem-solving nodes	Hypothetical business challenges	Creative problem-solving and strategic decision-making
Peer review	Group discussion and feedback	Critical evaluation, enhanced metacognition
Project-based simulations	Scenario planning and presentations	Integration of creativity, reflection, and applied knowledge

Comparisons with international research provide theoretical grounding. Design Thinking and Meta-Design frameworks explain how iterative reflection and structured planning support professional project development [4], [2]. Empirical evidence further demonstrates that creativity and reflective practice are mutually reinforcing, enhancing student motivation, strategic thinking, and self-efficacy [7].

National university-based research provides additional support for these findings. In a study conducted with undergraduate students, Vorozhbyt-Horbatiuk (2022) demonstrates that the systematic use of creativity-development techniques within higher education courses contributes to the formation of reflective and critical thinking, learner autonomy, and the ability to integrate knowledge across disciplines [13]. The author emphasizes that interactive and practice-oriented tasks encourage students to analyse learning situations, generate alternative solutions, and engage in conscious reflection on their professional development, which is particularly relevant in contemporary university education.

In the context of external crises and uncertainty, engaging students in mind mapping and scenario-based exercises further enhanced their awareness of professional trajectories as dynamic, multi-faceted, and subject to socio-economic and geopolitical contingencies. First-year students generally planned sequentially, while third-year students considered multiple pathways, potential socio-economic or geopolitical contingencies, and opportunities in European and global contexts. For example, one student adapted her scenario to account for potential supply chain disruptions, illustrating adaptive and reflective planning fostered by project-based activities. Peer feedback and group discussions reinforced these competencies by promoting evaluation of alternative approaches, articulation of reasoning, and consideration of long-term implications. This iterative

process enhanced self-directed learning, strategic thinking, and proactive decision-making.

Overall, the findings demonstrate that English language education, when combined with project-based tasks and digital mind mapping, provide a comprehensive platform for developing reflexive, creative, and adaptive competencies. Third-year students exhibited higher levels of integration, strategic planning, and scenario evaluation, reflecting cumulative learning and iterative refinement of skills. Structured exercises enabled students to apply theory in simulated professional contexts, anticipate challenges, and connect linguistic competence with professional expertise. By visualizing and refining potential career trajectories, learners adapted to change and developed resilience, preparing them for the evolving demands of the labor market and broader socio-economic conditions.

The results highlight the interplay between reflexivity, creativity, and adaptability. Reflexive activities encouraged students to critically evaluate their strengths, identify gaps, and reflect on professional aspirations. Creative exercises promoted experimentation, alternative scenario development, and innovative problem-solving. Adaptive tasks, supported by peer collaboration and iterative mind mapping, enabled students to construct flexible career plans responsive to socio-economic and geopolitical uncertainties. Linking the competencies demonstrated in Table 1 with the practical exercises in Table 2 clarifies how these outcomes are systematically developed through structured, learner-centered activities.

The study emphasizes the practical significance of integrating digital mind mapping and interactive project-based exercises into English language education. These approaches link disciplinary content, language proficiency, and reflective practice, enhancing engagement, promoting self-directed learning, and aligning academic activities with European educational standards.

Conclusions. The study demonstrates that English language education, enriched with project-based tasks, digital mind mapping, and interactive exercises, provide an effective environment for fostering reflexive, creative, and adaptive competencies in economic students, particularly under complex and crisis-driven conditions such as war, socio-economic instability, and hybrid learning. The findings highlight three key outcomes.

First, students exhibited enhanced reflexivity and self-awareness, becoming more capable of visualizing their skills, identifying gaps, and critically evaluating their learning and professional development. First-year students primarily focused on mapping immediate abilities and course-related knowledge, whereas third-year students produced integrative, multi-layered mind maps connecting language proficiency, disciplinary understanding, and prospective career trajectories.

Second, students strengthened their creativity in professional project construction. Scenario-based tasks and iterative refinement of ideas allowed them to explore multiple career pathways, simulate real-world professional situations, and integrate prior experiences with emerging opportunities. This approach encouraged experimentation and innovative thinking, enabling learners to generate practical yet creative solutions to professional challenges.

Third, students developed adaptability and readiness for lifelong learning. They learned to design flexible, multi-dimensional professional plans that account for socio-economic uncertainties, geopolitical changes, and evolving labor market conditions. Peer feedback, group discussions, and reflective exercises reinforced these competencies, helping students proactively adjust their plans and build resilience in the face of change.

Moreover, these strategies had a positive psychological effect, supporting students' coping skills, reducing stress and insecurity, and enhancing overall resilience. By providing a structured framework for reflection and creative engagement, the interventions strengthened students' capacity to manage uncertainty while simultaneously developing professional competencies.

Overall, these findings confirm that the structured integration of reflexive and creative components into English language education equips students with essential skills for strategic decision-making, professional self-design, and lifelong learning. By linking disciplinary knowledge, language proficiency, and reflective practice, learners are better prepared to navigate uncertainty, anticipate challenges, and construct flexible, resilient career trajectories.

Importantly, the approach has potential applicability beyond the Ukrainian context, offering a model for fostering reflexive, creative, and adaptive competencies among students in other crisis-affected or rapidly changing educational environments. The results emphasize the pedagogical value of project-based, learner-centered approaches in economic education and suggest avenues for further research, including longitudinal studies and cross-disciplinary applications, to deepen understanding of how reflexive, creative, and adaptive competencies can be cultivated in higher education.

REFERENCES

1. Amelina, S. Tarasenko, R. & Semerikov, S.O. (2023). Enhancing foreign language learning with cloud-based mind mapping techniques. *Proceedings of the VIII International Workshop on Professional Retraining and Life-Long Learning Using ICT: Person-Oriented Approach (3L-Person 2023). Virtual Event, Kryvyi Rih, Ukraine, October 25, 3535*, pp. 48–60. DOI: https://doi.org/10.31812/123456789/8484

2. Buchanan, R. (2001). Design Research and the New Learning. *Design Issues*, *17*(4), pp. 3–23. DOI: https://doi.org/10.1162/07479360152681056

3. Dubrova, A. (2025). Vykorystannia mentalnykh kart v protsesi vyvchennia inozemnoi movy zdobuvachamy tekhnichnykh spetsialnostei zvo. [Use of mind maps in the process of learning a foreign language by students of technical specialties in higher education]. *Youth & market*, (7-8/239-240),

pp. 172–176. DOI: https://doi.org/10.24919/2308-4634.2025.340082 [in Ukrainian].

4. Fischer, G., Giaccardi, E., Ye, Y., Sutcliffe, A. G. & Mehandjiev, N. (2004). Meta-design. *Communications of the ACM*, *47*(9), pp. 33–37. DOI: https://doi.org/10.1145/1015864.1015884

5. Haiyao, Z., Abd Halim, N. D. & Xiaoying, S. (2025). The Use of Mindmap and its Effectiveness in Different Fields of Foreign Language Learning: A Systematic Review (2014-2024). *International Journal of Academic Research in Progressive Education and Development*, *14*(1). DOI: https://doi.org/10.6007/ijarped/v14-i1/24359

6. Hazaymeh, W. A. & Alomery, M. K. (2022). The effectiveness of visual mind mapping strategy for improving English language learners' critical thinking skills and reading ability. *European Journal of Educational Research, 11*(1), pp. 141–150. DOI: https://doi.org/10.12973/eu-jer.11.1.141

7. Lubart, T. (2010). Cross-Cultural Perspectives on Creativity. In J. C. Kaufman & R. J. Sternberg (Eds.), *The Cambridge Handbook of Creativity* (pp. 265–278). Cambridge University Press. DOI: https://doi.org/10.1017/cbo9780511763205.017

8. Permata, I., Jumrodah, J. & Lestariningsih, N. (2023). Critical thinking skills of high school students material invertebrates trought guided inquiry assitend mind mapping. *JPBIO (Jurnal Pendidikan Biologi)*, *8*(2), pp. 349–358. DOI: https://doi.org/10.31932/jpbio.v8i2.2850

9. Pinchuk, I., Feldman, I., Seleznova, V. *et al.* (2025). Braving the dark: mental health challenges and academic performance of Ukrainian university students during the war. *Soc Psychiatry Psychiatr Epidemiol* 60, 2505–2516 (2025). DOI: https://doi.org/10.1007/s00127-025-02867-7

10. Rebecchi, K, Lubart, T. & Hagège, H. (2024). Teaching responsible creativity: a path to ethical innovation. *Discover Education*, *3*(1). DOI: https://doi.org/10.1007/s44217-024-00164-0

11. Sagita, M. & Sagita, E.S. (2024). Enhancing English Language Learning through Digital Mind Mapping: A Comprehensive Approach for Reading Comprehension. *KIRANA : Social Science Journal*, *1*(3), pp. 142–151. DOI: https://doi.org/10.61579/kirana.v1i3.213

12. Savytska, L., Kovalova, K. & Bezugla, I. (2022). Enhancing foreign language communicative competence of international higher education students through project-based learning. *European Science*, (sge38-03), pp. 70–95. DOI: https://doi.org/10.30890/2709-2313.2025-38-03-005

13. Vorozhbyt-Horbatiuk, V. (2022). Tekhniky rozvytku kreatyvnosti osobystosti:istoriia, tendentsii, dosvid [Techniques for the development of personal creativity: history, trends, experience]. *Youth & market*, 6(204), pp. 55–59. DOI: https://doi.org/10.24919/2308-4634.2022.265727 [in Ukrainian]

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ЦИФРОВЕ ОСВІТНЄ СЕРЕДОВИЩЕ ЯК ЧИННИК ЕФЕКТИВНОЇ ПІДГОТОВКИ МАЙБУТНІХ УЧИТЕЛІВ ТЕХНОЛОГІЙ ДО ДИСТАНЦІЙНОГО НАВЧАННЯ

У статті обґрунтовано роль цифрового освітнього середовища як ключового чинника ефективної підготовки майбутніх учителів технологій до дистанційного навчання в умовах цифрової трансформації освіти. Показано, що сучасні виклики, пов'язані з пандемією COVID-19, воєнною ситуацією в Україні та необхідністю забезпечення безперервності освітнього процесу, актуалізували потребу у формуванні високого рівня цифрової компетентності педагогів. Наголошено, що майбутні учителі технологій мають бути здатними працювати з цифровими платформами, організовувати взаємодію у віртуальному середовищі, здійснювати оцінювання, модерацію та підтримку навчальної мотивації студентів, а також забезпечувати практикоорієнтоване навчання засобами цифрових технологій.

Розкрито структуру цифрового освітнього середовища, що включає платформи управління навчанням, сервіси синхронної й асинхронної взаємодії, інструменти створення навчального контенту, системи оцінювання та аналітики, інноваційні технології (VR/AR, штучний інтелект, симулятори) та цифрові ресурси. Доведено, що ці компоненти функціонують як цілісна екосистема, яка забезпечує інтеграцію теоретичної, практичної та технологічної підготовки студентів. Визначено специфіку підготовки майбутніх учителів технологій у дистанційному форматі, зокрема необхідність моделювання виробничих і технологічних процесів у цифровому середовищі.

На основі проведеного дослідження обґрунтовано комплекс педагогічних умов ефективної підготовки: інтеграцію цифрових інструментів у зміст дисциплін, розвиток цифрової компетентності викладачів, методичний супровід студентів, практикоорієнтованість цифрових завдань, забезпечення доступу до якісних ресурсів і формування мотивації до опанування цифрових технологій. Результати дослідження можуть бути використані у практиці закладів вищої освіти та слугувати підґрунтям для подальших наукових розвідок у сфері цифрової трансформації педагогічної освіти.

Ключові слова: *цифрове освітнє середовище; дистанційне навчання; цифрова компетентність; VR/AR; симулятори; LMS; аналітика; гейміфікація; штучний інтелект; технологічна освіта; методичний супровід; мотивація.*

Літ. 10.