

РОЗДІЛ 5. ТЕОРІЯ І МЕТОДИКА УПРАВЛІННЯ ОСВІТОЮ

THE ROLE OF EDUCATION IN ACHIEVING SUSTAINABLE DEVELOPMENT GOALS

РОЛЬ ОСВІТИ У ДОСЯГНЕННІ ЦІЛЕЙ СТАЛОГО РОЗВИТКУ

The article explores sustainable education as a comprehensive approach aimed at preparing individuals to address environmental, social, and economic challenges. Emphasizing sustainability principles in education, it underscores essential competencies for educators, including environmental awareness, social justice advocacy, and economic understanding. These competencies enable teachers to foster students' civic responsibility, promoting sustainability as an integrated part of learning. A core aspect discussed is interdisciplinary and active learning, which enhances critical thinking and social responsibility. The article examines Ukraine's higher education reforms, focusing on new professional standards for teachers, aligning with competency-based frameworks and the Bologna Process. A particular focus is given to the alignment of professional standards for higher education instructors with the principles of sustainable development. The competencies outlined within these standards—including critical thinking, social responsibility, digital literacy, and ethical action—are mapped to the objectives of the United Nations Sustainable Development Goals (SDGs). Through fostering skills like critical analysis, lifelong learning, cultural respect, and innovation, the standards contribute directly to SDG 4 on quality education, SDG 9 on industry and innovation, SDG 10 on reducing inequalities, and SDG 16 on peace and justice. Moreover, the standards encourage collaborative and civic-minded attitudes that support SDG 17, preparing both educators and students for proactive, solution-oriented roles in society. By analyzing these standards, the article highlights how they support student development in civic and ethical values, equipping them for responsible citizenship. The Ukrainian reforms also promote institutional autonomy, allowing universities to tailor programs to sustainability-focused outcomes while aligning with national and European standards. The article argues that sustainable education empowers future generations for active global citizenship, emphasizing that teacher development is crucial for advancing these goals. Sustainable education is framed as vital in creating a society oriented towards equity, environmental stewardship, and shared responsibility.

Key words: sustainable education, teacher competencies, higher education reforms, global citizenship, interdisciplinary learning.

У статті досліджено сталу освіту як комплексний підхід, спрямований на підготовку особистості до вирішення екологічних, соціальних та економічних проблем. Наголошуючи на принципах сталого розвитку в освіті, у статті виокремлено основні компетенції педагогів, зокрема екологічну обізнаність, захист соціальної справедливості

*та економічне розуміння. Ці компетентності дозволяють педагогам формувати в учнів громадянську відповідальність, підтримуючи сталий розвиток як невід'ємну частину навчання. Основним предметом аналізу є міждисциплінарне та активне навчання, яке сприяє розвитку критичного мислення та соціальної відповідальності. У статті також розглядаються реформи вищої освіти в Україні, зокрема, нові професійні стандарти для викладачів, що узгоджуються з рамками, заснованими на компетентностях, і Болонським процесом. Ці стандарти наголошують на таких ключових для ефективного сучасного викладання компетентностях, як критичне мислення, адаптивність та етична відповідальність. У статті також розглядаються реформи вищої освіти в Україні, зокрема, як ці стандарти спрямовані на розвиток громадянських та етичних цінностей учнів, що сприяють формуванню відповідального громадянства. Реформи в Україні також сприяють автономії університетів, які дозволяють їм розробляти освітні програми, спрямовані на забезпечення сталого розвитку, одночасно дотримуючись національних та європейських стандартів. Особлива увага акцентується на узгодженні професійних стандартів для викладачів вищої освіти з принципами сталого розвитку. Компетентності, зазначені в стандартах, серед яких критичне мислення, соціальна відповідальність, цифрова грамотність та етичні дії, відповідають завданням Цілей сталого розвитку Організації Об'єднаних Націй (ЦСР). Формуючи такі навички, як критичний аналіз, навчання впродовж життя, повага до культури та інновації, стандарти напряду сприяють досягненню ЦСР 4 «Якісна освіта», ЦСР 9 «Промисловість та інновації», ЦСР 10 «Зменшення нерівності» та ЦСР 16 «Мир і справедливість». До того ж, стандарти стимулюють готовність до співпраці та розвивають активну громадянську позицію, що сприяє досягненню ЦСР 17, готуючи як педагогів, так і учнів до проактивної, соціально-орієнтованої ролі в суспільстві. У статті наголошується, що стала освіта розширює можливості майбутніх поколінь для активного глобального громадянства, а розвиток вчителів має вирішальне значення для просування на шляху до досягнення цих цілей. Стала освіта формулюється як ключовий фактор у формуванні суспільства, орієнтованого на справедливість, раціональне управління навколишнім середовищем і соціальну відповідальність. **Ключові слова:** стала освіта, компетентності викладачів, реформування вищої освіти, глобальне громадянство, міждисциплінарне навчання.*

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Introduction. Education serves as a crucial driver of change, significantly influencing how we tackle the urgent challenges we face today. In a world contending with pressing issues like climate change, inequality, and social injustice, war the role of education in advancing sustainable development has become increasingly vital. Education today is viewed not only as a pathway to national development and a guarantor of security but also as a critical determinant of economic strength. It is increasingly seen as a process through which individuals internalize shared social experiences, norms, and values, reflecting the essential characteristics of society. Education thus not only shapes society's developmental trajectory but also its continuity and resilience. The urgency of these global challenges necessitates immediate action, and education is the key to addressing them. According to the Law of Ukraine "On Education," one of the stated goals is "the comprehensive development of individuals ... to ensure Ukraine's sustainable development and its European choice" [22]. Therefore, in the context of Ukraine's current realities, Education for Sustainable Development (ESD) should be a direct catalyst for creating a new socio-economic order, fostering social, ecological, and economic transformations in line with sustainable development principles. As we delve deeper into the role of education as a driver of change, it becomes essential to examine existing literature on Education for Sustainable Development (ESD) to understand how it addresses these global challenges. The aim of this article is to explore the multifaceted nature of sustainable education and its critical role in preparing individuals to address contemporary challenges related to environmental, social, and economic sustainability. It seeks to highlight the essential competencies required for educators to effectively implement sustainability principles within educational frameworks, particularly in the context of Ukraine's evolving higher education standards. By analyzing the professional standards for teachers and their implications for pedagogical practices, the article aims to demonstrate how a comprehensive approach to sustainable education can foster critical thinking, social responsibility, and global citizenship among students. Ultimately, the article aspires to contribute to the ongoing discourse on the significance of sustainable education in shaping a more equitable and sustainable future.

Theoretical framework and research methods.

The rapid and often unpredictable changes in Earth's life-supporting systems, including climate change, environmental degradation, and widening social inequalities, have created a complex and urgent set of challenges for humanity. These issues are intensifying pressure on the planet's ecosystems, economies, and societies, creating a fragile and volatile global environment. Likewise, growing inequalities in wealth, education, and access to resources further complicate

efforts to address these global crises. In response to these challenges, students worldwide are increasingly confronted with the need to Understand and engage with these issues in meaningful ways. The next generation of leaders, professionals, and citizens must be equipped with the knowledge, skills, and values required to navigate these complexities. This includes developing a deep understanding of the interconnectedness between environmental, social, and economic systems and recognizing the urgent need for sustainable solutions [14]. Educational systems, therefore, have a critical role in preparing students to think critically, act responsibly, and work collaboratively to address these global challenges, ensuring that future generations can thrive in a more equitable and sustainable world [17]. As interconnected challenges to socio-environmental stability emerge, education must adapt to a rapidly evolving global landscape. Educators, as the key facilitators of this adaptation, play a crucial role in advancing sustainability [16].

Education, particularly Education for Sustainable Development (ESD), is not just a necessity for building society's capacity to address today's critical societal issues [11]. It is a powerful force that can transform learners into active participants in shaping a sustainable future. This transformative potential is underscored by the global commitment to the Sustainable Development Goals (SDGs), one of which aims to 'ensure inclusive and equitable quality education for all and promote lifelong learning' [18, p.14]. ESD aims to equip learners with the skills to solve sustainability issues, empowering them to engage in sustainable development and critically assess their actions [2;15]. The concept of ESD gained significant momentum during the Decade of ESD (2005–2014), which evolved into a recognized area of educational policy and practice [15]. The Global Action Programme on ESD further supported the expansion of these efforts, allowing everyone to acquire the knowledge, skills, values, and attitudes needed to contribute to sustainable development (UNESCO, 15, p. 14).

Two recent international initiatives are particularly significant for the social learning processes essential to Education for Sustainable Development (ESD). The first is the ratification of Agenda 2030, which extends the Millennium Development Goals into a globally binding framework [8]. This agenda sets forth 17 Sustainable Development Goals (SDGs) to be achieved by 2030, one of which emphasizes explicitly inclusive quality education for all and the promotion of lifelong learning [4]. The second development is the continued expansion of efforts from the UN Decade of "Education for Sustainable Development," which concluded in 2014 [4, p.170]. Since 2015, the Global Action Programme (GAP) on ESD, a UNESCO initiative, has aimed to further these achievements by ensuring everyone gains the knowledge, skills, values, and attitudes needed to contribute to sustainable

development. The GAP focuses on five priority areas, one of which is 'building capacities of educators and trainers' [16].

However, embedding sustainability as a golden thread throughout all levels of education,' as proposed in this special issue [12], requires more than policy. It ultimately demands competent, dedicated individuals who serve as change agents within education, possessing the desire and the capability to implement change across educational sectors. Educators are not just pivotal in this transformation; they are the driving force, and their competencies will shape the future. To fulfil this role, these agents must have opportunities to develop relevant competencies throughout their own educational journeys. As a result, GAP identifies the building capacities of educators and trainers as one of the five priority areas [16].

To foster change through schooling and curricula, it is essential to determine what specific knowledge and skills teachers need to act as effective change agents and how teacher education can facilitate the development of these competencies. Additionally, it is essential to consider how these competencies can be supported. Providing support that merely introduces sustainability as a topic or familiarizes students with ESD needs to be improved. Instead, educational settings should be designed to let students engage with ESD as a transformative paradigm, offering them opportunities to experiment with real-world applications.

To effectively integrate sustainability at all levels of education—a requirement emphasized by numerous policy initiatives—specific focus must be placed on the training and development of current and future educators, who are expected to serve as advocates for change. The successful incorporation of Education for Sustainable Development (ESD) into school curricula and teaching practices is closely tied to educators' sustainability competence and commitment [1; 7]. In this context, three central questions emerge:

1. What core competencies are essential for teachers to perform their roles proficiently in daily school settings?

2. What specific skills are required to implement ESD?

3. How can teacher education programs support the development of these competencies?

Teachers play a significant role in enhancing students' learning outcomes, and their competencies create the most effective learning environments [9; 10]. For instruction to be successful, it must resonate with students, and teachers can accomplish this by aligning with students' backgrounds and interests, adapting content to match their existing knowledge, and encouraging. This alignment is not just crucial; it is the key to fostering student engagement and enhancing learning outcomes. Consequently, discussions about what fosters skilled educators' development remain central in educational theory and research.

Over recent years, numerous models and frameworks of teacher competencies have been defined, tested, and refined, many of which are based on Shulman's (1987) principles of effective teaching [3, p. 270; 5, p. 310; 19, p. 27]. General professional knowledge encompasses pedagogical, organizational, and counselling skills that apply across disciplines. While the model emphasizes knowledge, it also outlines competencies linked to teachers' attitudes and personal motivations [20]. The significance of the study is that sustainable education is not only about academic content but also about shaping attitudes and skills that empower individuals to contribute to a more equitable, sustainable world.

Main results. A significant step toward ensuring the quality of higher education and modernizing its content was the revision of higher education standards under the Law of Ukraine "On Higher Education" (2014), which outlines the primary requirements for these standards and the procedures for their development [22]. The updated standards align with the Bologna Process and are based on a competency-based approach. Notably, these standards do not specify lists of mandatory disciplines, strengthening universities' academic autonomy. This flexibility allows for a wide range of educational programs, orienting teachers and students toward specific outcomes while granting them sufficient independence in determining how to achieve these goals [23].

According to the Ministry of Education and Science, the higher education standard for "Educational and Pedagogical Sciences" was established. This standard enables students to obtain a master's degree by completing either an educational-professional or an educational-research program. The master's level of higher education provides students with deep theoretical and practical knowledge in their chosen field or specialization, familiarizing them with the general methodological principles of scientific and professional activities and other competencies that enable them to solve innovative tasks within their professional domain. Additionally, master's-level educational programs are designed to offer foundational and applied training for qualified specialists in education and pedagogy, educational experts, and quality assurance professionals. The programs aim to develop students' abilities for management, research, and academic work in educational and scientific-pedagogical institutions [25].

An analysis of these standards reveals that master's programs are geared toward high qualification levels that meet modern requirements. The training programs focus on building a comprehensive skill set that successfully enables graduates to handle pedagogical, scientific, and managerial educational tasks. Core integrated competencies include the ability to address research and innovative challenges in educational and pedagogical sciences, involving analyzing,

synthesizing, and applying new approaches to resolving educational issues. Graduates' general competencies equip them with cultural awareness, analytical and critical thinking skills, self-directed learning, interpersonal communication, and the capacity for collaboration in an international context. The development of social responsibility and awareness in graduates is also emphasized.

First and foremost, it is crucial to understand that the professional standard for teachers is one of the essential tools for managing the quality of education and is an optimal means of ensuring its continuity. The standard serves as a foundation for developing professional qualifications and job descriptions, as it stipulates qualification requirements and the growth of teachers' professional levels, enabling the effective use of their potential. Furthermore, the professional standard allows for creating various methodologies and procedures and evaluative-criteria complexes for application within institutional quality management systems. It acts as a guideline for enhancing state educational standards, programs, curricula, interdisciplinary modules, and teaching and methodological materials for their preparation in higher education institutions (HEIs). Most importantly, the teachers' professional standard is a normative-legal instrument that can ensure the unity of requirements in the professional-pedagogical sphere and create conditions for teachers' professional and personal growth, considering the specific features of the continuous pedagogical education system's development [21].

The Ministry of Economic Development, Trade, and Agriculture Law approved the professional standard. It serves as a tool for systematizing skills and competencies (creating job descriptions), preparing young specialists, facilitating self-assessment and evaluation of the activities of higher education instructors, and enhancing their qualifications and professional development. The developer of this standard, the Ministry of Education and Science of Ukraine, recommends using it to formulate requirements for the positions of scientific and pedagogical staff, draft educational and scientific programs for the second and third levels of higher education, as well as training and qualification improvement programs for scientific and pedagogical staff [27].

The professional standard for higher education instructors is a comprehensive document that includes twelve general competencies and twenty-one professional competencies. General competencies include

- 1) knowledge and understanding of the subject area and professional activity;
- 2) possession of critical thinking skills;
- 3) communication skills and the ability to show empathy;
- 4) ability to use information and communication technologies;

5) ability to search, process, and analyze information from various sources;

6) capacity for personal and professional development;

7) ability to generate new ideas (creativity);

8) ability to apply best practices in professional activities;

9) ability to motivate people and work towards a common goal;

10) ability to act based on ethical considerations (motives);

11) ability to demonstrate tolerance and respect for cultural diversity;

12) ability to act socially, responsibly, and conscientiously.

The professional competencies group reflects the primary goal of the professional activity of instructors in higher education institutions, which is primarily to form civic, professional, and worldview competencies, as well as moral and ethical values in higher education students. These competencies reveal the nature and essence of the established eight labour functions for typical positions of scientific and pedagogical staff, including 1) developing and updating curricula, preparing educational and methodological materials; 2) teaching and providing advisory support to students; 3) assessing learning outcomes; 4) conducting research and creative projects, disseminating their results, and ensuring the protection of copyright; 5) participating in departmental work, other collegial bodies, professional associations, and organizing educational and scientific events; 6) supervising students and postgraduate researchers in their scientific/creative work; 7) developing and improving educational programs; 8) conducting scientific and professional expertise, consulting individuals, enterprises, institutions, and organizations ([27]).

A careful examination of the content of the presented educational and professional standards developed to regulate the training and activities of pedagogical and scientific-pedagogical staff confirms the thesis that they are interrelated documents aimed at laying the groundwork for adequate professional preparation and development of teachers and instructors within the system of continuous pedagogical education. This is achieved through the modernization of higher education programs by considering the actual needs of all stakeholders and planning professional development for pedagogical personnel through self-assessment of their professional competencies. Thus, the implementation of professional standards encourages developers and members of groups responsible for educational program implementation for master's training in the field of "Education/Pedagogy" to formulate general and professional competencies, as well as learning outcomes in line with the requirements of the professional standard concerning the qualification characteristics of pedagogical

staff and the directions of their professional development. The professional standard for higher education instructors demonstrates a powerful alignment with sustainable education principles by fostering competencies that support both immediate academic objectives and the broader goals of global sustainability. This standard equips educators with a diverse skill set, including critical thinking, social responsibility, technological literacy, and ethical action, which together advance the objectives of the United Nations Sustainable Development Goals (SDGs). For example, competencies in critical thinking, information analysis, and lifelong learning directly contribute to SDG 4 by ensuring that students receive a quality, adaptable education that prepares them to tackle complex global challenges. Similarly, competencies in social responsibility, ethical behavior, and respect for cultural diversity align with SDG 16, as they nurture a learning environment that values inclusivity and integrity. By modeling these attributes, instructors inspire students to engage in their communities thoughtfully, fostering a commitment to social justice and ethical practices essential for sustainable societies. The emphasis on ICT and digital literacy equips both educators and students to navigate and critically assess the digital landscape, meeting the demands of SDG 9 by promoting innovation and responsible technological use. Moreover, fostering creativity and innovation within the curriculum supports SDG 9's focus on industrial and infrastructure development, as educators encourage students to approach issues such as climate change and social equity with inventive, solution-oriented thinking. Competencies that focus on collaboration and civic engagement promote SDG 17 by preparing students for global partnerships and teamwork, critical for collective action toward sustainability. These diverse skills allow educators to design curricula that integrate sustainability concepts, continuously modernizing educational programs to reflect the complex, interdisciplinary nature of global challenges. In creating classrooms that value tolerance and cultural diversity, instructors embody SDG 10's goal of reducing inequalities, preparing students for respectful, multicultural engagement. Through these competencies, the professional standard for instructors not only strengthens the educational framework but also prepares students to be proactive, ethical, and innovative global citizens capable of addressing the demands of sustainable development. Thus, the standard contributes to an educational system that is attuned to the SDGs, forming the foundation of a sustainable society by equipping future generations with the knowledge, skills, and values needed to lead responsibly in a complex world.

Conclusions. In conclusion, sustainable education is vital for preparing individuals to navigate a rapidly changing world's complexities and contribute to a sustainable future. By integrating sustainability

principles across all educational dimensions, we equip students with the knowledge, skills, and values necessary to address pressing global challenges such as climate change, social injustice, and economic inequality. The multifaceted nature of sustainable education—encompassing environmental awareness, social justice, economic understanding, systems thinking, and global citizenship—ensures that students acquire theoretical knowledge and engage in practical, hands-on experiences that foster a sense of responsibility and agency.

The revisions to higher education standards in Ukraine, particularly under the Law "On Higher Education," mark a significant step toward enhancing the quality and relevance of educational programs. By embracing a competency-based approach and promoting academic autonomy, these standards enable universities to design curricula that reflect current needs and trends in education. This flexibility is crucial for developing specialists in the "Education/Pedagogy" field, ensuring that future educators are well-equipped to inspire and lead students in sustainable practices.

Ultimately, sustainable education is not just about imparting knowledge but about cultivating a mindset and skill set that empowers individuals to become proactive agents of change. By fostering critical thinking, creativity, and a deep understanding of interconnected systems, we prepare learners to tackle today's and tomorrow's challenges, paving the way for a more just and sustainable world. As educational institutions evolve in response to societal needs, the emphasis on sustainability must remain a core objective, ensuring that the next generation is equipped to build a better future for all.

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