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## Ecologization of education in the innovative space of higher education

### Екологізація освіти в інноваційному просторі вищої освіти

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
#### Abstract


The new content of the ecologization of education is considered, the goal is formulated and the possibilities of ecologization of education in the innovative space of higher education are shown. Definitions are interpreted: ecologization, ecologization of education in the innovative space of higher education; the main goals of ecologization of education and the main components and most important tasks of ecologization of education in the innovative space of higher education are highlighted (formation of ecological culture for all segments of the population; training of ecological specialists for the educational field and various branches of the national economy; in the field of ecological studies: improvement, standardization, harmonization of terminology. Three main types of spiritual values were identified. The main principles of ecologization of education in the innovative space of higher education and two interrelated components (promotional, content-informational) are singled out. The relevance of educational, cultural, and educational functions of ecologically oriented


#### Анотація


Розглянуто новий зміст екологізації освіти, сформульовано мету та показано можливості екологізації освіти в інноваційному просторі вищої освіти. Потрактовано дефініції: екологізація, екологізація освіти в інноваційному просторі вищої освіти; виокремлено головні цілі екологізації освіти та основні складові й найголовніші завдання екологізації освіти в інноваційному просторі вищої освіти (формування для всіх верств населення екологічної культури; підготовка фахівців-екологів для освітньої галузі (викладачів) та для різних галузей народного господарства; у галузі екознань: вдосконалення, стандартизація, узгодження термінології. Виявлено духовні цінності трьох основних типів. Виокремлено головні принципи екологізації освіти в інноваційному просторі вищої освіти та дві взаємопов'язані складові (пропагандистська, змістовно-інформаційна). Наголошено на актуальності виховної, культурної, освітньої функцій еколого-орієнтованого блогінгу та показано ефективність використання проектних

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blogging is emphasized and the effectiveness of using project technologies in the formation of the ecological worldview of a higher education student, which contributes to the realization of the comprehensive development of the individual as a person and the highest value of society, is shown.

**Keywords:** ecologization of education, innovative space of higher education, ecological outlook, ecological culture, principles of ecologization.

### Introduction

The third millennium is characterized on the one hand by the accelerated development and innovation of technology, science, and the latest information and communication technologies, and on the other by the state of the world's global ecological crisis. Over the past century, an artificial powerful system has formed in the biosphere – the technosphere, which includes transport, industrial facilities, urbanized communal complexes, and the agricultural sector. Today, the activities of mankind are aligned with the forces of the elements, which have led to the destruction of the mechanisms of self-regulation of Nature, the destruction of many types of natural resources, and the circulation of substances and energy. The consequence of such natural destruction is the degradation of ecosystems, which progresses and can become unpredictable and irreversible for the entire planet (Biliavskiy, 2006). Therefore, a new position is necessary about ecological education, which should be established at the current stage of reforming the educational sector. Ecologization of education in the innovative space of higher education is considered as a process of human socialization, its adaptation to existence in an urbanized environment in the conditions of the development of an informational, balanced, civil, sustainable society. This approach to the problem of ecologization of education in the innovative space of higher education allows us to consider it as a new educational field with extracurricular functions because it forms two value orientations – the relationship to the internal environment of the individual himself, his health, and the relationship of Man to the natural and artificial, external, surrounding environment. Ecologization of education in the innovative space of higher education should study not only natural objects but the relationship of mankind to them, influencing the norms of preference, ethical, aesthetic goals, and legal ideals. Ecological education promotes a new universal

технологій у формуванні екологічного світогляду здобувача вищої освіти, що сприяє реалізації всебічного розвитку особистості як Людини та найвищої цінності суспільства. Розроблено рекомендації щодо застосування основних методів екологізації освіти в інноваційному просторі вищої освіти.

**Ключові слова:** екологізація освіти, інноваційний простір вищої освіти, екологічний світогляд, екологічна культура, принципи екологізації.

human value – concern for the noosphere, ecological quality of the environment (the most important essence of the individual in the 21st century) and tries to reveal the limitations of the consumer lifestyle of a person (Saienko & Boichenko, 2013).

Ecologization of education in the innovative space of higher education focuses on the search for new innovative means of the coexistence of the world of culture and the world of nature, provides prospects for the organization of quality knowledge, and leads to an understanding of the paths of joint human evolution. In this process, cognitive models or ecological cognitive orientations play an important role, because with their help it is possible to distinguish levels of reality, which, at a certain historical stage of the social development of the world, reflect the levels of interaction between nature and man (Pustovit et al., 2016).

Therefore, the ecologization of education in the innovative space of higher education is intended to foster a sense of responsibility for one's actions and deeds in the field of professional work and everyday life, to lay the worldview of a modern personality, to contribute to the rethinking of its productive place in nature. Therefore, the global pedagogical community speaks of the importance of the content of their professional training in the professional training of future specialists of all specialties of ecologization (Siaska, 2021).

### Literature Review

O. Bida, I. Oros, & V. Honcharuk revealed the main foundations of the formation of ecological culture for the young generation. Scientists have developed not just ways of learning for the younger generation, but have connected it with ecological education and presented it as an individual process that is necessary for

personality development. The ecological culture was presented as a complex of objectifications and subjectifications, which in the process of cross-cultural education should be assimilated and used in everyday orientation. The most important function of the ecological culture of mankind is that it is a way by which society solves the main problems that exist in the world (Bida et al., 2020).

V. Prusak (2020) developed the basics of ecologization of education in the innovative space of higher education and created the concept of continuous ecological training of specialists. A continuous educational system of ecological training of future specialists has been developed and theoretically substantiated, taking into account general scientific approaches with the following components: methodological approaches, leading ideas, scientific and pedagogical approaches, principles (specific and general), pedagogical conditions, forms, methods, and means. Their positive influence on the training of future specialists, being in a single complex, has been proven. The author's structural-functional model was designed, and the stages of continuous ecological training of future specialists were displayed. Pedagogical conditions for the formation of the designer's ecological competence and the method of implementing a pedagogical continuous system of ecological training of future specialists are proposed.

I. Siaska (2021) analyzed the professional training of future science teachers and substantiated the theoretical and methodological basis of the formation of their ecological competence in the educational process of higher education institutions. developed the concept (theoretical, methodological, methodical level), designed the structure and content of the system for the formation of ecological competence of future specialists and, with the help of introducing the conceptual model into the training process, carried out its approbation, determined the conditions for its implementation in the process of professional training. She showed the functions, revealed the essence, outlined the structure, proved the effectiveness of the ecological competence of future specialists, and substantiated the stages of its genesis in the process of professional training.

O. Bida, T. Zorochkina, I. Oros, O. Kuchai, A. Chychuk, & T. Kuchai (2021b) studied, designed, revealed the essence of the structure of health-preserving activities of higher education students; showed the real state of the problem of

the formation of the ecological culture of the students of education; in the educational process of the educational institutions, they developed, formulated, scientifically substantiated, specified the pedagogical conditions for effective health-preserving activities of the students of higher education.

N. Pustovit, O. Kolonkova, O. Prutsakova, G. Tarasiuk, & Yu. Solobai (2016) designed, revealed the essence, scientifically substantiated the theoretical principles, determined pedagogical conditions, and characterized practical approaches to the ecologization of the educational space of an educational institution. We considered a valuable educational space, a system of components connected by the ideas of sustainable development of society, ecological responsibility, ecological safety of the environment, preservation of biodiversity, valuable attitude to nature, and frugal resource consumption. For educational institutions, educational programs have been developed that reflect modern trends in ecological pedagogy in a spatial approach, and the main organizational approaches to everyday activities and the ecologization of family leisure have been presented.

T. Saienko, & S. Boichenko (2013) found out the relevance and importance of the development of the higher ecological education system in technical universities, analyzed the determining factors for the sustainable (balanced) development of the education component and the formation of a harmonious, harmonious, ecologically safe society. They proved that in times of global ecological crisis, the spread of eco-pedagogy is the main condition of the process of transformation of society in the direction of noospherogenesis. They analyzed the factors of activation of the informal sector of education, eco-auditing, and eco-management, formed the necessary positions in the educational process for the development of psychological and pedagogical foundations of information and didactic support, based on the ecological imperative, showed ways of cooperation with religious institutions, and proved the importance of developing a system of compliance with the requirements of ecological culture, ethics, ecological outlook.

V. Isaienko, K. Babikova, Yu. Satalkin, & M. Romanov (2019) considered the interdisciplinary system of methodological, theoretical, and technological knowledge for training engineers of synergistic innovation competence in engineering ecology, which for

the period up to 2030-2050 is oriented to the trends of innovative global and ecological imperatives; developed models of technological synergism. The synergistic foundations of ecological engineering, infrastructure, and system engineering ecologization of production are revealed. The foreign experience was studied and progressive ideas on the investigated problem were singled out; a system model of sustainable development of an ecologically clean enterprise was developed; the essence of aerospace technologies of ecological engineering is revealed. Structural components of professional competencies have been developed for specialists of various branch specializations to form models of integrated engineering and ecological competence in the specialty "Engineering Ecology".

L. Fenchak (2011) indicated axiological guidelines in the development of the personality of the future teacher, based on the principles of axiology, the peculiarities of the formation of the ecological culture of future specialists were considered. For future primary school teachers, an analysis of the state of the formation of ecological culture during their preparation for professional activity was made based on axiology.

Ways of forming personal values in the field of education are considered, at the current stage of the formation and development of pedagogical education, where considerable attention is paid to substantiating the system of ecological culture formation of future specialists on axiological principles, the conditions for its successful implementation are determined; the psychological-pedagogical mechanism of the formation of the appropriate quality in the students of education, who form the ways of independent life activity, was investigated.

A. Kuzminskyi, O. Kuchai, O. Bida A., A. Chychuk, I. Sihatii, & T. Kuchai (2021) in higher education institutions indicated the main ways of innovative training of specialists in the conditions of distance learning, identified the characteristic features of distance learning, showed the advantages of distance learning in the preparation of students of education, ways of ecologization of education in the innovative space of education, found out the conditions of high-quality distance learning: the presence of students of education accounting for psychological patterns of perception, attention, memory, computer literacy, psychological comfort, age characteristics of students of education, personal and individual

characteristics, the ability to dialogue by means of information technologies, an individual approach, systematic control, organized self-control, generalization of knowledge, mastering the skills of independent work, ensuring the interaction of the components of the distance learning system.

O. Bida, A. Chychuk, O. Kuchai, V. Honcharuk, & T. Kuchai (2022) revealed the concept of "ecological competence", showed its essence, and substantiated the structural components of the formation of ecological competence for future biology teachers. Among the future teachers of natural sciences, the levels of the formation of ecological competence were identified. The concept of the formation of ecological competence has been developed for future biology teachers. The main idea of the concept is to develop and substantiate such a system for the formation of ecological competence of future biology teachers, the purpose of which at the strategic level is the functioning and creation of an ecologically oriented environment, the implementation of which in the educational process is the system-integrating basis of the formation of the pedagogical phenomenon and modernizes, rationalizes, modifies the educational content of professional training. Pedagogical conditions for the realization and development of the studied ability in the process of professional training are presented. The system-integrating basis of the formation of ecological competence is methodologically substantiated, and the ways of ensuring the professional training of future biology teachers are proposed.

M. Diachenko-Bohun, V. Onipko, & V. Ishchenko (2019) developed methodological recommendations for the implementation of ecological education for students in the field of training: 101 "Ecology" by the program of the course "Theory and Practice of Ecological Education" and designed for the preparation of students of the educational degree "master". The authors presented theoretical material that will help future specialists to better study theoretical issues from the academic discipline "Theory and Practice of Ecological Education", as well as to master practical work skills, to form among students of education the concept of modern principles of continuity of ecological education; equip them with skills and knowledge necessary for the formation of ecological culture, worldview, ecological innovative thinking, consciousness; development of methods of ecologization of the educational space, skills of educational and research activities.

O. Bida, I. Oros, & T. Kuchai (2021a) proved the innovative composition of culture by proposing four main elements: rules and norms, values, notions (concepts), and relations. It has been shown the extremely important role of each of these components in ecological education, creating the cultural image of specialists. The main function of culture is the method by which the whole society solves problems. Taking into account the current world trends, the authors proved the importance of the formation of ecological culture in students of education.

**The purpose of the study:** to consider the new content of the ecologization of education, formulate the goal and show the possibilities of ecologization of education in the innovative space of higher education.

### Methodology

The following research methods were used to solve the tasks: theoretical – analysis of normative documentation, psychological-pedagogical, philosophical, and methodical literature, educational publications on the research problem; generalization, comparison, systematization of pedagogical experience, theoretical and methodological principles, organization of educational and game activities of ecologization of education – to clarify the content of the key concepts of research, clarification in practice and theory of the current state of research of the problem; empirical – modeling, analysis of pedagogical best practices, generalization of independent characteristics – to substantiate the ecologization of education in the innovative space of higher education, the methodology of forming the readiness of future specialists to consider this problem.

The research was carried out using the following approaches:

- scientific – covers the main concepts, theories, and regularities that condition and characterize relations and show interaction in the "society-nature-man" system. When using the approach, the ecological knowledge acquired by the students of higher education, which they acquire, should be based on provisions verified not only by science but also by practice, that is, scientific. It is worth taking into account the peculiarities of modern progress, in which one of the main problems arises, which consists in the availability of a large amount of scientific information, which, the further

the progress of society goes, the more often it outstrips the possibilities of learning;

- noosphere approach – is based on nature-based education and training, which is aimed at the development of a holistic worldview, synthetic thinking, the spiritual and moral sphere of the individual, ecological awareness, the identification of an effective tool for choosing a personal place in the "society-nature-man" system, the ability to choose morally – available means of education, setting goals and achieving them, forecasting the consequences of one's activities;
- systemic approach – in the institution of higher education, ecological education is taken into account as a component or element of the system of continuous ecological education; on its basis, decisions are made in the process of implementation, design, management of pedagogical systems in general and, in particular, ecological education;
- cultural approach – considers the ecologization of education in the innovative space of higher education in the context of the unity of natural-scientific and humanitarian knowledge, as a result of the cultural-historical development of mankind; examines the content of ecological education based on accumulation and preservation of traditions, continuity, historical experience of ecological traditions of the people;
- value approach – is based on the formation of theoretical-cognitive, spiritual prerequisites, moral-ethical attitudes to the problem of ecologization of education in the innovative space of higher education, the environment both in everyday life and in professional activity;
- normative approach – aimed at the implementation and assimilation of the system of laws, ecological norms, rules, and prescriptions regarding the behavior and activities of each individual, both as a specialist in particular and as a citizen in general;
- co-evolutionary approach – the transition of the "Man – biosphere" system is based on the understanding by the conquerors of the remaining space that they must ensure their future not only by changing the biosphere, (i.e. the transformation of the biosphere into the noosphere) by adapting it to their needs, but also by adapting to a state of dynamically stable integrity, to the objective requirements of nature, symbiosis. Above all, ecological and moral imperatives help to

ensure this process, and a person should follow such a position. The first imperative means a set of prohibitions on all such types of human activity, production that is incompatible with the very existence of humanity, saturated with irreversible changes in the biosphere. The second imperative requires turning the worldview towards universal human values, changing the worldview of people, a sense of respect for any life, a reassessment of traditional consumer ideals, and the ability to prioritize not private, but general interests.

- activity approach – consists in the application of practical skills of ecologization of education, ecological household, and professional activities; provides for the creation of innovative conditions, not just the transfer of ecological knowledge, but with the help of innovative and traditional technologies, the entire process of ecologization of education is modeled in the innovative space of higher education, the real content of the activities of education seekers in society and nature is reproduced;
- competence approach – consists in the content of professional education serves as a guide of ecological culture, is based on the formation of ecological competence, in the technology of education ensures the implementation of developmental and personal functions, and creates motivation for value orientation in education.

## Results and Discussion

The development of ecological awareness and the ecologization of education determines human behavior, ecological culture, and activity. Through consciousness, a person reveals his attitude to his environment, can adapt to his own needs, change nature, and adapt to the surrounding world.

In the relationship between society and nature, there is an aggravation of contradictions and a worsening of the ecological situation in the world, which causes alarm, such a situation leads to a violation of the ecological balance and ecological disasters. A way out of the current situation requires the combined efforts of humanity, significant economic and social transformations. Harmonization of such relationships can only be a result of the ecologization of education in an innovative educational space, and the development of ecological awareness of society. Therefore, significant importance should be attached to the

formation of ecological awareness of teachers and students during the educational process in higher education institutions. The ecological state of the modern planet has caused the deepening and expansion of the methodological basis in educational practice and sees the solution to this problem at the level of education (Vlasenko, 2020).

Ecologization is a process:

- focused on the improvement and preservation of the quality of the natural environment, on the implementation of ideas in the field of sustainable environment legislation, management and preservation of nature, development of technologies, education, economy, etc.;
- consistent implementation of systems of legal, managerial, technological, and other solutions that make it possible to reduce the anthropogenic load on the natural environment, and increase the efficiency of the use of natural resources;
- leads to the concrete implementation of ecological requirements in various spheres of human activity, and not only denotes a phenomenon for the protection of the biosphere from anthropogenic influence.

The main goals of the ecologization of education in the innovative space of higher education are:

- use of zero-waste technologies and closed cycles of resource consumption;
- using improving and preserving the properties of the natural environment – optimizing the living conditions of mankind;
- rational use of natural resources, ensuring their restoration, protection, and extended reproduction;
- preservation and protection of the gene pool of the animal and plant world (Pustovit et al., 2016).

At the current stage of the development of society, the ecologization of education in the innovative space of higher education is formulated as:

- new nature-centric life orientations, complex interdependent connections in the environment;
- an educational and educational system-complex process of formation of worldview, ethics, ecological thinking, and culture through the assimilation of skills, ecological knowledge, and skills about the role and place of man in the biosphere environment;



- the factor of realization of higher education, development of the biosphere – noosphere, for a balanced, sustainable society;
- harmonization of relations between Nature and society, overcoming global and regional ecological crises.

The goal of ecologization of education in the innovative space of higher education: training of future competitive specialists who can choose ecologically appropriate economic and social development strategies, solve complex ecological problems in the conditions of an ecological crisis, develop ecological protection measures, effective resource-saving technologies by the ecologically safe, balanced development of society as whole and individual territories.

Let's highlight the main components of the ecologization of education in the innovative space of higher education. This is informal and formal education. Higher and postgraduate education are components of formal education, which are the progress of modern educational changes because they prepare civil servants of all levels, managerial staff, employees of local self-government bodies, etc.

The national nature of ecological education reflects one of the directions of rational nature use, international strategy on the problems of the natural environment in the field of education, nature reproduction using informal and formal education, ideas of humanism, democracy, rich folk traditions, systematicity, systematicity, continuity of self-improvement of the individual, interdisciplinary ecological education (Saienko & Boichenko, 2013).

Let us single out the most important tasks of ecologization of education in the innovative space of higher education:

1. The formation of ecological culture for all segments of the population, which includes:
  - fostering an understanding of modern ecological problems of the world and the state, awareness of their relevance, importance, and universality;
  - formation of awareness of the futility of the technocratic idea of necessity and the development of its replacement with an ecological one, which is based on the global complex-organized system of harmonious development and coexistence on the understanding of the unity of all living and non-living things;

- education towards the native nature of love, revival in mutual relations with the environment of the best traditions of the Ukrainian people;
- the development of individual responsibility for the state of the environment at the global, national, regional, and local levels, the ability to forecast the activities of teams and other people, as well as personal activities;
- formation of an understanding of the mandatory coordination of the human strategy and the strategy of nature based on overcoming the consumerist attitude towards nature, the idea of self-limitation, and the universality of natural connections;
- development of skills to preserve one's health and foster a deep respect for it;
- mastering the norms of ecologically competent behavior, developing the ability to make (significant, responsible) decisions regarding ecological problems.

2. Training of ecological specialists for the educational sector (teachers, teachers) and various branches of the national economy:

- in the field of rational nature management and ecological protection;
- public ecological organizations;
- for state management bodies.

3. In the field of ecological studies: improvement, standardization, and harmonization of terminology (Diachenko-Bohun et al., 2019).

Modern society poses challenges to ecological education that cannot be solved without appropriate professional training of future specialists in the innovative space of higher education. Professional training requires the provision of cultural individual development of the personality, and not only the acquisition of relevant skills and knowledge by future specialists. In the development of the spiritual culture of an individual, education plays a special role in higher educational institutions, as it contributes to ensuring the transmission of national traditions, values, ideas, knowledge, and skills from one generation to another.

An important link in the development of future specialists in ecological culture is professional training and the acquisition of skills in the formation of ecological culture in their students and employees.

Taking into account the fact that the content of ecological culture is foreseen by the new concept

of the development of higher education and the formation of ecological culture in future specialists is a part of professional training, there is a need to objectively make effective changes in the methods of training specialists, the content of training by their future activities. The level of morality and culture of people and their attitude to nature will depend on the quality of training of future specialists.

In the formation of ecologization of education in the innovative space of higher education, we will identify spiritual values of three main types:

- 1) traditional universal moral norms that regulate people's activities, constitute a kind of algorithm, perform the function of stabilizers of society;
- 2) mobile, dynamic values determined by the changing socio-cultural environment. The constant change of positive meanings is their feature, which in specific conditions have their moral justification, social and historical;
- 3) values-innovations, their emergence is connected with the emergence of new ecological and socio-cultural situations. It is they who should form systemic ecological thinking in new social realities, taking into account the hierarchy of values-regulators of individual, purposeful, mass activity (Fenchak, 2011).

Ecologization of education in the innovative space of higher education is considered as a continuous process that covers all professional, social, and age groups of the population and is based on the following principles:

- integrity, because ecologization of education in the innovative space of higher education occurs as a pedagogical integral process; at all educational levels provides for the implementation of stages and directions of educational work; is aimed at the formation of a person's holistic picture of the world, at the versatile and harmonious development of the personality; covers all spheres of life of education seekers; is carried out in educational activities of all social institutes and outside educational activities;
- acmeological involves the creation of conditions for optimal self-realization of a person, the orientation of the educational process towards achieving the highest moral and spiritual development by the student of higher education; improvement of abilities and disclosure of individual capabilities in interaction with nature; predicting the consequences of one's actions; formation of skills to mobilize all one's strength to overcome contradictions and difficulties of interaction with nature; the ability to make ecologically appropriate, conscious decisions;
- preventiveness provides educational influences aimed at preventing the destructive behavior of higher education students about the activities of nature; implementation and development of a system of measures with elements of an economic, ecological, social, and legal nature aimed at the constructive solution of ecological problems and the formation of ideas about cause-and-effect relationships in the interaction of man with nature;
- meaningful self-activity in life involves the formation of the student of education as a designer and creator of his life, who in interaction with nature knows how to make independent decisions and be responsible for them, actively act and live fully in the dynamic conditions of life, respond adequately and flexibly to social changes, constantly improve himself (Pustovit et al., 2016);
- systematicity, systematicity, and continuity, which create organizational conditions for the formation of the ecological culture of the individual between individual links of education, the unity of informal and formal education of the population;
- focus on the universality of all connections of natural processes and components; the idea of the integrity of nature;
- an interdisciplinary approach to the formation of ecological thinking in the innovative space of higher education, which involves the logical subordination of personal knowledge to the main goal of ecological education, the combination and logical deepening of systemic natural knowledge;
- the relationship between global and national thinking, which contributes to the understanding of ecological problems at various levels;
- the local studies principle of ecologization of education in the innovative space of higher education should be laid as a basis and improved;
- objectivity and specificity of skills, abilities, and knowledge;
- a combination of ecological highly professional knowledge with universal high moral values, synthesis of socio-humanitarian and natural-scientific knowledge.



Based on the principles of beauty and goodness, consciousness and reason, universalism and patriotism, compliance with ecological law and scientific knowledge, ecological education in the relationship between man and nature is aimed at combining the rational and the emotional (Diachenko-Bohun et al., 2019).

The work on the ecologization of education in the innovative space of higher education of education seekers should combine two interrelated components:

- 1) promotional component: acquisition of the values of a healthy lifestyle by those obtaining higher education;
- 2) practical and content-informational plane: identification and acceptance by higher education students of knowledge and acquisition of skills and abilities necessary for independent fulfillment of requirements and transfer of knowledge to others in future professional activities (Bida et al., 2021b).

We note the low level of ecologization of education, which depends on the low quality of ecological training of specialists. Currently, prerequisites have been created for the ecologization of education, and it is very important in institutions of higher education to increase the level of ecological thinking of students of education, ethics, consciousness, and culture of both students of education and teachers. Currently, the conditions and ways of involving all countries in the development and formation of the global market of ecological services and goods are being developed, the capacity of which with an annual increase of about 1% is estimated at \$ 20 billion in the countries of Eastern Europe. In the first half of the XXI century. we observe ecological products up to 40% of global production, as well as an increase in ecologically clean energy and ecological technologies (Saienko & Boichenko, 2013).

As methods and ways of improving the ecologization of education in the innovative space of higher education, as a factor in the implementation of education throughout life for balanced personality development, we offer solutions to the following tasks that make the transition:

- to the competence paradigm of education from the cognitive one;
- to education: balanced, active, co-creative, socialized (from passive education);

- from fragmentary to end-to-end, continuous, systematic, systemic;
- from ecological protection to moral-ethical, effective-responsible, worldview-value.

We consider the main tasks of ecologization of education in the innovative space of higher education to be:

- promoting the development of ecological thinking based on skills, knowledge, skills, ecological education;
- improvement of ecological knowledge in the theory and practice of ecological activities;
- the creation of an ecological outlook, properties, self-improvement, personal abilities, and ecological thinking based on systemic professional knowledge;
- education of ecological ethics, the main component of professional development, executive-practical, scientific-educational activity;
- the formation of ecological culture – the synthesis of ecological skills, abilities, knowledge, practical activities, and education aimed at preserving one's health and the entire environment.

We see the new meaning of ecologization of education in the innovative space of higher education "in a system-complex (holistic) view of the world of Nature with an ecocentric type of consciousness, the psychological inclusion of Man in Nature, with its subjective nature of perception and non-pragmatic interaction with all natural objects, including with people; understanding the global economic crisis as a crisis of general culture; education based on the elements of natural beauty, the Ukrainian national tradition of nature use, nature reproduction, ecological life" (Saienko & Boichenko, 2013).

To ensure effective ecological and educational activities, it is necessary to use the world of communications. With the development and in general, with the emergence of mass media, there is a need to use them for the ecologization of education in the innovative space of higher education, since they play an important role in spreading ecological knowledge among the population. In the formation of an ecologically oriented worldview, journalism and blogging of a wide viewing and reading audience play a leading role. The educational, cultural, and educational functions of ecologically oriented blogging are becoming more relevant as the importance and complexity of ecological problems are realized. To ensure a high-quality

innovative space of higher education, in which students will receive information from various fields about global ecological trends, from eco food and sustainable fashion to renewable energy and electric cars, educators should turn not only to Internet resources but also to tips, the Internet – page, mass media.

Demonstrates the effectiveness of the use of project technologies in the formation of the ecological worldview of a higher education student and promotes the realization of the comprehensive development of the individual as a person and the highest value of society, his creative, intellectual, physical abilities, talents, the formation of competencies and values necessary for self-realization (Polishchuk et al., 2022).

Let's emphasize the importance of one of the effective forms of implementing the ecologization of education in the innovative space of higher education: excursions along ecological trails that facilitate familiarity with local vegetation and animal life, allow you to observe landforms, see the consequences of anthropogenic impact on natural landscapes (positive and negative) and personally be a participant in nature protection affairs (Stratan-Artyshkova et al., 2022).

We recommend the main methods of ecologization of education in the innovative space of higher education:

- fostering a responsible attitude towards nature;
- use of informational computer technologies: multimedia accompaniment of classes, educational videos;
- involvement of higher education students in carrying out scientific and research work on the ecological state of the environment, in working on scientific projects of ecological direction;
- the use of interactive methods during training sessions: training, discussion, role-playing, project method, brainstorming, etc.;
- the use of educational tasks in the field of ecological protection during educational practice;
- consideration of topics of ecological content during the study of professional disciplines;
- creation of campaign teams, involvement of education seekers in active campaigning work on ecological protection among the population;
- active participation of students of higher education in the improvement and greening

of the territory of the institution of higher education and the territory of the city;

- increasing the scope of independent work of education seekers: participation in ecological circles, speeches at seminars and conferences, etc.;
- conducting ecological weeks, photo exhibitions, issues of ecological booklets and newspapers, etc (Ishchenko et al., 2022).

## Conclusions

Taking into account the modern trends of the world, the modern problems of nature protection and education are of particular importance, therefore, the formation of an ecological culture among students of education, their preparation for ecological education, and ecologization of education in the innovative space of higher education is an urgent problem and requires new approaches to its solution. (Akseonova et al., 2020).

The ecological culture of future specialists contributes to humanity's turn to a frugal and restorative way of life and moves away from consumerism because it is possible to instill a love for the environment, beauty, and health in educational institutions (Kuchai, 2010).

So, first of all, we must take into account the relationship between man and nature, solving the ecological problems of today. We consider ecological protection to be the most important task of European integration. At the national and international levels, we consider the establishment of the priority of humanistic values and ideals in relationships between people and in their relationship with the environment to be the most important condition for the sustainable development of society (Honcharuk, 2019).

The new content of the ecologization of education is considered, the goal is formulated and the possibilities of ecologization of education in the innovative space of higher education are shown.

Definitions are interpreted: ecologization, ecologization of education in the innovative space of higher education; the main goals of ecologization of education and the main components and most important tasks of ecologization of education in the innovative space of higher education are highlighted (formation of ecological culture for all segments of the population; training of ecological specialists for the educational field (teachers, teachers) and various branches of the national

economy; in the field of ecological studies: improvement, standardization, harmonization of terminology).

Three main types of spiritual values were identified (traditional moral universal norms; mobile, dynamic values; values-innovations). The main principles of ecologization of education in the innovative space of higher education and two interrelated components (promotional, content-informational) are singled out.

The relevance of educational, cultural, and educational functions of ecologically oriented blogging is emphasized and the effectiveness of using project technologies in the formation of the ecological worldview of a higher education student, which contributes to the realization of the comprehensive development of the individual as a person and the highest value of society, is shown.

Recommendations on the application of basic methods of ecologization of education in the innovative space of higher education have been developed.

We see the prospects for further research in the clarification of the possibility of ecologization of education in the innovative space of higher education.

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