

DOI: 10.21802/artm.2022.1.21.128
UDC 378.147+502.11

THE ROLE OF ENVIRONMENTAL EDUCATION IN SOCIETY'S DEVELOPMENT

A.B. Kostyshyn¹, Z.T. Kostyshyn², U.R. Lukach³, R.I. Verbovska², T.Ya. Divnych²

Ivano-Frankivsk National Medical University:

¹*Department of Orthopedic Dentistry,*

ORCID ID: 0000-0001-5500-0874, e-mail: kostushunzorjana1907@gmail.com;

²*Department of Dentistry of Postgraduate Education,*

Ivano-Frankivsk, Ukraine,

ORCID ID: 0000-0002-1840-8317, e-mail: kostushunzorjana1907@gmail.com;

ORCID ID: 0000-0003-1781-7909, e-mail: roksolanaverbovska@gmail.com;

ORCID ID: 0000-0003-2549-867X, e-mail: tetyanadivnych@gmail.com;

³*Ivano-Frankivsk Regional Institute of Postgraduate Pedagogical Education, Department of Management and Educational Innovations, Ivano-Frankivsk, Ukraine,*

ORCID ID: 0000-0002-2229-0315, e-mail: uljanalukach@ukr.net

Abstract. Long time ago the world realized that the intellectual potential of a country determines its place and role on the international level. Accordingly, its value in the economic exchange of developed countries is close to the value of the amount of goods, and the main factor of which is education. Education should become a priority area of activity in Ukraine, and environmental education – a prestigious, effective basis for active and vital research in various fields: social, technical, and medical. There are all prerequisites for this – a deep social crisis of society, the problems of the Chornobyl zone, the need to implement knowledge to protect the population.

The main purpose of environmental education is environmental awareness formation as a specific form of interaction with the environment regulation. On this basis, ecological thinking, ecological culture, and worldview are formed.

Eco-education is one of the main factors in the formation of a harmonious society. It is a way to improve and organize manufacturing efficiently. Environmental education is about the consumption of biosphere resources in accordance with its capabilities. It is a system of knowledge about the global conditions of living things existence. Environmental education is a set of educational activities to form environmental awareness, and on its basis – motivation for action. The peculiarity of this study is the need to organize different social groups to understand the causes of global environmental changes and ways to overcome them. Simultaneously, education is a form of socialization of the individual, in which the transfer of skills, abilities, ideals, and norms is implemented. It is impossible to form a new generation with the appropriate convictions, consciousness, and guidelines for the preservation of natural resources, and cultural heritage, without wide and intensive dissemination of knowledge.

Of particular relevance is environmental education in the health study. It determines the choice of future work for young people, the possibility of their comprehensive development, influences the overall preparedness, social realization, spiritual and physical growth, future achievements in the sphere of professional activity. The system of education, which is reflected in the concept of sustainable development of society, ensures the willingness of a person to lead a healthy lifestyle and to accept health as the highest value.

Environmental education includes common scientific, practical moral and aesthetic aspects. Its specificity is that humans assess conscientiously and constantly possible consequences of interfering with nature, which have a detrimental effect on health. The guiding principle of environmental education is as follows: think globally and act locally.

Practical implementation of tasks in modern educational institutions is based on comprehensive disclosure of nature protection, the relationship between theoretical knowledge and practical activities in this area, the inclusion of environmental aspects in the structure of a subject, special generalizing topics, and integrated courses that reveal the interaction of society and nature, combining classroom activities with direct communication with nature. Therefore, ecological culture and consciousness are formed only through long-term and gradual learning about the environment.

Environmental education equips a person with the necessary knowledge about the peculiarities of the impact of anthropogenic pressures and adverse effects.

The trinity of environmental education, upbringing, and culture implies their consistent and interconnected development.

Keywords: ecological education, society, education, culture.

Introduction. Chaotic, incompetent usage of natural resources by people leads to emergencies, and many of these problems are rooted in the history of humanity. Every year an ecological danger, which is caused by

environmental pollution, arises for people, and most harmful factors appear after a certain period (months, years).

One of the peculiarities of the current stage of social development is the migration of not only the workforce but also intellectual resources, which determines the

ability to systemic and conceptual thinking. Environmentally friendly factories are built, equal social relations, nanotechnologies, and strategies for a progressive future are developed in countries with appropriate conditions for its concentration and implementation. In places, with a lack of intellectual resources, we can observe environmental and social conditions deteriorating.

In human history, there has never been a problem as large-scale, versatile, and complex as an environmental one. It is a sort of a hub in which traditional and vital issues of production, economics, education, health, environmental management, politics, national and human security are combined. Overcoming the current environmental crisis is a component of the national policy of many countries, one of the main tasks of which is to change radically the attitude of a person to nature, the formation of environmental culture, environmental awareness, and environmental thinking.

The threat of systemic crisis for modern civilization increases the security interest in all aspects. Even though technological advances provide protection to the modern community, humanity is left alone with natural disasters, which are still little studied and unpredictable. According to international studies, the concept of human development promulgated by the United Nations Development Program (UNDP) defines human security as the right to choose in conditions of freedom and safety and being confident that these opportunities will remain for the future.

Ukrainians have always protected the environment as a shrine because it is our homeland – a majestic, wonderful, and eternal world. According to people, crimes are committed when individuals lose conscience and morality – the basis of spirituality.

It is necessary to analyze comprehensively inextricably linked facts and events in this aspect. Thus, there is a picture of the present, where instability is the most dangerous environmental factor. Nowadays, Ukrainian society suffers from the unnatural external influence that actively transforms all spheres of traditional life. It extremely affects young people, who are most vulnerable to everything unusual. This is happening in the background of total economic instability, military actions, deaths, and injuries of thousands of compatriots. This situation forces the younger generation to work tirelessly for a decent financial situation.

In foreign and Ukrainian pedagogical theory and practice there is a tendency to green education, giving priority to the formation of environmental culture foundations, including a responsible and appropriate attitude to nature. At the same time, environmental responsibility is interpreted as an important personal quality, which is manifested in the ability of a human to treat the environment carefully and rationally. An environmentally responsible person will never harm the environment because they care about nature, being its integral part. It has been proven scientifically that the level of a person's conscious attitude to all objects of nature, their natural and responsible behavior depends on both the cognitive component and the attitude to the environment.

The attitude to nature is declared in the Constitution of Ukraine, which states that: "Everyone is obliged to cause no harm to nature." In addition, our state regulates this process through the adoption of such laws and

programs as: "Environmental Protection" (1991), "Energy Conservation" (1994), "The Basic Principles (Strategies) of State Environmental Policy of Ukraine up to 2030" (2019). The Concept of Environmental Education of Ukraine (2019) outlines the tasks of educational institutions in this direction. The leading ones are the formation of ecological culture foundations and moral orientations of the personality.

The environmental requirements of the European Union are related to the establishment of the goods life cycle to reduce their negative impact on the environment and human health: from the extraction of raw materials to waste disposal. Therefore, Ukraine should accelerate the transition to environmental management and governance principles. It is a mandatory requirement for the prerequisites for sustainable development formation, one of the principles of which is the ecosystem approach. Our country has acceded to the main international conventions on the preservation of ecosystem potential, but because of political instability, their implementation is delayed. The need for such a system resulted from the ecological state of Ukraine.

An important task is to solve environmental problems that have arisen for a number of reasons: the slow implementation of environmental management and manufacturing and organization audit; inefficient application of environmental legislation and regulations; actions inconsistency of cities and villages management with ecological principles, norms, standards; low educational role of eco ethics in the state as a way to form the ecological culture of the younger generation and the whole society in the spirit of equality of all living things; the importance and role of criteria for assessing the ecological and economic condition; slow introduction of innovations in the manufacturing sector and growing environmental risks in the country; environmentally-oriented crisis management, making managerial decisions taking into account environmental factors; problems with the introduction of the goods life cycle and its environmental and economic efficiency; strategies to stimulate the spread of eco-friendly goods and products; models for calculating the ecological rating of industrial facilities; ecological monitoring as a way of environmental management; models of a social balanced development.

Special attention was paid to the coverage of general environmental issues, such as the restructuring of the world economy, the natural environment, and Ukraine's place in this process; national traditions in terms of the current greening of public life; ecology as the starting point of a new world vision; new directions in production and information technologies; a measure of environmental sufficiency; successful actions of public environmental organizations in the space of environmental protection [1].

Today it is obvious that one of the most urgent issues is the security of human civilization. First of all, there is a search for ways and means to neutralize and overcome negative trends that pose a real threat to the safe existence of society.

The subject of ecologists' consideration is the increase of the radioactive background of the planet, through the development of nuclear industry and energy, a saturation of the biosphere with electromagnetic fields, through radio and television stations' work, pollution of the

environment with numerous synthetic substances and industrial waste.

Analysis of anthropogenic impact on natural ecosystems shows that the rate of environmental deterioration has reached such a magnitude that it goes beyond the rate of biological adaptation of living organisms to the environment. That is the ecosystems' resilience lost. Taking the population's health as the accumulating indicator of anthropogenic "pressure" on the environment, the objective medical data shows the growing influence of environmental factors on the physical potential of our society. Therefore, the issues of ecologically safe human habitation come to the fore.

Environmental problems affect the life of the country as a decisive factor or as a component of national welfare and the potential of the state. Consequently, national and international security is impossible without taking into account the environmental factor. This has led to the formation of a new ecology direction – environmental security, which is a socio-natural and scientific reality. It is the subject of various sciences' study, as it covers a complex set of human relationships with the environment.

Ecological safety for a human is a quantitative assessment of possible changes in natural complexes and ecosystems, which do not violate their basic structural and functional characteristics. That is the state, in which the interaction of natural complex and human is stable. It is possible only if the individual is aware of the natural environment as the socialization of nature and the acquisition of ecological consciousness and culture, which are manifested in the ecological behavior of the individual.

Environmental safety combines natural and techno genic components and ensures the harmonious development of the system "economy-nature-human".

It is necessary to highlight the concept of ecological security of the region. This notion is about ensuring compliance with existing or projected environmental conditions of the territory to international environmental quality standards. The aim is to preserve human health, ensure sustainable socio-economic development of the region, protect and restore the environment.

Human environmental safety is directly dependent on the waste management approach. The developed countries of the world no longer have waste landfills (household waste is recycled). On the other hand, commonly, in Ukraine, people throw rubbish in open storage. Many scientific works of Ukrainian and foreign scientists are devoted to the fact that household waste accumulated in landfills causes significant environmental pollution. They all conclude that the only and most acceptable way to manage waste is to recycle it and use it as secondary raw material.

However, in Ukraine, there is a tendency for an annual household waste increase. The process of storing the garbage in our towns disturbs the ecological balance of the region and hinders the restoration of the environment.

The main task of the regional strategic management of techno genic and ecological safety is the most effective usage of legal, administrative, and economic regulation mechanisms for dangerous activities regulation. This approach ensures the state's influence on the behavior of dangerous activities entities according to the interests of the whole population, reducing the level of techno genic

environmental hazards, rapid minimization of negative environmental consequences of emergencies, and compensation for caused damage.

It should be noted that monitoring the growth of environmental hazards is best to record at the regional level. Besides, an integral part of assessing the environmental security of the region is international cooperation, and the techno genic component is crucial in the level of environmental hazards formation [2].

In current circumstances, a set of factors that create the conditions for reducing the body's resistance affects a person.

One of the relevant factors is the constant growth of the urban population, which has led to several serious social, economic, and environmental problems. Due to the density of urban development, there is almost no space left for greenery, parks, and squares. Not only urban recreational areas are being reduced, but also suburban green areas, which are natural green zones. They are a source of oxygen, a biodiversity zone, maintaining the climate balance of the urban system, protecting it from wind, temperature changes, landslides, and floods. Currently, the urban system spreads horizontally and vertically, which dramatically reduces the attractiveness of the landscape. The situation is complicated by the following economic reason – the land cost in the city center is very high. Therefore, it is more profitable to build commercial premises, rather than create recreation areas. Because of green zones lack in the central areas, there is a thermal island effect in urban centers when the temperature difference between the city center and suburban areas is about 4-7 ° C.

Factors that change the microclimate are as follows: air pollution, alteration in heat exchange because of the closed horizon and thermo physical properties of urban surfaces, artificial formation of warm air, which flows from radiators, vehicle traffic, and work of industrial enterprises.

Economic and environmental problems of cities lead to social ones such as chronic diseases, deterioration of the psycho-emotional state of a person, and the decreasing of birth rate. Therefore, modern cities need to use flexible planning structures – geoplasic elements that are suitable for new needs and conditions. These elements include modern "green constructions", namely architectural and construction elements combined with living plants: green roof, facade green blocks, vertical landscaping, eco-parking, green slopes.

Such biotechnical systems have long gone beyond the aesthetic element of environmental design. These mechanisms perform environmental, economic (additional thermal insulation, lowering of cooling load, load reduction on municipal rainwater drainage, usage of wastewater for irrigation and technical needs), and social (protection of land resources, greenhouse control, improving people's health: oxygen production, formation of recreational zones, improvement of air quality by phytoncides, reduction of noise level) functions in modern cities [3].

During evolution, living organisms have adapted to the environment with certain concentrations of chemical elements involved in biogenic migration and cause significant effects on biological systems. Deviations in their content, or changes in the relationship between the various elements, can lead to the development of pathological

processes. In particular, the combined metal salts action leads to a violation of the excretory function of the kidneys [4].

Therefore, the organization of any human activity is impossible without predicting its consequences. Especially while dealing with the protection or exploitation of ecosystems, this process becomes extremely complex and relevant [5]. Ecosystems are complex multifactorial systems, nonlinear dynamics of which are influenced by internal processes of self-organization and environmental changes and depend on ecological factors [6]. Under such circumstances, the creation of a highly probable outlook requires the operation of large databases concerning changes in ecosystem characteristics over time [7].

Simultaneously we need prognostic algorithms to plan the maintenance of ecosystems that include the development of cities, infrastructure, recreational (tourist) routes, and forestry [8].

According to the legislation of Ukraine, public administration in this field is focused on environmental protection. In the European Union, it is the task of local authorities, the concept of which is protective and reproductive, not environmental, as in our country.

The administrative structure of the state environmental management in Ukraine is mainly centralized on duplication of functions at the local and regional levels, which leads to conflicts, irresponsibility, and tasks accomplishing failure [9].

Environmental problem is a major global problem today. Europe attaches great importance to the transmission to young people of basic European values, which are based on democracy and human rights. Therefore, the task of education is to form environmental balance awareness. Nevertheless, the greening of consciousness, formation of a new ecological worldview and culture have always been relevant in Ukraine. Concurrently, domestic education is trying to preserve its heritage and combine it with the achievements of the world's leading countries.

Most countries in the world are turning their higher education institutions into a forge of new technologies and ideas, teaching current and future specialists, who will solve problems of environmentally friendly intellectual society.

A significant role in this process belongs to educational institutions of all types and levels of accreditation, the leading place among which, of course, is occupied by higher education.

Environmental education has been developed since the 1960s. At that time, many universities around the world began to conduct research and educational activities in the field of environmental protection. In 1969, the Center for Spatial Planning was organized in Tours (France), whose researchers deal with the abovementioned problems. Similar centers were established at the same time in universities in Canada, Austria, and the United States. Two international organizations in the United Nations system pay special attention to education in the field of environmental protection and improvement: UNESCO and UNEP. At the first international conference on these issues in Tbilisi in 1987, it was stated that environmental education should be included in curricula and contribute to the understanding of the unity of nature and human activity.

In France, President F. Mitterrand realized the importance of education in modern society. He invited 70

Nobel Prize winners to a conference in Paris. The main conclusion of the event was that education should have an absolute priority in the country's budget and contribute to the development of all activities. The essence of innovations in the French education system lies in finding a balance between the heritage of the past, the specifics of the French school, and the need to adapt education to the new requirements of the time.

Rudolf Steiner, an active organizer and distributor of environmental education in Germany and Europe, founded the Waldorf School in Stuttgart at the Tobacco Factory. Today there is a whole field of Waldorf pedagogy in Germany, Holland, Switzerland, England, Canada, USA, Australia, Hungary, Poland, Czech Republic, Romania, Estonia, and Ukraine. This school is a harmonious combination of many components: academic, aesthetic, and practical aspects are included, innovative methods of eco-education are used there, there is a wide range of subjects such as painting, foreign languages, music, the art of speech. These measures are not empirical, but deeply fundamental: from the new school year schedule to a special structure of classes, forms of the social organization of higher education, understanding of the teacher and their way of teaching, and professional compliance.

One of the main principles of the Waldorf School is a compromise between the requirements of human nature and the requirements of public life. Higher education in Germany has specific social factors, but the status of environmental specialties is quite high. In addition, there are many environmental unions and public organizations in Germany.

Japanese education has deep cultural roots. It is based on a synthesis of Buddhism, Confucianism, and elements of the Japanese spiritual heritage – Shinto. Ethnocentrism is a defining feature of Japanese culture. It is cultivated in educational institutions. Its main goal is the preservation of the nation, traditions, way of life, and it is achieved through Buddhist principles of personal development, moral norms compliance based on Confucianism. They include five main points: love for all human beings and mercy for all living things; the sense of responsibility and duty; respect for the elders and leniency for the younger; wisdom based on justice and goodness; immediacy and sincerity. In such circumstances, the defining task of the education system is to master its culture, its endless rules governing the entire life of the Japanese. The small area and limited natural resources have made conservation an important part of this culture. Thus, in Japan, natural resources and energy conservation technologies are widespread. The way of life and younger generation upbringing is environmentally friendly (укр. природоузгоджений – a term introduced by our famous philosopher G. Skovoroda).

The process of studying is ecological when it is conducted in "no walls" educational establishments (that is holding classes outdoors), with free working hours and the absence of a strict schedule. Japanese schools are open to the general public. Students have more opportunities to communicate with the outside world. Education in such schools is built on the principle of natural expediency and is a vivid example of eco-education.

In the United States, the quality of elitist and environmental education in private schools is much higher than in public ones.

In particular, students from one of the six most prestigious colleges in the United States conducted an interesting study: for a month, they have studied the "production" of garbage in the college. In particular, they counted cans, plastic bags, wrapping paper, and bottles. As a result, they decided to be less wasteful: use a minimum of wrapping paper, reuse plastic bags, and deposit bottles. The study helped students to learn about a complex of difficult environmental issues connected with waste materials, namely, how much water is needed to wash bags? How much fuel have to be used to produce the necessary energy? How much waste will appear as a result of additional processes? By establishing such causal links, students began to understand environmental technologies and environmental issues. Such a practical and visual approach to eco-education yields significant positive results: by 1985, there were about 12,000 environmental organizations in the United States; another 250 appeared annually; today there are more than 20 thousand of them. Nature protection has become a way of life for many Americans. It is the result of efficient, planned educational activities conducted in the state.

Higher education institutions in the United States adhere to the individual learning principle. In addition to the mandatory program, the student has the opportunity to choose additional courses. The best universities try to make it possible to choose the subjects according to students' personal needs. There is an agreement between educational institutions, according to which students can go to another establishment to study a particular subject.

The main feature of the higher education system in the United States is its mobility. Along with the theoretical disciplines that form the education basis, the curriculum includes short special courses, which, if necessary, can be easily upgraded according to the achievements of science and technology.

US universities are powerful research centers with many students who take an active part in public events, movements, organizations, including environmental ones, such as Green Peace. Accordingly, education in the United States is humanistic, because it is a matter of free choice for everyone. The student chooses the specialization and is responsible for the level of their culture. The education system helps to implement the principle of individual learning: everyone has the right to choose the courses to study, the textbooks, which fit their worldview, and style of thinking. The educational process is a community of teachers and students, and the opinion of the latter is always taken into account.

The structure of education in the United States provides the formation of a creative personality that can work productively at any level – local, national, global, and in any field of activity – from public institutions to private companies.

Sweden has created a comprehensive course "Human Ecology". It is a combination of natural and social sciences, a comprehensive approach, in which environment is understood widely, including natural (physical) and socio-cultural aspects, substantiates the philosophical and ethical approach that connects human ecology with the establishment of security and peace.

In the universities of Great Britain, the eco-subjects took 1000-1800 hours, in domestic higher education

institutions – 648. 945 hours are for independent work of British students, and 408 hours for a domestic one. In British educational institutions, 200-600 hours of study time is devoted to scientific work, and 60 to 80 hours – in domestic universities, which is much less. All the above-mentioned means that insufficient attention is paid to environmental education in Ukraine.

In economically developed countries in the '80-'90s, environmental education has become part of the curriculum. It is a set of knowledge about the global conditions of human existence, contributing not only to protection but also to the improvement of the environment, taking into account its natural resources and social components [10].

In addition, as the result of the spread of environmental education, the number of public organizations is growing, the influence of which becomes more visible, more active, more effective.

One of the main goals of environmental education is the formation of a free, comprehensively developed personality, which has scientifically and rationally based but imbued with love for nature attitude to the environment. Such training contributes to the position that the protection and improvement of the environment become the most relevant category in the value system of modern society. This approach to environmental education has been declared at many specialized and scientific conferences at the national and international levels.

As a result of the above-mentioned approach, special subjects connected with ecology have been introduced into university curricula, and some other courses have been supplemented by its sections. Special faculties to gain ecological education are being established, and postgraduate studies are being organized. UNESCO Director-General F. Mayor believed that the most significant factor in environmental problem solving should be global education, which includes environmental issues at the center of curricula, and the strategy of social progress should be based on the integration of general and environmental education.

Ecologically safe development of society is achieved as a result of the combined interaction of various life factors, the most important of which is the way of lifestyle, the general orientation of production and consumption, the level of personal culture, environmental awareness, including public opinion and their awareness of environmental issues. A person should be aware not only of the general ecological state of the environment and environmental threats but also be competent enough in order to avoid and solve them. The primary and urgent task of modern ecologically safe development is to form consciousness, competence, and the ecologically safe vital activity culture.

A very relevant is the level of environmental orientation of education because starting from early childhood through education a person learns environmental norms and rules, forms values and priorities – a culture of environmentally friendly development.

According to the Strategy of the United Nations Environment Commission, the main task of youth education is to form a person with a new type of environmental consciousness, capable of sustainable development of society in today's conditions.

An important direction is the formation of ecological thinking, which shapes the appropriate human behavior in professional activities and daily life. Knowledge of practical orientation corresponds to four components: "know what" – a codified amount of knowledge; "know why" – scientific understanding of the world and the impact of science on human development; "know how" – the ability to perform relevant tasks; "know who" – awareness of people who know what, why and how.

The modern education approach is based on the requirements of the time and the formation of environmental awareness, creation of an ecological worldview of a person, who can build relationships with the environment on a harmonious ground. Numerous studies have shown that the implementation of environmentally friendly relationships becomes possible only with environmental literacy and awareness of the latest scientific and environmental developments and achievements. The need for new environmental thinking can synthesize scientific knowledge and ethical attitude to the environment in order to teach how to live the modern public in today's realities [11].

An updated and improved system of continuous environmental education, in particular within higher education institutions, aims to solve this problem. Such education's task is to perform functions to reduce the risk of natural and technogenic emergencies on a global scale including. It provides the formation of environmentally oriented thinking, which is a prerequisite for the acquisition of humanity, in particular future specialists in various fields, and skills of environmental practice [12].

Ukraine will have a great future if the usage of its potential such as natural resources and spiritual strength of the people is wise. At the same time, education plays an extremely important role. Only education creates the preconditions for the formation of leading elite, which can realize the full potential of Ukraine and use it for the benefit of its people [13].

Ecological education forms ecological thinking, values, individual and social ecological experience, filled with positive content of ecologically friendly actions and deeds to feel the involvement and harmony with the surrounding world [14].

Ukraine is doing a lot in the field of environmental education, creating programs of environmental subjects, close to the ones of leading European universities [15].

The priority task of the National Committee on the Implementation of Ecologically Sustainable Development Education Strategy is constant communication with European organizations and United Nations structures [16].

One of the leading functions of modern schooling is educational one. Analysis of ways to improve the relationship between humans and nature allows us to realize that this process is fulfilled by transferring necessary experience and knowledge through education. This means that the new demands of modern civilization can be realized through changes in the content and forms of education. Accordingly, modern education is not just an education within which the synthesis of natural sciences, socio-humanitarian and philosophical worldview is done, but it also becomes a new meaning and purpose of the modern environmental process, a means of protection and human development.

The formation of ecological consciousness and culture of Ukrainian citizens under the influence of social, political, economic, medical, and psychological factors is an important object of study and includes not only environmental education but also culture and consciousness. The issue of the place of ecology among other sciences, signs, and grounds for the formation of ecological culture has been considered and discussed by many researchers.

Ecological culture is an integral part of general education culture, characterized by a deep and generalizing understanding of environmental problems' importance in future human development. This notion also includes the space of human existence, the possibility of preserving nature, building harmonious coexistence, which depends not on biological aspects, but on a person. The basis of mastering culture is the natural inclinations, talent, temperament, and individual style of mental activity. The formation of culture occurs during the socialization and personal development of young people.

The necessary components of ecological culture are as follows: ecological consciousness, ecological behavior motivation, ecological thinking, ecological values of personality, aesthetic environment perception, responsibility, creativity, high moral principles, a culture of health protection, leading a healthy lifestyle, and, as a result, the conscious ecological activity of a person in the professional field and everyday life.

Ecological culture is a comprehensive system composed of knowledge, thinking, the culture of actions, and ecologically justified behavior. It is characterized by the transformation of ecological knowledge, thinking, and feelings into a daily norm of actions. Manifestation of ecological culture is an ecologically conditioned activity.

Tourism and local historic and cultural work related to environmental protection aim to inculcate proper behavior skills in recreation areas, forests, and rivers. The result of an ecological education is the formed ecological culture of a human, characterized by diverse deep knowledge of the environment (natural and social); the presence of worldview nature values; ecological style of thinking and responsible attitude to nature and one's health; gaining skills and experience in solving environmental problems (primarily at the local level); direct participation in environmental work [17].

In educational institutions, ecological culture is implemented through environmental associations and camps, research, and educational work, conducting mass forms of nature-protection work, including the practical direction such as greening and educational establishment landscaping.

Via educational hours, excursions, leisure time, the teacher motivates students not only to study and absorb theoretical information but also to fulfill nature-protection work [18].

The leading component of the ecological culture is conscious eco activity. Its current types are work in the scientific, educational, culturological field to study the formation and development of ecological culture, motivation of ecological behavior of a person; introduction of a healthy lifestyle, mastering the skills of health protection; creative artistic activity, creation of artworks, which reflect the beauty of our land, love for all living things and is a component of conscious environmental activity.

Ecological consciousness arises when society's attitude to nature leads to a violation of ecological balance, and the intensity of the environmental crisis affects its level. It covers our ideas, activities, desires, expectations related to the environment.

The process of ecological consciousness formation consists of three stages: 1. stage of household ecological consciousness, characterized by behavior based on unverified information and opinions; 2. stage of ideological consciousness, which is formed under the influence of scientific knowledge but it is only superficial knowledge; 3. stage of universal, scientific consciousness, formed as a result of acquired knowledge and education in the unity with nature spirit [19].

Everyday human activity must be corrected following the environmental awareness beliefs, must be evaluated critically, and the path to this is environmental education. The modern higher school is entrusted with a new task of principled and fundamental importance to lead the innovative process of forming a new modern culture, to establish the education system for the sustainable development of society. The main indicator of ecological consciousness formation is the readiness of a person for concrete and affirmative actions to protect and develop the environment.

Nowadays, the world's scientific community is looking for effective ways to form a new environmental consciousness in younger generations. That is why such new subjects as bioethics, environmental pedagogy, ecophilosophy, social ecology, cultural ecology, and even the ecology of the soul have emerged.

Environmental education is the formation of young people's moral principles that determine their position and behavior in the field of environmental protection and rational use of natural resources.

Its task is to form environmental awareness and culture to increase the number of wise members of society who can generate responsible feedback to a particular situation. In this way, the type of people is brought up, who tend to put important things first, not routine ones, to protect nature and develop human ultimate consciousness.

The main role in this process belongs to students. They have significant learning potential, but they need to create the right conditions to acquire knowledge through a wise mentor, who has a proper status in society.

Teachers and curators of academic groups and student organizations take part in environmental education in domestic higher educational institutions. The participation of students in ecological actions, meetings with representatives of environmental organizations is very relevant. Therefore, a fundamentally important aspect of eco-education is the awareness of students of the need to do during their future professional activities everything they can clean living and working conditions. Secondary special and higher education establishments develop knowledge, skills, and abilities necessary for decision-making in the field of professional and managerial activities that do not violate the stability of the socio-ecosystems, contribute to the preservation of the natural environment, as well as treat biosphere resources carefully.

Modern realities offer a new approach to environmental education, namely: 1) systematic activities aimed at forming a system of values, views, and beliefs,

recognition of ethical norms and rules concerning natural objects; 2) the formation of environmentally oriented skills and habits of young people, the prerequisite of which is non-pragmatic interaction with the nature.

Environmental education involves compliance with the following ways of its implementation: the formation of environment treatment according to the dominance of absolute values; development of moral feelings of responsibility for the environment state; comprehension and assessment of environmental phenomena, the ability to analyze them from the viewpoint of personal involvement in solving environmental problems; accumulation of ecological knowledge to develop skills of such behavior that would not harm the environment; formation of the desire to cooperate with nature, active environmental activities from the perspective of equality with other living beings.

Therefore, in Ukrainian educational institutions, thematic plans are revised following the definition of significant and urgent state needs, the solution of which requires time and a proper state of the environment, as their solving lies on the shoulders of the younger generation. Simultaneously, the teacher-student system requires an equal relationship and the ability to design educational situations corresponding to modern technologies and designed to manage the learning process, as special training can ensure the implementation of tasks, and interpersonal interaction between teacher and student enhances education.

Domestic science' task is to prepare society to understand the inevitability of the transition to development when all components fit into the capabilities of territorial ecosystems with equal life quality, and manufacture requires immediate greening: creation and usage of energy-saving, low-waste technologies, natural resources saving management, audit at all facilities.

Educational communication aims to find answers to modern painful questions. During such communication free, spontaneous thoughts expression and offering a personal vision of the problem, based on own experience and knowledge is possible.

Today, during the pandemic, there is the need to create an original elective course: "Environmental foundations of information processes in higher education". There is a large number of different information processes that ensure the activities of any university including the conduction of research, administration, and direct organization of the educational process in accordance with the achievements of distance technologies. On the one hand, modern technologies bring our students closer to global databases and scientific knowledge. On the other hand, they require decent, ecological behavior in the world, understanding the need for safe information space-filling, usage of foreign colleagues' works, preventing unauthorized access to closed information resources.

Ecological thinking significantly affects the spiritual world of the student, forming their eco-consciousness. The combination of thinking process and consciousness leads to a willingness to carry out environmental actions following stereotypical, automated surrounding reality, nature, and society values.

This state can be defined as a high level of environmental culture of students, the need for which is needed especially for modern society.

Nowadays, not only economists but also by physicians deal with environmental issues. Thus, a significant factor in maintaining human health is medical students' eco behavior formation.

It includes a system of interrelated actions, in which human knowledge about environmental laws and nature protection are implemented. It is determined by the combined action of many direct and motivating factors. Direct factors of ecological behavior include the natural and technogenic technological urban environment. Indirect factors are as follows: society structure, the democracy level, the essence and system of power and governance, cultural traditions, moral norms.

Nature values form in the process of environmental education and manifest in the following features: awareness of nature functions in human life, the self-worth of nature; a sense of personal involvement in the protection of natural resources, responsibility for them; the ability of a young person to coexist harmoniously with nature; behave competently – eco-friendly; critical assessment of the attitude to nature, which leads to disturbance of natural balance, the emergence of ecological crisis; active participation in practical environmental activities; implementation of environmental activities on their own initiative; enhanced eco-education. Nature values and the ecological culture, which are formed on its basis, are a prerequisite for sustainable development of society, coordination of economic, environmental, and social development factors.

Thus, the trinity of environmental education, upbringing, and culture presupposes their consistent interconnected development.

Eco-education equips a person with the necessary knowledge about the peculiarities of the society and nature interaction, the course of natural processes, the impact of anthropogenic pressure on them, and the adverse effects of such influences. Environmental education forms certain skills of human behavior in the natural environment. Only meaningful behavior in relation to nature according to the acquired knowledge and skills is proof of the ecological culture of the individual.

Interesting and popular forms of environmental education are ecotourism and self-education. Their tasks are the conscious possession of knowledge and skills, practical experience implementation, tracking of a person on the path of eco-friendly behavior.

The last task is especially significant because, having the core knowledge and the ability to learn, a person can choose the types, pace, and timing of the learning process in order to individualize the education. Self-educational activities can be expressed through independence, voluntariness, and selectivity of knowledge.

Environmental education improvement in most countries is carried out in formal and non-formal education systems. The first system includes all types of educational institutions (colleges, universities). The second one – institutions that ensure environmental friendliness (social movements, foundations, museums), as well as the media.

However, even despite understanding the need for environmental education and the availability of several documents that define them, problems in this area of education still remain. They are due to two levels of factors,

the first of which is determined by environmental awareness and forming of students' behavior. The main indicators of this are that their knowledge of environmental issues is fragmentary, undifferentiated. They are informed about global environmental problems better than about the local ones. Many young people consider themselves not involved in solving environmental problems. On the contrary, others who are personally involved in environmental problems see it as following basic rules of behavior in nature and do not realize the ecological significance of actions related to the indirect use of natural resources. The reasons for the contradictions of environmental awareness formation and students' behavior are rooted in the content and methods of eco-education and are as follows: environmental content is distributed unevenly over the years, based on general, global, and regional levels knowledge, while information about the closest natural and technogenic environment and domestic level, outlining the area of competence of students, is practically absent.

In addition, there is little time to study environmental issues, which leads to a cursory acquaintance with the environmental problems.

The most common methods of environmental education are those, which contribute to the skills formation of obtaining and organizing information, such as conversation and preparation of messages. Much less often used are the methods of conducting experiments, decision-making, analysis, and assessment of situations, which contributes to the formation of eco-friendly behavior. Requirements for the level of mastering educational material on economic issues contribute to the improvement of general intellectual skills, but not practical ones. Thus, the reasons for the contradictions in the environmental awareness formation and behavior of students are embedded in the structure of existing environmental education. Such an approach does not contribute to awareness of personal involvement in environmental issues, responsibility for its state, does not provide practical information for behavior in the area of direct responsibility.

Ukrainian system of environmental education continues to be fragmentary, and declarative. This problem is caused by ignorance and destruction of traditional rational usage of natural resources, underestimation of environmental knowledge in the education system, lack of necessary legislation and executive structures responsibility, deficiency of decisions control, weak logistical and methodological support of the educational process, absence of state support for the activities of public groups, youth organizations, and other structures involved in environmental education. Even though there are many sciences involved in the development of nature protection and eco-education, concern for the environment in the minds of the Ukrainian population still does not occupy a leading position.

There is a situation when the knowledge gained by students is detached from everyday life and exists on its own. Another relevant environmental education problem is the lack of textbooks, manuals, additional materials, popular books, magazines, TV shows, and social advertising that would meet modern requirements and help students form an eco-centric worldview.

Conclusions. The development of eco-education is significant for Ukraine nowadays. It is a priority and guarantee of environmental security of the state. Society is

going to understand inherent in each of us verity: live according to laws of nature, realize and act actively to develop and disseminate environmental culture in all aspects of public life. The problem of eco-education and eco-culture of a person is complex. Therefore, it requires an appropriate approach, analysis of the productivity of this process, factors of its effectiveness, and proper implementation conditions in socio-cultural and state-legal practice. A relevant role in environmental education belongs to public organizations, which also use a systematic approach: they combine eco-education with practical work, new educational activities, and self-governance.

References:

- Saienko T. Ekolohichna osvita – osnova ekobezpeky ta staloho rozvytku. Vyscha osvita Ukrainy. 2020; 2:30-36. DOI: 10.31392/NPU-VOV.2020.2(77).06.
- Popovych NP, Malovanyi MS, Popovych VV. Pidvyshchennia rehionalnoi ekolohichnoi bezpeky shliakhom udoskonalennia lohistychnoi systemy povodzhennia z vidkhodamy. Ekolohichni nauky. 2018; 1(20), 2:11-14.
- Tkachenko TM. Problemy klasyfikatsii ta vykorystannia «zelenykh konstruktii» v ekolohizatsii suchasnykh mist. Ekolohichni nauky. 2018; 1(20), 2:21-24.
- Khomenko VH. Toksychnyi vplyv kombinovanoi dii solei metaliv na funktsionalnu aktyvnist nyrok. Ekolohichni nauky. 2018; 1(20), 2:122-125.
- Shmatkov HH, Yakovyshyna TF. Systema pokaznykiv kompleksnoi otsinky polielementnoho zabrudnennia vazhky my metalamy gruntiv urboekosystemy. Ekolohichni nauky. 2018; 1(20), 2:25-29.
- Khomiak IV. Osoblyvosti antropohennoho vplyvu na pryrodnu dynamiku ekosystem ukrainskoho polissia. Ekolohichni nauky. 2018; 1(20), 2:69-73.
- Noncharenko IV. Fitoindykatsiia antropohennoho navantazhennia. Dnipro: Seredniak TK. 2017. P.127.
- Khomyak IV. Dynamika flory perelohiv Ukrainskoho Polissia. Biological Science. 2018; 1(10):8-13.
- Khomyak IV. Kharakterystyka asotsiatsii Agrostio-Populetum tremulae ta Epilobio-Salicetum capreae klasu Epilobietea angustifoliae dlia Pravoberezhnoho Polissia. UBZh. 2016; 4:239-254.
- Kozlakova HO, Saienko TV, Dubaseniuk OA, redaktor. Ekolohichni osnovy perebihu informatsiinykh protsesiv u vyshehii shkoli. Profesiina pidhotovka fakhivtsiv:kreatyvnyi pidkhid: monohrafiia. Vyd-vo Yevenok OO. 2017. P.458.
- Buhailov OP, Rudko HI, Biliavskyi HO, Yatsyshyn AV. Ekolohichna bezpeka liudyny u Vsesviti: resursno-enerhoinformatsiinyi aspekt:pidruchnyk. Kyiv, Chernivtsi: Bukrek. 2018. P.544.
- Melnyk OS, Koreneva IM, Zahorodnia LP, Danylenko IH. Dosvid yevropeyskykh krain u vyrishenni pytan ekolohichnoi bezpeky: navch.posibnyk. Sumy: Mriia. 2017. P.400.
- Frolov VF, Saienko TV. Ekolohichna bezpeka liudyny u Vsesviti – vyklyk suchasnosti. Materialy nauk.prakt.konferentsii. Vinnytsia. 2019 Trav 16-18. P.272-274.
- Frolov VF, Saienko TV. Ekolohiia sered pryrodnychkykh nauk u konteksti staloho rozvytku. III Vseukr. naukovopraktychna konferentsiia z mizhnar. uchastiu. Pryrodnycha osvita i nauka dlia staloho rozvytku Ukrainy. Sumy. 2019. P.38-43.
- Saienko TV. Ecological Rebirth if Personality. Molodizhna naukova konferentsiia. Suspilstvo, dovkillia i zmina klimatu. Kyiv: Lohos. 2019 Berez 22-23. P.108-110.
- Kozlakova HO, Kovalenko OM, Saienko TV, ta in. Modernizatsiia zmistu vyshehoi pryrodnychoi ta inzhenernoi osvity v umovakh internatsiolizatsii: monohrafiia. Kyiv. 2015. P.152.
- Popova IV. Osnovni rysy ekolohichno spriamovanoi osvity. Zbirnyk naukovykh prats. “Hileia: naukovyi visnyk”. 2015; 96:358-363.
- Popova IV. Formuvannia ekolohichnoi svidomosti studentiv vyshechkykh navchalnykh zakladiv. Vyscha osvita Ukrainy. 2015; 2:89-94.
- Popova IV, Mazur LM, Simurova NV, Cherepanskyi VV. Osvitnii protses formuvannia kultury ekobezpechnoho rozvytku suspilstva. Ekolohichni nauky. 2018; 1(20), 2:118-121.

УДК 378.147+502.11

РОЛЬ ЕКОЛОГІЧНОЇ ОСВИТИ В РОЗВИТКУ СУСПІЛЬСТВА

А.Б. Костишин¹, З.Т. Костишин², У.Р. Лукач³,
Р.І. Вербовська², Т.Я. Дівнич²

Івано-Франківський національний медичний університет:

¹*кафедра ортопедичної стоматології,*

ORCID ID: 0000-0001-5500-0874,

e-mail: kostushunzorjana1907@gmail.com;

²*кафедра стоматології післядипломної освіти,*

м. Івано-Франківськ, Україна,

ORCID ID: 0000-0002-1840-8317,

e-mail: kostushunzorjana1907@gmail.com;

ORCID ID: 0000-0003-1781-7909,

e-mail: roksolanaverbovska@gmail.com;

ORCID ID: 0000-0003-2549-867X,

e-mail: tetyanadivnych@gmail.com;

³*Івано-Франківський обласний інститут*

післядипломної педагогічної освіти, кафедра

менеджменту та освітніх інновацій,

м. Івано-Франківськ, Україна,

ORCID ID: 0000-0002-2229-0315,

e-mail: uljanalukach@ukr.net

Резюме. Світ давно усвідомив, що інтелектуальний потенціал країни визначає її місце на міжнародній арені. Відповідно вартість його в економічному обміні країн близька до вартості товарної маси, а основним фактором є освіта. Вона в Україні має стати пріоритетною сферою діяльності, а екологічна освіта – престижною, дієвою основою для активних і життєво необхідних досліджень у різних напрямках: соціальному, технічному, медичному. Для цього існують усі передумови – глибока соціальна криза суспільства, проблеми Чорнобильської зони.

Мета екологічної освіти полягає в тому, щоб викликати стурбованість станом природного

середовища та поєднати мислення, поведінку з розумінням, що все у світі взаємопов'язане, а дія людини може викликати непередбачувані наслідки.

Особливе значення має екологічна освіта при дослідженні стану здоров'я та визначає вибір молодої людини майбутньої діяльності, можливість її усебічного розвитку та соціального ствердження, впливає на загальну підготовленість, досягнення у професійній діяльності. Формування особистості з орієнтацією на здоровий спосіб життя, на прийняття власного здоров'я як вищої цінності забезпечується системою виховання та навчання.

Екологічна освіта включає загальнонаукові і практичні аспекти. Її специфіка полягає в тому, що у свідомості особистості відбувається постійна оцінка

можливих наслідків втручання у природу, які згубно впливають на здоров'я людей. Провідним принципом екологічної освіти є принцип: мислити – глобально, а діяти – локально.

Екологічна освіта озброює людину необхідними знаннями про особливості впливу антропогенних навантажень і несприятливих наслідків.

Триєдність екологічної освіти, виховання і культури передбачає їх послідовний взаємопов'язаний розвиток.

Ключові слова: екологічна освіта, суспільство, виховання, культура.

Стаття надійшла в редакцію 01.02.2022 р.

Стаття прийнята до друку 21.03.2022 р.