

## **THEORETICAL AND METHODOLOGICAL BASIS OF ENVIRONMENTAL TRAINING AT HIGHER EDUCATION INSTITUTIONS**

The problem of environmental education today went beyond national boundaries and gained international significance. Experience of Western countries in the implementation of greening training for 25-30 years preceded national measures, so with the transition to the principles of the Bologna process in higher education of our education system we had to take the positive elements of ecological disciplines, areas of training, lecturers, teachers and the general public.

**Keywords:** sustainable development, education for sustainable development, environmental (ecological) education, environmental training of university students.

**Formulation of the problem and its relevance.** In previous work (part 1) there was presented the system developed by improving environmental training of future professionals in higher education, including the ideological basis of environmental education (stages of formation, basic documents). It is based on the assumptions of "Agenda for the XXI Century," and the Declaration adopted at the UN summit in Rio de Janeiro in 1992, which developed concept of sustainable development, as defined by its education foundation. Later, in 2002, at the World Summit in Johannesburg it was emphasized that education is the "initial element of transformation of society" to sustainable development. In the same year the UN General Assembly adopted a resolution "On the Ten Days of the UN Education for Sustainable Development starting from January 1, 2005."

The Concept of sustainable development has led to the emergence of a new type of education - Education for Sustainable Development (ESD), which contributed to the understanding of changes in the educational paradigm to which Ukraine joined on the V-th Conference "Environment for Europe" (Kyiv, 2003). There was adopted "Statement on Education for Sustainable Development". Member States of the UNECE, pursuant to which, in Vilnius (Lithuania, 2005), at a meeting of representatives of the Ministries of Environment and Education, agreed and signed the "Strategy of Education for Sustainable of the UNECE" and its implementation framework.

**Analysis of recent research and publications.** Strategy for ESD was based on previous international agreements on the development of environmental education - Belgrade Charter (1975); Tbilisi (1977) and Saloniki (1997) Declaration. In Ukraine ESD is based on the environmental (ecological) education (National Report: Education for Sustainable Development, Ministry of Education, 2007), Concept of Ecological Education of Ukraine (2001). At the same time the improvement of current legislation, education of the legal framework, the adoption of the Concept of ESD, the Law of Ukraine "On Environmental Education", which held a hearing in Parliament in 2002, took place.

Thus, they planned (and in fact, has actively pursued) a gradual change in educational content through ecologization of natural, humanitarian, technical education with the inclusion of sustainable development in the State Industry Standards of Education, educational qualification characteristics (EQC), educational and vocational programs (EPP), curricula, programs of academic disciplines.

**The main material.** By theoretical and methodological basis of contemporary environmental (ecological) education (EE) include: constitutional and legal guarantees for its implementation, recorded in government documents, from the Constitution of Ukraine (1996), Environmental Strategy States - "Basic directions of state policy in Ukraine environmental protection, natural resources and national security "(1998), State Industry Standards of Education and Higher Education (EQC, EPP), to the National Report "Education for Sustainable Development " (2007) (see Table in the Part 1).

**Environmental education at the present stage of development is formulated as a system-integrated educational process** of ecological thinking, philosophy, ethics and culture through the assimilation of environmental knowledge and skills about the place and role of humans in the biosphere, complex interdependent relationships in the environment, new natural centric life guidance, harmonization of relations between society and Nature, to overcome regional and global environmental crises, the development of the upper classes of the biosphere - the Noosphere, factor in the implementation of higher education for sustainable society.

**The purpose of higher EE** is training professionals able to solve the ecological crisis in terms of complex environmental problems; choose environmentally viable strategy for economic and social

development, develop effective energy saving technologies, environmental protection measures in accordance with the balanced, ecosafety of area development and the country as a whole.

**The main components of the EE for the formal and non-formal education: the first two components - Higher and Continuing Education - the engine of educational changes of our time!** They are training executive staff, government officials at all levels, members, employees of local governments.

The national nature of EE and education reflects one of the areas of international strategy for education on issues of the environment, environmental management, the natural reproduction by means of formal and informal education, the rich folk traditions, with ideas of humanism, democracy, systematic, inclusive, systematic, interdisciplinary environmental education, continuous self-identity.

On the implementation of the UNECE Strategy for Ukraine reported in 2007 (Belgrade) National report on "Education for Sustainable Development", we are planning to make changes to the content of education through ecologization of natural, humanitarian, technical education with the inclusion of sustainable development in the State Sector Standards (EQC, EPP), curricula, programs, disciplines, methodological principles.

The ways and means of improving higher EE as a factor in the implementation of education for sustainable development should include new tasks:

- The transition from the cognitive paradigm in education to competence;
- Education from passive to active, socialized, cooperative creative, balanced (spiritual and rational principles);
- From the environmental conservation to ideological and value, effectively, responsible, moral and ethical;
- From fragmented to the systematic, continuous.

As well as **operating the EE task:**

- Ecological knowledge of the theory and practice of environmental performance;
- Ecological thinking based on knowledge, skills, environmental education;
- Ecological worldview based system of professional knowledge, ecological thinking, personal abilities, characteristics, self-improvement;
- Environmental ethics - an integral part of profesiohenezu, scientific, educational, operational and practice;
- Environmental Culture - synthesis of ecological knowledge, skills, training, practice, aimed at preserving the environment and health.

**New approaches to EE:**

- Competence; • Motivational value; • Culturological; • Regulatory and activity.

- **Principles of modern EE:** • Integrity; • Totality; • Synergies; • Interdisciplinarity; • Traditions; • Effectiveness; • Spirituality; • Noospherity; • Predictability.

**New EE content** - system-integrated (holistic) understanding of the natural world with ecocentric type of consciousness, psychological inclusion of rights in the Nature of its subjective nature of perception and not pragmatic interaction with all natural objects, including people; understanding of the global economic crisis as a crisis of general culture; education based on elements of Natural beauty, Ukrainian national traditions of nature, natural reproduction, ecological living.

**Components of the content of the EE:** cognitive-competent; values and motivation; ethical and cultural; action-responsible.

**The result of EE** - ecologically competent, conscious, cultural, responsible person.

Getting the programmed output is adjusted to environmental auditing, management, introduction of indicators and indices into the ecologization of the process of education.

**Proper development of the EE will successfully shape the content of Education for Sustainable Development (ESD):**

- Integrated, interdisciplinary, ideological courses, socio-economic, scientific and ecological civilization formation with a detailed analysis of political systems and their impact on the environment;
- Natural and human sciences in the context of ecocentric holistic perception of reality;
- The history of wars and conflicts as factors of environmental problems;
- Factors of the present global ecological crisis - natural, technical, technological, social, economic;
- Greening the economy, social development - the result of ecologization of ethics, awareness, education, culture, the way to equilibrium in society, harmonizing relations with Nature, ecosafety production policy.

**As methodological tools** together with traditional lectures, seminars, practical laboratory classes of module-rating training there can be used:

- Training, role playing, business games, debates, brainstorming sessions, dialogues, polylogue;
- Integrated, interdisciplinary environmental, economic and social sciences;
- Formation of ecological and creative competence; learning as participation, co-creation of educational process;
- Active, continuously variable and situational learning; multivariate models of education;
- Harmonization of theoretical and practical training; increase of hours of all kinds of practices;
- Bridging the gap between eco-environmental and practical problems of activity, the global and regional levels of educational material, including local chapters and community value, the experience of public environmental organizations;
- Overcoming the contradictions between acquired knowledge about the environment and awareness of the need to act locally in the area of environmental management, the natural reproduction;
- Required introduction of environmental audit, management indicators and indices to get effective results of measures of EE and ESD.

**Levels of environmental training of university students** should be determined by the results of the formation of ecological culture, estimated basic criteria of the integrated properties of the individual: cognitive, motivational, behavioral and activity; on three levels: high (H), sufficient (S), initial (I).

#### **Conclusions and recommendations.**

Resulting mold and control stages of pedagogical experiment with the introduction of elements of the developed theoretical and methodological improvement of environmental education in higher schools have shown its effectiveness, as evidenced by positive dynamics of levels of ecological culture of the students of the experimental groups: the number of initial-level students (I) - 48 % significantly decreased to 18%, the number of students sufficient (S) - significantly increased from 40% to 64%, the number of students a high level of environmental culture (H) - from 12% to 18%.

For future environmental experts dynamics of changes in the level of environmental culture was also positive and amounted to 12% (Fig.) compared with 6% (for high level), 24% (sufficient) for not-environmental professions, including engineering students. Initial-level students in environmental, listeners of State Environmental Institute, Ministry of Environment of Ukraine, have not been identified; and for the future engineers the initial level of environmental culture was increased by almost 30%.

#### **References:**

1. Deryabo S.D. Methods of diagnosis and correction of environmental education / S.D. Deryabo, V.A. Yasvin. – M.: [without publishing], 1995. – 128 p.
2. Kremeniy V. G. Philosophy of National Idea. People. Education. Society. / V. G. Kremeniy. – K.: Gramota, 2007. – 576 p.
3. Conceptual foundations of spiritual development in the XXI Century: Materials of All-Ukrainian Scientific Conference April 14, 2006, Kyiv. – K.: Osnova, 2006. - 223 p.
4. Moiseyev N.N. Ecology and Education / N.N. Moiseev. – M.: [without publishing], 1996. – 141 p.
5. Saienko T.V. Environmental Education in Ukraine - Achievements and Prospects / T.V. Saienko // Ecological Bulletin: popular science environmental magazine, 2004. – № 5. – P. 20 – 24.
6. Saienko T.V. Absolutely impersonal and calmly: psychological aphorisms, instruction, suggestions / T.V. Saenko. – K.: [without publishing], 2000. – 73 p.
7. Hryhoriy Skovoroda. Works: in two volumes / G.S. Skovoroda. – K.: [without publishing], 1994. - Vol 1. – P. 52 – 67.

**T. V. Saenko**

### **ТЕОРЕТИКО-МЕТОДОЛОГІЧНІ ОСНОВИ ЕКОЛОГІЧНОЇ ПІДГОТОВКИ ФАХІВЦІВ У ВИЩИХ НАВЧАЛЬНИХ ЗАКЛАДАХ**

**Резюме.** Проблема екологічної освіти нині вийшла за національні межі і набула міжнародного значення. Досвід західних держав у впровадженні екологізації навчання передре національним заходам на 25 – 30 років, тому, разом з переходом на принципи Болонського процесу у вищій школі, вітчизняна система освіти мала б прийняти позитивні елементи екологізації дисциплін, напрямів підготовки фахівців, викладачів, учителів та широкої громадськості.

**Ключові слова:** сталій розвиток, освіта для сталого розвитку, екологічна освіта, екологічна підготовка студентів ВНЗ.

**Т. В. Саєнко**

### **ТЕОРЕТИКО-МЕТОДОЛОГИЧЕСКИЕ ОСНОВЫ ЭКОЛОГИЧЕСКОЙ ПОДГОТОВКИ СПЕЦИАЛИСТОВ В ВЫСШИХ УЧЕБНЫХ ЗАВЕДЕНИЯХ**

**Резюме.** Проблема экологического образования сейчас вышла за национальные границы и приобрела международное значение. Опыт западных государств во внедрении экологизации обучения предшествует национальным мерам на 25 - 30 лет, поэтому, вместе с переходом на принципы Болонского процесса в высшей школе, отечественная система образования должна принять положительные элементы экологизации дисциплин, направлений подготовки специалистов, преподавателей, учителей и широкой общественности .

**Ключевые слова:** устойчивое развитие, образование для устойчивого развития, экологическое образование, экологическая подготовка студентов вузов.