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## **Practical training of students-ecologists and its role in the development of scientific research: theoretical aspects**

### **Introduction**

During the last years professional education is characterized by the search for new ways to increase the capacity of high-skilled workers and their demand in the labour market. The main push to occurrence of the given problem has become the current environmental situation both in Ukraine and in the world. In the report „Global Environmental Outlook 2000” (UNEP), the main dangers of the XXI century are considered: lack and contamination of fresh water supplies, climate change as a result of the emissions of greenhouse gases, deforestation and desertification, loss of biodiversity, air pollution, degradation of soils and ecosystems, chemical pollution, depletion of the ozone layer, urbanization, natural resource depletion etc. [Markovic 1998].

### **1. Purpose of research**

Aim of the study was to install the role of students-ecologists practical training in the development of scientific research in Ukraine. The task provided to determine international meeting, which contributed to the development of scientific research and the training of students-ecologists; to substantiate the main components of the optimization of students-ecologists practical training in higher educational institutions of Ukraine.

### **2. Research results**

A great contribution in the formation of ecological knowledge has done by such outstanding scientists, as the Swedish scientist Carl Linnaeus (1707–1778) and French researcher of nature Georges Buffon (1707–1788), the importance of the climatic factors has stressed in their works; the French author of the first evolutionary teachings Jean-Baptiste Lamarck (1744–1829), N.F. Reimers [2003], who believed that the most important cause of adaptive changes organisms, evolution of plants and animals is the influence of the environmental conditions [Reimers 2003].

International meeting formed the priorities of the practical training in the development of education and scientific research. United Nations conference on

environment and development (Rio-de-Janeiro, 1992): promotion of transnational multilevel partnership of states and population at the conclusion of international agreements for sustainable development, preserve the integrity of the environment systems. UNESCO conference of the United Nations (Paris, 1998): improvement of educational and scientific systems in the various forms institutions in a stable long-term adaptation to their future needs of the society and professional media; promotion of mobility, democracy, the formation of the responsibility of the graduates; cooperation in the fields of entrepreneurship, employment, international cooperation on accessibility, equality for those who wish. The Conference of European higher education institutions and educational organizations (Salamanca, 2001): creation and perfection of the European higher education area with the creation of the European research and employment opportunities, as well as promoting the mobility of students, staff and graduates in Europe. Communiqué of the meeting of European higher education Ministers (Prague, 2001): development of training programs for competitiveness, improve social unity, equal opportunities and quality of life; mobility of students, teachers, researchers and administrative staff. The world summit on sustainable development in Johannesburg (2002): promote the development of educational plans and programs, the training of workers, scientists, educators and managerial personnel; improvement of procedures for the conduct of scientific research and creation of information databases; efficiency of innovative and modern technologies in the interests of sustainable development. The conference of Ministers of higher education in Europe (Berlin, 2003): students participation in international conferences, symposiums, increase the publications of their scientific research results and promoting the mobility of students; the strengthening of international links between higher education and research systems of different countries. Conference of Ministers of education of European countries, dedicated to the 10th anniversary of the Bologna process (Budapest and Vienna Declaration, 2010): ensuring the quality of higher education in co-operation between countries, institutions of higher education, students, teachers, together with employers and international organizations and European institutions; the introduction of flexible technologies of training for the creation of an enabling environment symbiosis of science and education; the professional environment development and strategic career of schools heads, teachers, researchers, administrative staff and students with appropriate knowledge, skills and competences. The conference of Ministers of Europe and the third Bologna policy forum (Bucharest, Romania, 2012): ensuring the quality of higher education for all with a view to increase employment and employability of graduates, the expansion of cross-border cooperation; the formation of skills and abilities in a professionally responsible graduates of creative, innovative, improvement of cooperation between employers, students and institutions of higher education in the sphere of

training programs development that will promote the increase of the innovative, entrepreneurial and scientific potential of the graduates. United Nations conference on sustainable development (Rio-de-Janeiro in 2012.): the „Green jobs”, which are perspective in agriculture, industry and contribute to the preservation or restoration of the environment quality; – implementation of the ecologization education process in all educational institutions with the aim of training specialists to increase the level of population ecological education, the gender equality and sustainable development of the society and the environment [Strokal 2012; Ridei 2011].

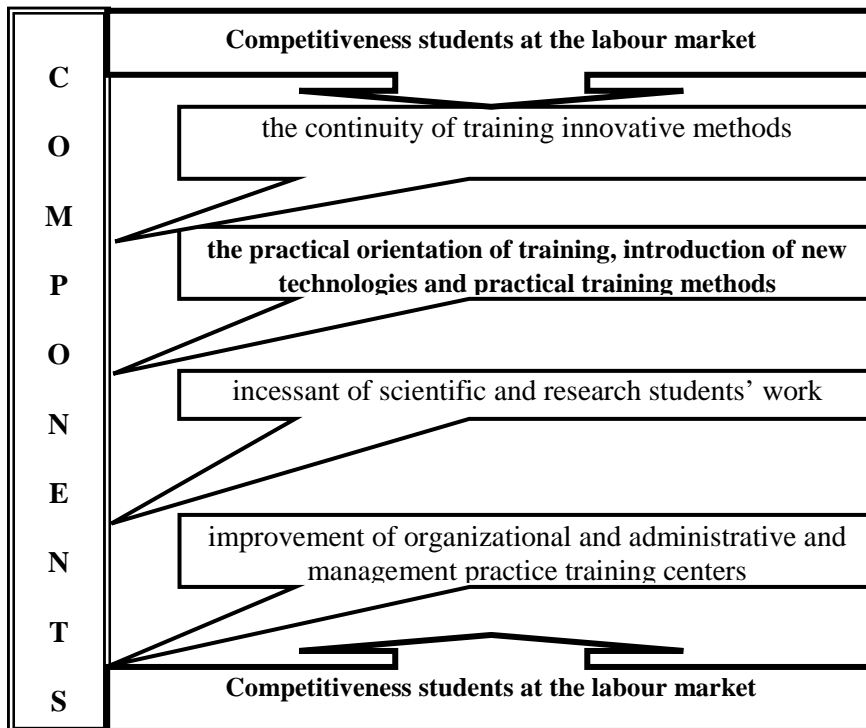
The development of higher education was aimed at the approximation of theoretical training with practical, as the practice combine all kinds of sensual-subject of human activities during the life; production, communicative, intellectual, emotional and volitional, scientific-research, instrumentation and analytical, social and personal and educational. Practical training of students-ecologists is the primary foundation of its competitiveness at the lab our market in modern conditions of production. Practical training gives possibility to provide: the training integrity, due to the content of the future professional activity; consistent expansion of abilities and skills range, their gradual complication in the transition from one practice to another; continuity of practical training (practice).

An important priority of the implementation of the European standards and guidelines for quality assurance in higher education is symbiosis combination of education, research and innovation. As indicated in the documents of the Bologna process to attract qualified teachers and students to work in the sphere of higher education need attractive working conditions and career growth, social employment. To ensure stable development and the promotion of environmental education academic community plays an important role (heads of institutions, researchers etc.), which gives the possibility to students to obtain knowledge, abilities and skills and build their career and personal development [Stepko, Boliubash, Shynkaruk and others 2003].

Practical training of students is an integral part of experts process preparation in higher educational institutions and should be undertaken with appropriate manner bases of educational establishments. It is an integral part of the educational process and is carried out with a view of theoretical knowledge consolidating and deepening received by students in the classroom learning. Practical studies will enable students to carry out a quantitative and qualitative assessment of the anthropogenic impact on the agro-landscapes, water and terrestrial ecosystems, which are studied or a single natural complex, industrial, agricultural and other objects, or various types of activities.

We allocate the basic components necessary for the students-ecologists practical training optimization and contribute the development of scientific research in them: the continuity of training innovative methods, the practical ori-

entation of training (set of interrelated patterns of practical training, that ensure implementation of its process and verification of professional environment effectiveness), a clear structuring of the training content, aimed at the assimilation of social and personal, spiritual, moral and social qualities of the students environmentalists and the level of ecological consciousness and culture, which are necessary for the solution of the vital problems in the professional activity (see Fig. 1). They directly influence on the students practical training efficiency, we should not forget, that students' competitiveness directly depends on their practical training at the labour market.



**Fig. 1. The components of the practical training optimization of students-ecologists in higher educational institutions of Ukraine**

**Conclusions**

Note that the current environmental situation, which has developed in a society requires the development of modern approaches to solving the problems. Therefore, it does not cause doubts the role of the practical training in the development and establishment of ecological education, on which depends the level of noosphere oriented motivation of students to the profession and obtaining environmental qualities required in their professional practice.

The state needs high-quality, environmentally educated, professionally viable, creative professionals, which could solve the problems of the realities and lift the state to a new level – high socio-economic, environmentally safe development and growth of welfare and ecological security provision of the society and the environment.

### **Literature**

- Markovic D.S. (1998), *Ecological education as a component part of the common culture and professional education*, Moscow, Volgograd, 359 p.
- Reimers N.F. (2003), *The beginning of environmental knowledge* [Text]/ N.F. Reimers, Moscow.: MNEPU, 45–56 p.
- Ridei N. (2011), *Graduate training of future ecologists: theory and practice*: Monograph/under general edition of academician D. Melnychuk, Kherson: Oldie-plus, 2-nd ed. revised and expanded, 650 p.
- Strokhal V. (2012), *The methodology of the future ecologists training practices: monograph/under general ed. of Doctor of Science, Professor N.M. Ridei/* – Kherson: Grin D.S., 264 p.
- Stepko M.F., Boliubash I.I., Shynkaruk V.D. and others (2003), *Bologna process in the facts and documents*, Kyiv-Kherson, 52 p.

### **Abstract**

Determined Specialists' practical training directly influence on the development of environmental education with the purpose of formation various occupational categories in the broad layers of the population: ecology practical skills and competences, environment protection and balanced nature use in everyday life and professional activities; ability to make environmentally responsible decisions regarding the protection and management of the environment quality and safety and life on the planet; ready to professional-practical environmental activities in the spheres of education, science, culture, public health services, as well as the production and household with propaganda of noosphere oriented principles of present and future generations ecological education, their environmental education for sustainable development.

**Key words:** practical training, environmental education, students.