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## Formation of professional competence of ecologists in professional training in higher agricultural educational establishments

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Edukacja - Technika - Informatyka 4/1, 289-292

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2013

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## **Formation of professional competence of ecologists in professional training in higher agricultural educational establishments**

### **Introduction**

The main priorities of environmental policy are to train highly qualified personnel who are professionally capable of adaptation and self-realization in terms of ecological agriculture. The main objectives of the national environmental education policy are: improving the environmental education based on the principles of sustainable environmental and sustainable development, the establishment of national systems of environmental awareness and education of the population, including socially-oriented use of information and learning centers to share experiences, improve vocational training and environmental officials institutional controls, improving information management system for environmental and sustainable development, including environmental education community by introducing eco-educational and educational programs under constant promulgation of state environmental and economic security [Ridei 2011].

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

The purpose of the study is to design, theoretically substantiate and experimental verification model of professional competence of environmental higher agricultural education. For the purpose defined objectives of the study: to analyze the research problem in philosophical, psychological, pedagogical, technical, fundamental and applied special ecological literature, reveal features and content specific professional future ecologists, analyze its variable component in higher agricultural education institutions, to identify and theoretical basis for pedagogical conditions of students professional competence, to determine the criteria and levels of professional competence of environmental, develop and experimentally test a model of professional competence of students of agricultural universities.

### **2. Research results**

Thesis is devoted to the problem of formation of professional competence of ecologists in the process of professional training. Analysis of the literature has

allowed the unification of the development of environmental education and enlightenment at some stages. Professional competence in the system of vocational training is justified. The role and significance of state environmental programs in the development of professional environmental education are defined. Features of industry training are based on their regional demand in addressing environmental issues in the management of natural resources potential for the formation of national ecological security. The transition of professional environmental education from economic and socio-oriented educational model to noosphere oriented model is determined.

The systematic and functional features of the protection of natural sites, geological and physiographic nature-territorial areas, areas of aesthetic and recreational use in the evolution of environmental protection are pointed out and recommended for the training programs of bachelors [Rybalko 2013].

A system-structure diagram of the content of professional competence of ecologists is worked out. It includes key global, basic general and professional competences [Strokal 2012; Ridei Rybalko, Shofolov, Strokal 2011]. The definitions „professional environmental education”, „professional environmental training”, „environmental professional competence” are specified. The features of specific environmental professional training in Ukrainian higher agricultural educational establishments are defined.

The pedagogical conditions for the formation of professional competence of ecologists (orientation of the training on the formation of students' creative abilities, creating a favorable environment for the formation of the integration of professional viability of regionally-based professional component in the training of future environmental sectors by profession) are theoretical justified. It is proved that implementation of these conditions contributes to the effective functioning of the model of forming the professional competence of ecologists in professional training.

Criteria (motivational, cognitive, personality and activity), which correspond to components of professional competence, are evaluated on three levels: sufficient, medium, high [Rybalko 2013].

On the basis of training bachelors-ecologists analysis in higher agricultural educational institutions the structural model of their professional competence have been designed. It includes the target (goals and objectives); thematic (content, principles and functions of vocational training); methodological (methods, tools and forms of training); diagnostic criteria (criteria of estimation: motivational, cognitive, personality and activity, and the levels of professional competence formation: high, medium, large enough), effectively blocks.

The model of professional competence formation of future ecologists have been designed, theoretically substantiated and experimentally tested, which consists of trust, informative, methodical, diagnostic and efficient blocks. All the

components of the model, each of which is a basis for realization of the following, mutually agreed and logically completed.

Experimental research has confirmed the effectiveness of the proposed model. So, by motivating the criterion of growth of the high-level professional competence formation of the students from the experimental groups made up 19,6%, control – 8,6%; average – 12,6% and 10,0%, and the reduction of a sufficient level of students from experimental groups by 32,2%, and control – only by 10,9%; in a dose criterion – 15,5% (8,2%), and in average – by 17,7% (5,5%), sufficient – –33,2% (–6,4%); on the personal and activity criterion at a high level – 9,5% (of 1,1%), in the average – 10,0% (2,7%), sufficient –19,5% (–3,8%). It testifies about advisability of the proposed model and the consistency of certain pedagogical conditions of professional competence forming of future ecologists. The effectiveness of the developed model is experimentally proved.

## **Conclusions**

The main trends and criteria of higher professional education in the sectoral aspects of the regional demand are defined, namely: professional environmental education is developing dynamically and is characterized by permanent, diversification of the structure and forms of the educational process organization, computerization, conjecture in accordance with the world experience of training specialists of branches and types of natural resources use; enabling environment of professional environmental education leads to a mutual exchange of expertise, transfer of innovative scientific-research and experimental-design developments, experience internship of future ecologists in a production environment, reflecting the socio-political, moral-ethical trends at the level of national, regional and international scale in the assumption, preventing, solving environmental problems and optimization of environmental emergencies. In the course of the study pedagogical conditions of students professional competence forming have been determined and theoretically substantiated, namely: orientation training to the formation of the students creative professional abilities; creating a favorable integration of the learning environment.

## **Literature**

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### **Abstract**

The paper identified and justified pedagogical conditions of professional competence of environmental, criteria and levels of professional competence of environmental, clarified the specific environmental professional training, professional environmental education in higher agricultural education, improved maintenance of professional future environmental component of the branch.

**Keywords:** professional competence, students, environmentalists, environmental education.