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# THEORETICAL ANALYSIS OF CONCEPTUAL APPARATUS OF POST-GRADUATE EDUCATION OF ECOLOGICAL SPECIALISTS

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Здійснено теоретичний аналіз поняття «післядипломна освіта» у нормативно-правових джерелах. Виокремлено структурно-змістовну складову базових понять у післядипломній екологічній освіті. Охарактеризовано організаційні форми системи післядипломної освіти фахівців з екології. Розглянуто проблему забезпечення неперервності у післядипломній освіті фахівців екологічного спрямування. Розроблено ієрархічну структуру у неперервній освіті з галузі екології та виділено екологічну наповненість кожної структурної одиниці

Ключові слова: післядипломна освіта; підвищення кваліфікації; самоосвіта; стажування; неперервна екологічна освіта, перепідготовка

#### 1. Introduction

A modern ecological specialist faces new professional requirements, connected with strengthening of the role of ecological policy, strategic ecological evaluation, monitoring of the state and development of systems (economic, ecologic, social). The formation of high-professional, competitive, mobile, motivated specialists is realized under conditions of the professional growth and self-development in education during the whole life.

Post-graduate education helps professional selfimprovement, deepening, widening, renewal of professional knowledge and skills just at the expanse of getting a new qualification, specialty or profession, based on the previous educational level and also acquired practical experience, not depending on age.

As far as the professional growth of ecologic specialists in the context of the social stable development is urgent, it is necessary to study the theoretical-methodological basis of the system of post-graduate education. The professional growth of a specialist of any sphere of activity or production is a subject of the study of native and foreign scientists. Authors in their works elucidate theoretical bases of post-graduate education [1]. Many scientists study questions of post-graduate pedagogical science, especially managerial questions of adult education are studied by [2]. Features of post-graduate education as a structural component of continuous education are studied by [3].

Functioning features of the system of continuous professional education abroad were studied by [4]. The foreign experience of solving problems of training and qualification improvement of the pedagogical staff was studied by [5]. Having analyzed works of many scientists, one can separate the general principles of continuous education:

flexibility and variability of the education system;
continuity and accessibility of all education stages (from pre-school upbringing to acquiring a professional specialty);

- multi-level system of professional education, which components are the fundamental training in educational institutions and courses, diverse by form and

### 2. Literature review

content for working people, especially qualification improving courses;

- use of innovative information technologies of receiving diverse information at all stages of human life activity.

The question of creation and functioning of the system of post-graduate education in Ukraine for providing the state support of the professional development of ecological specialists in the context of the stable social development remains beyond scientists' attention. So, there is a necessity in the theoretical study of the system of post-graduate education of ecological specialists.

## 3. Aim and tasks of research

The aim of the research – is the theoreticalmethodological analysis of main notions of the system of post-graduate education by normative-legal and scientific-methodological sources.

The following tasks were set for attaining this aim:

1) to analyze the system of post-graduate education in normative-legal documents;

2) to realize the scientific-methodological interpretation of the notions "Post-graduate education", "qualification improvement", "retraining", "specialization", "probation";

3) to characterize base notions of post-graduate education by the structural and content level.

4. Theoretical-methodological aspects of the system of post-graduate education in normative-legal sources

Post-graduate education provides the comprehensive development of learning and self-education of a person from the moment of receiving a diploma of education and up to the end of life that is it covers the longest and most productive period of life [6]. The great importance of post-graduate education is noted in the State national program "Education" ("Ukraine XXI century) (1993), where it is written that "post-graduate education must provide the deepening of professional knowledge and skills of a specialty, acquiring a new qualification, scientific degree or new profession, based on the present educational level and experience of the practical work" and also strategic tasks of its reformation [7].

The national doctrine of the education development (2002) determines ways of education continuity realization, one of which is modernization of the system of postgraduate education [7]. Reformation of the system of postgraduate education according to economic requirements, needs of the pedagogical and pedagogical-scientific staff is accented in the National strategy of the education development in Ukraine for the period up to 2021 year (2013) [7].

The system of post-graduate education in Ukraine is regulated by a series of normative-legal documents, mutually closely connected and added. At changes that take place in the educational system in whole, there is no essential changes in the organization and functioning of the system of post-graduate education, including the interpretation of the notion "post-graduate education" (Table 1).

Table 1

Analysis of the notion "po	st-graduate education"	' in normative-legal documents

N⁰	Normative-legal docu- ments	Interpretation of the notion "post-graduate education"	
1.	Ukrainian Law "About education" 1991	Specialized improvement of education and professional training of a person by dee ening, widening and renewal of his/her knowledge, abilities and skills, based on the earlier acquired higher education (specialty) or professional-technical education (pro- fession) and practical experience	
2.	Conception of the de- velopment of post- graduate education in Ukraine, 2002	Specialized improvement of education and professional training of a person by dee ening, widening and renewal of his/her knowledge, abilities and skills, or acquiring new specialty, based on the earlier acquired education-qualification level and practic experience	
3.	Ukrainian Law "About higher education", 2014	Specialized improvement of education and professional training of a person by dee ening, widening and renewal of his/her knowledge, abilities and skills, or acquiring new specialty, based on the earlier acquired education level and practical experience	
4.	Project of the Ukraini- an Law "About post- graduate education", 2014	Specialized improvement of education and professional training of a person by dee ening, widening and renewal of his/her knowledge, abilities and skills, other comp tences or acquiring a new specialty and profession, within the earlier acquired educ tion-qualification level and practical experience that is an obligatory component f the specialist's professional growth	
5.	Ukrainian Law "About education" 2017	Acquirement of new and improvement of earlier acquired competences based on the acquired higher, professional (professional-technical) or special pre-higher education and practical experience	

The new Ukrainian Law "About education" (2017) considers post-graduate education as the acquirement of new and improvement of earlier acquired competences based on the acquired higher, professional (professional-technical) or special pre-higher education and practical experience [8]. But is must be noted, that as opposite to the previous laws, the interpretation a bit changes, because of the notion "competence", instead of knowledge, abilities and skills. The following forms of post-graduate education are separated in the law: 1) Specialization – profile specialized training for acquiring the ability to realize tasks and duties that have special features within a specialty by a person;

2) Retraining – education of adults, directed on professional learning for mastering another (other) profession (s);

3) Qualification improvement – acquirement of new and/or improvement of earlier acquired competences within the professional activity or branch of knowledge by a person;

4) probation – acquirement of the practical experience of realization of tasks and duties in a certain professional activity or branch of knowledge by a person.

Under conditions of the system of post-graduate education modernization and acceptance of the new Ukrainian Law "About education" it is expedient to improve the content, forms and functions of the system of post-graduate education, to accept the Ukrainian Law "About post-graduate education", elaborate standards and educational programs of qualification improvement, retraining for ecological specialists.

The post-graduate ecological education provides continuity of the ecological education and includes the system of qualification improvement and retraining of state officials, managerial staff of enterprises, organizations, institutions, entrepreneurs by different aspects of the nature protection activity and rational use of natural resources, ecological education of adults according to personal needs at the labor market and also the training of ecologists-specialists of the highest qualification -PhD and doctors of sciences in ecology and environment protection, based on leading HEIs [9]. The Ukrainian Law "About main principles (strategy) of the state ecological policy of Ukraine up to 2020" (2011) notes that elaboration of methodological grounds and introduction of the continuous ecological education will favor the successful realization of the national ecological policy at the expanse of programs of ecological education for the stable development, ecological education within educational programs for pre-school, secondary, higher educational institutions, programs of post-graduate education and course retraining of specialists [7].

The use of the experience of international practices in the field of specialists' professional development, their self-organization will provide elaboration of the correspondent normative-legal regulation of the system of post-graduate education in Ukraine. The state must take the active participation in regulation of the professional learning during the whole life, to improve the educational system at all levels, realize the support and stimulation of enterprises as to the professional growth of specialists.

### 5. Results of research and their discussion

Continuous education is a process that covers the whole human life, provides the gradual development of a personal creative potential and comprehensive enrichment of his/her spiritual world, purposeful systematic cognitive activity as to mastering and improvement of knowledge, abilities and skills both in special institutions and by self-education [10]. It relates also to ecological education. The continuous ecological education provides ecological culture formation and upbringing of all population layers, professional training of specialists for different types of ecological activity (Fig.1).

The continuous ecological education can be formal, informal and non-formal. The base education forms ecological knowledge and culture at pre-school, secondary and professional levels. But the most important link in this structure is post-graduate education, purposeful, specially organized and guided system of formation of the social experience in a person [8].

The main organizational forms of post-graduate education in Ukraine are retraining, specialization, qualification improvement, probation and acquirement of a scientific degree. The most spread forms is probation and qualification improvement, although taking into account modern social needs, many specialists realize retraining, especially acquire new specialties at the master educational level. So, let's characterize the subsystems postgraduate education of specialists in ecology, environment protection and balanced nature management.

Retraining (or re-qualification) – is the acquirement of new theoretical-practical and specialprofessional competences, based on the earlier acquired educational level (bachelor, specialist, master) and practical experience, acquirement of another specialty. Ecological specialists' retraining is realized in branch (technical, agrarian, pedagogical, medical and so on) and classic HEIs of Ukraine by accepted curriculums, taking into account earlier studied disciplines at the first education. Specialization is close to retraining – acquirement of new professional competences within the existent specialty, especially the ability to realize certain tasks and duties with certain applied (branch) peculiarities.

Ecological specialists' retraining – is a main form of professional improvement, acquirement of additional professional competences, deepening, widening, acquirement of modern knowledge, abilities and skills, and also increase of the mastership level. So at organizing qualification improvement courses for workers it is necessary to take into account complexness, differentiation, continuity of learning and orientation on prospects of the profession. Ecological specialists can improve their knowledge at universities, especially at institutes or faculties of post-graduate education, State ecological academy of post-graduate education and management, scientific institutions. Qualification improvement may be long-term, short-term, multi-stage, cyclic for acquiring a qualification, welfare and professional self-improvement during the whole life.

Probation – is the study of the native and foreign experience in the sphere of ecology, environment protection and rational nature management, acquirement of the experience of realizing professional tasks and duties at a working place. Specialists undergo probation in scientific-research institutions of the National academy of sciences, National academy of agrarian sciences, international universities, at enterprises.

The one more form of post-graduate education is acquirement of PhD, doctor of sciences degree. At postgraduate course at scientific institutions or universities of Ukraine, applicants master scientific-applied, analyticdiagnostic, system-research professional competences.



Fig. 1. Hierarchic structure of continuous ecological education

The most importance in the context of the continuous professional growth of ecological specialists is inherent to self-education that is the ability to selfimprovement during the whole life for solving complicated ecological problems, faced by mankind. For this aim it is necessary not only to acquire system knowledge, but also to provide accessibility of educational-scientific innovations in the inter-course period. Self-education is closely connected with all subsystems of post-graduate education and provides effectiveness of each one and can substitute any structural component of this system at certain circumstances [3].

The organic combination of all organizationalcontent structures of post-graduate education, interaction and interconnection of its elements (forms, directions, content, institutions) with the independent work provide the system character of specialists-ecologists' educational process.

The system of post-graduate education needs creation of learning programs for different categories of

the managerial, controlling and pedagogical ecological staff, based on the competence approach. At that the main system-creating element of these programs is a content of specialists' educational and professional training that has the professional-activity, professionally-oriented and personally-oriented direction.

The further development of the system of postgraduate education in the branch of ecology, environment protection and rational nature management is directed on taking into account individual needs and different approaches to specialists' education.

Education during the whole life is necessary for people of different professional directions and social statuses, because it gives them the successful adaptation to the social and professional activity, to life in whole.

#### 6. Conclusions

1. The realized theoretical analysis of the notion "post-graduate education" in normative-legal and scien-

tific-methodical sources allows to understand the system of ecological specialists' training better and to separate its structural elements in the system of post-graduate education.

2. Systematization of definitions that determine post-graduate ecological education provides the renewal

of the theoretical-methodical content of ecological specialists' training.

3. The detail analysis of the base notions of postgraduate education favors theoretical-methodical and scientific-practical studies of problems of ecological specialists' professional training, including monitoring questions.

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