
ЗАГАЛЬНІ ПРОБЛЕМИ ЕКОЛОГІЧНОЇ БЕЗПЕКИ

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RECOMMENDATIONS FOR STUDYING OF FEATURES OF IMPLEMENTATION OF EUROPEAN UNION STANDARDS IN THE SPHERE OF ENVIRONMENTAL PROTECTION IN UKRAINE

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A key condition for Ukraine to access European market is to implement a quality management system ISO and industry standards into production and it stipulates the necessity to provide labor market with appropriate specialists. To solve this problem, an educational project was developed. The goal of the project is to spread information about EU standards in the field of environmental protection among population of a region, and also, to highlight the process of these standards implementation in Ukraine.

The key idea of the project is that it is directed to different target groups (students, pupils, specialists of in the field of ecology); the materials, lectures and seminars are adapted to these groups correspondingly.

Modern teaching methods which include traditional and innovative methods, interactive methods, as well as integrated lessons must be used in the process of the project realization. Curriculum and teaching methods adapted to the features of perception, entry knowledge level, as well as professional and social needs of target groups.

During the project implementation, continuous quality evaluation will be conducted with the aim to make corrections in the learning process and to improve the efficiency of students' knowledge acquisition. It allows to improve the quality of professional trainings.

A workbook can be worked out to provide high quality of training. It also contains a set of presentations and lecture notes adapted for pupils. To spread information about implementation of EU standards in the field of environmental protection a website and virtual office should be created, as well as a conference will be held and information-educational materials for youth and public should be worked out.

The formation of environmentally oriented society with a high level of knowledge about the characteristics of the implementation of European environmental standards and EU directives in the field of environmental protection of Ukraine and the principles of sustainable development of the country in the framework of European integration must be the result of these projects. *Key words:* EU standards, environmental protection, teaching methods, target groups, quality evaluation.

Рекомендації щодо вивчення особливостей імплементації стандартів Європейського Союзу в галузі охорони навколишнього середовища в Україні. Давидова І.В., Корбут М.В., Кірейцева Г.В.

Головною умовою виходу України на європейський ринок є впровадження у виробництво системи управління якістю ISO та галузевих стандартів, а це передбачає необхідність забезпечення ринку праці відповідними спеціалістами. Для вирішення цієї проблеми був розроблений навчальний проект. Метою проекту є поширення інформації про стандарти ЄС у галузі охорони навколишнього середовища серед населення регіону, а також висвітлення процесу впровадження цих стандартів в Україні.

Ключова ідея проекту полягає в тому, що він розроблений для різних цільових груп (студенти, учні, фахівці в галузі екології); матеріали, лекції та семінари адаптуються відповідно до цих груп.

У процесі реалізації проекту слід використовувати сучасні методи навчання, що включають традиційні та інноваційні методи, інтерактивні методи, а також інтегровані уроки. Навчальні програми та методи викладання адаптовані до особливостей сприйняття, рівня початкових знань, а також професійних та соціальних потреб цільових груп.

Під час реалізації проекту буде проводитися постійне оцінювання якості з метою внесення коректив у навчальний процес та підвищення ефективності засвоєння знань студентами. Це дозволяє підвищити якість професійних тренінгів.

Для забезпечення високої якості навчання може бути розроблена база матеріалів, яка містить набір презентацій та конспект лекцій, адаптований для різних вікових груп. Для розповсюдження інформації про впровадження стандартів ЄС у галузі охорони навколишнього середовища має бути створений вебсайт та віртуальний офіс, а також проведена конференція та розроблені інформаційно-освітні матеріали для молоді та громадськості.

Результатом реалізації цього проекту є формування екологічно орієнтованого суспільства з високим рівнем знань про особливості імплементації європейських екологічних стандартів та директив ЄС у галузі охорони навколишнього природного середовища України та принципів сталого розвитку країни в межах європейської інтеграції. *Ключові слова:* стандарти ЄС, охорона навколишнього середовища, методи навчання, цільові групи, оцінка якості.

Introduction. Currently, cooperation with European Union occupies a prominent place in the foreign policy priorities of Ukraine [1; 2]. However, one of the main conditions for the integration process promotion is the implementation of European standards in the national legislation [3; 4].

The standards should apply to all organizations, regardless of their type, size, products or services, the level of risk to the environment and the existing level of environmental training [5]. This applies to various industries, public and private sector organizations and industrial enterprises [6], the services and public authorities. Implementing environmental standards can easily create efficient system of environmental management and acknowledge [7] its responsibility in environmental protection.

Currently, according to experts, the implementation of EU standards in the field of environmental protection [8] is hampered by the following:

- lack of clearly formed public opinion on the need to implement EU standards in this area [9];
- imperfection of state policy and effective system of technical regulation in the field of environmental protection [10];
- reluctance of manufacturers to introduce new rules and requirements that have a regulatory impact;
- weak human resources of public authorities [11].

Consequently, our country needs a new generation of professionals with a European outlook. Thus, it is necessary to develop and implement educational projects, the main purpose of which is training specialists in the field of environmental protection with EU standards.

The formation of environmentally oriented society with a high level of knowledge about the characteristics of the implementation of European environmental standards and EU directives in the field of environmental protection of Ukraine and the principles of sustainable development of the country in the framework of European integration must be the result of these projects.

The main goals and target groups of the educational project. The first objective is to equip students and young professionals with knowledge of European Union subjects related to EU policy in environmental protection, which are necessary for their academic and professional lives and to enhance their civic skills.

This objective is aimed at improving knowledge of European Union subjects of Students who do not automatically come into contact with European Union studies (the priority target group), as far as they cannot get appropriate knowledge studying at universities in Ukraine. This objective can be achieved by implementing the extended course of lectures, seminars and workshops devoted to European integration in the field of environmental protection into the curriculum of students-ecologists. The course is offered for students of education level “Bachelor” (2–4 years of study). The period of study was chosen in accordance with the edu-

cational content of the specialty curriculum. Students-ecologists of 2-year of study have enough basic knowledge of ecology needed to start the course learning. Educational degree “Bachelor” was chosen because students of the next educational level (Master) have to be armed with appropriate knowledge on the specifics of the implementation of the EU legal framework into the environmental legislation of Ukraine, as they are actively engaged in scientific work, participate in projects (including international) and participate in realization of public environmental programs.

The program of the developed course is divided into 3 parts:

1. Theoretical and methodological basis of environmental protection issues in Ukraine by harmonization of national nature conservation legislation with environment protection bill (legal citation/ cited acts) of EU.
2. Ecological standardization and certification as the instruments of industry ecologization and promotion of ecological production.
3. Implementation of standards of ecological management, analysis and audit into the system of standards of Ukraine.

The teaching of each part of the module lasts for one academic year (64 hours). Topics of lessons is not only logically connected, but rely on the knowledge acquired by students during the study of other subjects on the specialty curriculum. High quality of learning can be achieved through a combination of lectures with seminars, workshops and scientific work of students.

In general, students are expected to achieve an understanding of the underlying causes of the crisis ecological situation in Ukraine; to see the difference in national and European attitudes to natural resources; to understand the basic issues of implementation of European environmental legislation in our country; to learn how to work with European Union legal acts; to apply EU recommendations and directives in practice. Upon completion of the course they should get the amount of ecological knowledge that will be essential in their professional lives.

The second objective of our project is to improve the quality of professional training on EU subjects (with modules that deal with EU subjects more in-depth or extend to new subjects). The target group to perform this task is: policy makers, civil servants, organized civil society and the general public at large (the priority target group), i.e. all those whose work relates to environmental protection, development of environmental standards and regulations and participation in public environmental programs and projects. All these people have already faced with the necessity to be knowledgeable about the European legislation on environmental protection.

Therefore, for the full exercise of their official or public duties they need to deepen their knowledge in the field of using EU standards and best practices in environment protection. Most of these people cannot attend lectures throughout the year because of the full-

time working hours. A specialized lecture course can be held in the framework of "Summer School" for this category of participants. Training is expected in summer for two weeks per year. Such schedule involve all interested members of the public. As far as students of summer school are not of the same initial level of environmental knowledge, the priority is to assess their level and identify those subjects and areas which are the most important for this target group. The course is directed towards practical application of acquired knowledge and for learning of the opportunities to use and implement this knowledge. This will enhance the qualification of specialists who are currently working in the field of ecology and who are supposed to be oriented to European outlook on environmental protection.

Pupils are selected as a separate part of this target group. Training of pupils on topics of EU education is a mandatory element of education. But pupils cannot study together with professionals, because their baseline of environmental education differs significantly. That is why the lecture course for pupils in the framework of summer school must be conducted separately and should be adapted to their baseline knowledge. Education is directed toward formation of European outlook and careful attitude to nature. It will motivate pupils to receive more specialized knowledge in the future, by means of training at ecological specialty or study at special courses.

Teaching methods. As far as students' commitment and diligence is the key factor of successful study, the individual traits of students' character have become the important criteria when choosing teaching methods. Training process implies application of 5 methods with increasing activity and independency of students:

1. Explanatory and illustrative method. Students obtain knowledge at lectures and from training or methodical literature in "ready" form. When students perceive and comprehend facts, assessments, and conclusions they show reproductive thinking;

2. Reproductive method. Students should be able to apply acquired knowledge on the basis of an example or a rule. This activity is of algorithmic character, i.e., the task is accomplished according to instructions, directions and rules in analogical situations similar to already demonstrated;

3. Problem solving method. Before presenting teaching material the teacher defines a problem using different sources and tools, formulates cognitive task. Showing the system of facts, comparing different points of view and different approaches, teacher offers the way to solve the given task. In this process students are the witnesses and the participators of the process of scientific search;

4. Heuristic method. This method designed for solving cognitive problems set by a teacher (or self-set problem) in the process of learning. Students find out the solution with the help of a teacher or using different heuristic programs and rules. The process of thinking is of productive character, but it is developing gradually

and is controlled by a teacher or by a student himself by means of different programs (computer programs inclusive) and manuals. Such method includes also heuristic discussion. This method is a reliable way to activate the process of thinking. It stimulates cognition at seminars and colloquiums;

5. Research method. After the information is analyzed, the problems and tasks are set and students are given verbal or written instructions, they study literature sources, make observations and measurements, perform other searching activities independently. Initiative, independency, and creative search develop in research activity.

Such innovation gives possibility to approximate Curriculum of the specialty to European standards; it helps to raise students' knowledge level in EU environmental policy in the framework of European Union programs.

The methodology of study is influenced by the age, professional and life experience that should provide participants mastering knowledge and skills at the limit of their capabilities.

Quality control and Monitoring. During the project implementation, continuous quality evaluation will be conducted with the aim to make corrections in the learning process and to improve the efficiency of students' knowledge acquisition. It allows to improve the quality of professional trainings.

Obtaining necessary information on the knowledge level and the degree of students' progress at all stages of the project is possible through the evaluation of students' success. The project provides for preliminary, current, midterm and final control.

Preliminary control can be carried out in the form of diagnostics of knowledge entry level of listeners by methods of testing, questionnaires and conversations. It determines the ability to perceive information of the module and facilitates the successful planning and guidance of the learning process.

Current control is used both by a teacher for adjusting methods and means of learning, and by listeners for planning individual work. The purpose of the control conduction is to provide feedback between teachers and students. The verification of knowledge quality can be carried out by methods of polling, express control, testing.

Midterm knowledge control is an indicator of the quality of learning individual sections and topics. The midterm control is conducted by methods of practical verification and colloquiums. The task of the control is to signal about the development of training process in order to take pedagogical measures to optimize the project results.

The quality of listeners' knowledge and the ability to apply it in practice after completing the study of the course module is evaluated by final test. A certificate is given on the results of the final test. It proves that a student has acquired a level of mastering the material of the module course not less than 80%.

The quality of the project can be characterized by the number of students who successfully completed the curriculum and received a certificate. Monitoring the project implementation should include the mechanism of identifying project problems and of quality improvement.

Research. Growing demand for natural resources and their limited amount are one of the main prerequisites for the emergence and development of international environmental cooperation which is on the agenda. After signing and ratifying the Ukraine - EU Association Agreement, Ukraine has undertaken a number of new environmental obligations, in particular regarding the approximation of Ukrainian environmental legislation to EU norms and standards, namely the implementation of 29 directives and regulations into 8 thematic spheres. Without proper information support of environmental component of sustainable development, Ukraine cannot participate in full-scale sectorial and national programs of the International Labor Market. Ukraine has not so far legally adopted the concept of sustainable development and the list of criteria and indicators for assessing environmental, economic and social systems. Mechanisms of information support of the ecological component, as well as implementation tools have not been developed. In this regard, following research areas are identified in the framework of the project:

- systematization of national legislative and regulatory acts on the environmental issues and their harmonization with the principles and norms of international agreements and standards;
- assessment of the degree of the EU environmental legislation implementation in Ukraine and the implementation of environmental policy;
- development of tools for the European Union standards implementation in the sphere of environmental protection.

The main tasks of the research are:

- to carry out analysis of information support for the process of the European Union standards implementation in the sphere of environmental protection of Ukraine;
- to give recommendations on contradictions elimination between the norms of environmental legislation of Ukraine and the principles, norms of international agreements, as well as norms and standards in the sphere of environmental protection;
- to improve the process of assessing the degree of implementation of EU environmental legislation in Ukraine and the implementation of environmental policy;
- to identify and offer the key implementation tools to improve information support and environmental component control.

As a result of the conducted research it is expected to obtain the following new scientific knowledge: to identify prospective ways of the development of organizational, regulatory and legal principles of information support of the environmental component; to establish the instruments of the European Union standards imple-

mentation in the sphere of environmental protection; to assess the degree of implementation of the EU environmental legislation in Ukraine and the implementation of environmental policy. The data of scientific research must be used in the course of lectures and practical classes of the module and will be recorded in the form of a scientific report and scientific papers.

The results of the project program are the following:

1. Development of a set of presentations for each of the module lecture. The need to develop the presentations is due to the fact that the lecture material that is not accompanied by supporting teaching tools is poorly perceived and assimilated by the listeners. The primary purpose of presentation is to facilitate the perception of information received, faster understanding of the problem, visualization of the most difficult studied moments, and ultimately better taking in the lecture. It is assumed that this set of presentations can be used by teachers of universities who would like to hold lectures on relevant topics; school teachers to conduct classes with pupils within the implementation of the curriculum or extracurricular activities; representatives of other institutions and organizations attending summer school to share the information on the implementation of EU standards in the field of environmental protection of Ukraine in the European integration with their colleagues. This set of presentations is especially important for teachers of educational institutions and representatives of other agencies and organizations who are unable to attend classes.

2. Writing a manual on the topics corresponding to the topics of lectures included in the module. The main objective of this manual development is to provide the fullest possible information on the topic of the module that can be used during the learning process and can help to form environmental awareness in Ukraine. According to the module program the manual should consist of three parts. Topics and their order fully comply with topics of lectures included in the module. Each part of the manual contains information covered during lectures in more expanded and detailed form. Each chapter includes a list of control questions and tasks for independent study. Attached handbook should present a glossary of terms and a list of useful links. The manual is important to be a generalized edition for synthesis of all knowledge on the process of implementation of EU standards in the field of environmental protection of Ukraine in the framework of European integration.

3. Creation of database of basic standards, declarations, laws and regulations of the European legislation in the field of environmental protection. The main task for creation of such database is to provide opportunities for teachers, students and concerned people to see necessary document quickly. This database can be useful for teachers in preparation for the classes, students and schoolchildren for performing independent work, specialists in ecology for their professional activity, and public representatives for obtaining comprehensive informa-

tion about European legislation. Each document will be attached by a link from which you can go to the source.

Distribution of information materials of the project among various population groups will take place as follows: through the web site of the project, distribution of the project information materials on disks to educational institutions of Zhytomyr and region; mass media, social networks, civic organizations.

Conclusions. The result of the project is the launching of ecologically oriented society with a high level of knowledge, including the peculiarities of EU environmental standards implementation and the EU directives on environmental protection of Ukraine. Teaching of the module for students-ecologists can be held at universities. In addition, students should be actively involved in the research, in conferences and webinars participation. Acquired knowledge can be used by students-ecologists for thesis preparation, writing scientific papers, participation in research projects. Graduates will be more competitive because of the increasing need for specialists of a new formation with European outlook on

environmental development of the country. In the result, the project will provide companies and organizations in the region and the country as a whole by highly qualified specialists in ecology who are oriented on cooperation with the European Union.

In the framework of summer school pupils have the opportunity to listen to adapted module course and take part in research work in order to form new thinking in accordance with high European standards in the field of environmental protection. When attending summer school pupils will create an active civil position in attitude to nature.

Public audience attend a course of specialized lectures and practical classes in order to improve professional knowledge and skills. Attending summer school should be possible for all concerned people regardless of the position and field of activity. This will increase educational level of participants and more active application of knowledge in practice.

The project can help to accelerate the process of environmental legislation harmonization with European requirements for sustainable development of the country.

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