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Method of Formation of Environmental Competence During the Teaching of Economic Disciplines by Means of Interactive Learning Technologies

Abstract. *Introduction. The article highlights modern methods of forming environmental competence in the process of teaching economic disciplines with the help of interactive learning technologies, which are due to various factors. The content of the concepts of "competence" and "environmental competence" in the context of the study is analyzed by conducting an extended excursion on the interpretation of these concepts in pedagogical practice. Ecologically literate person has a high level of ecological knowledge, developed ecological thinking, in his behavior is guided by the priority of ecological values, considers his profession as an effective means of improving the environment and solving environmental problems. The article considers the approaches to the definition of "competence", "environmental competence" and on their basis identifies the role, importance and ways of forming environmental competence in the teaching of economic disciplines with the use of interactive technologies. The relevance of the chosen topic is justified by the lack of interdisciplinary and regional approaches to the formation of environmental competence of higher education seekers based on the introduction of interactive technologies. The efficiency of formation of ecological competence in the process of professional training of future specialists in the economic sphere with the help of interactive learning technologies is proved. The basic rules of the organization of interactive learning are specified, shortcomings of application of interactive methods in educational process by teachers are covered. The stages of interactive teaching methods are defined and substantiated.*

Purpose. *The aim of the article is to find out the possibilities of forming students' environmental competence with the help of interactive learning technologies.*

Results. *The importance of interactive teaching methods that use situational environmental tasks is emphasized. It is revealed that the use of interactive methods and technologies allows to intensify the assimilation and creative application of theoretical material; gives the chance to model ecological life situations by the person; to involve students in solving environmental problems, making environmentally responsible decisions, gaining experience in environmental protection.*

Conclusions. *The possibility of using interactive technologies in the training of applicants is analyzed and argued. The basic rules for the introduction of interactive learning technologies in the structure of higher education institutions in the process of training future specialists in the economic sphere have been formed and proposed.*

Keywords: *competence; environmental competence; economic sphere; interactive technologies; educational process.*

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Методика формування екологічної компетентності під час викладання економічних дисциплін засобами інтерактивних технологій навчання

У статті висвітлено сучасні методи формування екологічної компетентності у процесі викладання економічних дисциплін за допомогою інтерактивних технологій навчання, які зумовлені різними факторами. Зміст понять «компетентність» та «екологічна компетентність» у контексті дослідження проаналізовано шляхом проведення розширеного екскурсу з трактування цих понять у педагогічній практиці. Екологічно грамотна людина має високий рівень екологічних знань, розвиненим екологічним мисленням, у своїй поведінці керується пріоритетом екологічних цінностей, розглядає свою професію як ефективний засіб оздоровлення довкілля та розв'язання екологічних проблем. У статті розглядаються підходи до визначення «компетентності», «екологічної компетентності» та на їх основі виявляються роль, значення та напрями формування екологічної компетентності у процесі викладання економічних дисциплін із застосуванням інтерактивних технологій. Актуальність обраної теми обґрунтовується відсутністю міждисциплінарних та регіональних підходів щодо формування екологічної компетентності здобувача вищої освіти на основі впровадження інтерактивних технологій. Доведено ефективність формування екологічної компетентності у процесі професійної підготовки майбутніх спеціалістів економічної сфери за допомогою інтерактивних технологій навчання. Уточнюються основні правила організації інтерактивного навчання, висвітлюються недоліки застосування інтерактивних методів в освітньому процесі викладачами. Визначено та обґрунтовано етапи інтерактивних методів навчання.

Наголошується на важливості інтерактивних методів навчання, що використовують ситуаційні екологічні завдання. Виявлено, що використання інтерактивних методів та технологій дозволяє інтенсифікувати засвоєння та

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творче застосування теоретичного матеріалу; дає можливість моделювати екологічні життєві ситуації людиною; залучати здобувачів вищої освіти до розв'язання екологічних проблем, прийняття екологічно відповідальних рішень, здобуття досвіду природоохоронної діяльності.

Аналізується та аргументується можливість використання інтерактивних технологій у навчанні здобувачів. Сформовано та запропоновано основні правила впровадження інтерактивних технологій навчання у структуру закладів вищої освіти у процесі підготовки майбутніх спеціалістів економічної сфери.

***Ключові слова**: компетентність; екологічна компетентність; економічна сфера; інтерактивні технології; освітній процес.*

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Formulation of the problem. In the context of globalization, environmental policy is focused on the coevolutionary interaction of man and nature to continue the sustainable development of civilization. Today, much of the philosophical, cultural, psychological, sociological, pedagogical generalizations focus on the environmental component, because the global problem of the modern world is a way out of the potential global environmental crisis of mankind.

The phenomenological field of modern environmental education as one of the main tools for supporting sustainable development of society is a wide range of issues:

– methodological issues of formation of ecological consciousness and behavior;

– problems of separation of worldview and culturological bases of noosphere consciousness;

– problems of introduction of bioadaptive technologies of training;

– problems of predicting behavior in the interaction of people and the socio-natural environment.

However, the current priority of environmental education is environmental competence. The main function of humanization is the development of personality, its general cultural, socio-moral and professional development. In modern conditions, none of these qualities will be complete without environmental culture, and in the case of professional development - environmental professional competence. Since education is the most important condition for the formation of key competencies of the individual, the approach to its formation should be based on a healthy centrist paradigm.

In the context of ecohuman ethics, which aims to understand the meaning and significance of the uniqueness and universality of life on Earth, the integrity and interconnectedness of the world, ecological competence of the individual is a condition and criterion for harmonizing relations and interaction of society, nature and personality.

The relevance of the study is also due to the lack of interdisciplinary and regional approaches to the formation of environmental competence of the applicant on the basis of the introduction of interactive technologies.

Analysis of recent research and publications. A large number of works are devoted to the definition of «competence». It is considered that such an assessment of readiness best meets the requirements for higher education proposed by the professional sphere.

Competences have taken a prominent place in the practice of the education system as criteria for assessing learning outcomes. In terms of environmental competence, this is a world-famous criterion and a comprehensive indicator of the quality of environmental education. In Ukrainian education, the term «used, not scientifically developed» [6].

The concept of environmental competence was based on environmental culture. G. Glukhova calls organic culture a complex category that integrates the set of personality qualities, «which is in the right proportion and transformed by value views on future active activities of nature reproduction» [2].

The basic principles of ecological competence of students, methods of its formation and diagnostics are defined in researches of dissertation character G. G. Glukhova, N. Yu. Oliynyk, S. V. Sapozhnikova, L. M. Tytarenko. The phenomenon of competence is considered by researchers as the main unit of actualization of the content of education. Penetrating into all key general competencies, environmental competence characterizes the environmental orientation of the individual, but does not lose its independence. Analysis of psychological and pedagogical sources of studying the essence of environmental competence shows that there is no specific and clear interpretation of this concept. Researchers see in it an integral result of the educational activity of the individual, characterize its components and depending on the studied aspect and age of the group are defined as:

– ability to apply environmental knowledge and experience in professional life situations, guided by the priority of environmental values, non-pragmatic motivation to interact with the environment, based on awareness of personal involvement in environmental issues and responsibility for the environmental consequences of their professional and domestic activities [5];

- systemic education, which combines normative, cognitive, emotional-motivational and interconnected practical components that determine the development of positive activities in relation to the environment; provides an opportunity to identify, understand, evaluate modern environmental processes designed to ensure ecological balance and sustainable use of nature [7];

– component of professional training of the graduate which is formed, first of all, at the expense of mastering

of subjects of an ecological direction and gaining experience of use of ecological knowledge at studying of disciplines of a special and professional cycle, especially a course of information technologies [4].

Environmental competence is acquired in stages and develops with the gradual acquisition of relevant higher education, knowledge, ideas and skills [8]. One of the main tasks of the educational process is to determine the conditions for the formation of these components and their actual impact on the formation of student competence.

A study of the literature on environmental competence also revealed that scientists identify three components of environmental competence that can be formed in higher education, in particular: personal, cognitive and activity. The personal component is aimed at self-awareness as part of nature through the formation of ecopsychological consciousness, provides awareness of the need for a healthy lifestyle and its role in self-development and self-realization, promotes the formation of personal competence of students. The cognitive component underlies the ecological vision of the world and is manifested in the worldview, worldview and worldview of man. The activity component offers mastering the knowledge of the worldview in the process of forming a natural picture of the world on the basis of scientific knowledge about nature, which is the basis for the formation of environmental competence of students.

Formulation of research goals. The purpose of the study is to clarify the possibilities of forming the environmental competence of applicants with the help of interactive learning technologies. To achieve the objectives of the study it is necessary to perform such tasks as consideration of the feasibility of using interactive learning technologies, evaluation of the effectiveness and efficient quality of such methods. The considered methodology should contain instructions that reveal the content of the concept of interactive teaching methods, technological process and recommendations for the practical application of methods in the structure of the lesson.

Outline of the main research material. The current period of socio-economic development of Ukraine determines the need to significantly improve the quality of training. On the one hand, this is due to scientific and technological progress, the consequences of which are manifested in almost all spheres of professional and social activities of people (including education), on the other hand, with comprehensive research to ensure the creation, application and dissemination knowledge in the socio - economic space, where innovation becomes a systemic phenomenon. It is also important that scientific and technological progress places new demands on both the individual and the higher education system. The contradiction between the growing amount of information and the crisis of teaching methods requires a transition to fundamental learning technologies. The need to change the priorities of vocational training towards the development of heuristic and creative thinking, the formation of the individual as a subject of self-development, the acquisition of tools to manage their own learning activities is becoming increasingly apparent. Improving the applied component of learning, shifting the emphasis on independent activities that meet state educational standards, allows you to form a system of generalized knowledge, skills and abilities that can be transferred from one area to another and are an integral part of development, professional skills and abilities , able to adequately respond to changes that occur, make decisions independently and implement them in practice in the process of mastering new technologies and professional activities. In this sense, the reorientation of the higher education system using different teaching methods is becoming the most important tool for ensuring the competitiveness of graduates in the labor market..

In the traditional organization of skills acquisition as a method of transfer uses a form of one-way communication. Its essence is the transfer of information by the teacher and its subsequent reproduction to students. The student is in a situation where he only reads, hears, speaks about certain areas of knowledge, occupying only the position of the perceiver. Sometimes one-sidedness can be violated (for example, when a student clarifies or asks questions), then there is a two-way connection. One-sided form of communication is present in both lectures and practical classes. With the difference that some information is disseminated not by the teacher, but by the student. This may be the answers to questions asked by the teacher before the lesson, essays, reproduction of course material. This form of communication corresponds to the principles of the competence approach.

Fundamentally different is the form of multilateral communication in the process. The essence of this model of communication is not only in the reception of students' statements, which in itself is important, but also in the introduction of their knowledge into the educational process. The doctrine, open in communicative terms, characterizes the following statements:

1. Students will be better able to master certain skills if they are allowed to approach the subject based on their own experience.

2. Students learn better if the teacher actively supports their way of learning.

3. Students are more receptive to the material if the teacher, on the one hand, structures the subject for easier study, and on the other hand, accepts and includes in the discussion the views of students who do not coincide with his own view.

The transition to a competency-based approach to the organization of the educational process involves the widespread use of active and interactive forms of learning (computer simulators, business and role-playing games, cases, psychological and other training) in

combination with extracurricular activities. The share of classes conducted in interactive forms for the formation of environmental competence in the educational process should be at least 20 percent of classroom classes.

The difficulty of using teachers of interactive methods in the educational process is:

– ignorance of the content of the method;

– inability to apply it in practice;

– misunderstanding of the place of the method in the structure of the lesson;

– distrust of the effectiveness of methods in the learning process.

During the study, the basic rules of interactive learning were clarified.

All applicants, without exception, must be involved in the work. It is useful to use mass technology. It is important to pay attention to the psychological readiness of university students to be included in certain forms of activity. To eliminate possible psychological discomfort of students, it is necessary to use warm-ups, encourage active participation in work, providing opportunities for self-realization. Unacceptability of interactivity by participants is inadmissible. The number of participants and the quality of training can depend in direct proportion. The optimal number of interactive participants is up to 25 people. The room for classes should be prepared taking into account the mobility of interactive participants, as different types of groups are involved in different activities. There is a clear consolidation (fixation) of procedures and regulations. They are discussed before the start of the interactive activity and must meet the requirements of both the teacher and the students. It is important to pay attention to the division of seminar participants into groups. At first it is better to build on a voluntary basis. Then use the principle of random selection.

Interactive forms of learning provide high motivation, strength of knowledge, creativity and imagination, sociability, active life position, team spirit, value of individuality, freedom of expression, activity, mutual respect and democracy [1].

Realization of the purpose of ecological education with use of interactive methods of training covers three technological stages.

In the first, the teacher, based on the knowledge available to students, voices an approximate environmental problem and introduces students to it. This achieves the initial cognitive activity of students and the initial actualization of their internal goals.

In the second stage, the emphasis is on maintaining the required level of activity of participants in the educational process. They are given the opportunity to work independently. Several students are united in creative groups for the second time, but independently, in the process of communication they actualize their inner goal, comprehend the task, determine the subject of search, develop their positions, come to the solution of environmental problems.

At the third stage, the final discussion is held, during which each group actively defends its way of solving the environmental problem, its position, there is a discussion.

Finding that the process of cognition is slowed down due to lack of knowledge of the participants, the teacher provides the necessary information in the form of lectures, conversations [3].

Systematic use of interactive teaching methods in the educational process with the use of environmental situational tasks, practical classes on monitoring of water, soil and other pollution. Increases the effectiveness of learning in general and contributes to achieving the required level of environmental competence. An integral part necessary for the formation of an active life position of students. When using interactive methods, students begin to take center stage in the learning process, and the teacher only regulates and organizes the process, develops the necessary tasks and formulates questions or topics for discussion in groups, gives advice, keeps track of time and plans.

Conclusions. The study found that the introduction of interactive teaching methods significantly increases the level of acquisition of knowledge by entrants in the field of ecology, respectively, significantly increasing the speed and completeness of the acquisition of environmental competence. The basic rules of introduction of interactive learning technologies in the structure of higher education institutions are formulated and proposed, as well as recommendations on the methods of their implementation. This method of acquiring environmental competence is promising and requires further consideration to streamline the use of interactive technologies in the educational process.

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