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## Ensuring the perception of students in the conditions of formation of the environmental education system

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### Abstract

The personal approach is that the organization of the educational process is focused on the individual as a goal, subject, result and the main criterion of its effectiveness. This approach requires recognition of the uniqueness and unique identity of the individual, his intellectual and moral freedom, the right to respect; involves the creation of training and education of appropriate conditions for the natural process of self-development of the inclinations and creative potential of the individual. Personal approach in formation of ecological culture of technicians-ecologists assumes the account of age and individual features of students; level of their mental and volitional development; analysis of students' experience; level of cognitive and practical independence; motivation to study; choice of such forms and methods of influence that most correspond to its psychological characteristics, interests, needs. This approach consists in the ability of students to self-improvement, self-development, personal self-regulation, independence, development of a sense of personal responsibility for the state of the environment, the formation of moral and valuable relations aimed at overcoming conflicts between man and nature, awareness of the essence of environmental problems of our time and their relevance to humanity. Environmental education is directed to the combination of rational and emotional in the relationship of man with nature on the basis of the principles of goodness and beauty, mind and consciousness, patriotism and universalism, scientific knowledge and respect for environmental law.

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### Keywords

Greening, education, formation, implementation, strategy.

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## Introduction

If we consider the technological approach to the content of the formation of ecological culture of future environmental technicians, it is necessary to understand the totality of theoretical, methodological and technological conditions of construction and functioning of the educational space, aimed at the effective implementation of the process of its formation [Zashchirinskaya, Belobrykina, 2018]. It should be emphasized that important in the formation of environmental culture of the student is the experience of educational work. Suhomlinsky in the sense that "there is not and can not be a single, all-powerful method that could ensure the success of education and at the same time compensate for the shortcomings and weaknesses in other areas of educational impact. Under certain conditions, a person can carefully grow flowers, admire their beauty and at the same time be cynical, indifferent, heartless-it all depends on what means of influence on the spiritual world of the individual borders on the influence on which we, teachers, have certain hopes." The problem of harmony of pedagogical influences aimed at students is one of the actual problems of modern education and upbringing [Rutsinskaya, 2012].

The success of the process of formation of ecological culture is directly dependent on how harmonious the impact on students is.

### **The perception of students in the conditions of formation of the environmental education system**

The great domestic teacher K. Ushinsky repeatedly emphasized that education should act not only on one increase in stocks of knowledge, but also on beliefs of the person. According to B. Ioganzen, environmental education involves the formation of a fully developed personality, understanding the dependence of man on society, nature, the need to preserve and improve the latter, able to appreciate the beautiful in the world and has a sense of civic responsibility to present and future generations.

Hence, the level of ecological culture should be characterized by the assimilation of scientific knowledge, the formation of beliefs, ethical and aesthetic feelings, practical activities [Lamminpiya, Zashchirinskaya, Shelepin, 2014].

Efficiency of formation of ecological culture depends not only on reasonable selection of a material of educational disciplines, but also on a choice of pedagogical technologies which are reached by:

- focusing direct attention during the study of environmental content material on the correction of students' environmental experience and relevant value orientations;
- consideration of environmental issues not in the General plan, and in particular environmental situations that affect everyone;
- use of information and communication "explosions" that cause spiritual shock, emotional experience, for this purpose, students are given the opportunity to communicate more and exchange views among themselves;
- creating problematic situations where an environmental problem is discussed comprehensively, several solutions are put forward and students make their own decisions.

The term "technology" comes from the Greek *techni* – art and *logos* – science, teaching. That is, "technology" is the science of skill, the art of carrying out the production process.

S. Sysoeva, A. Alekseyuk, P. Volovik in the monograph "Pedagogical technologies in continuous professional education" treat pedagogical technology as a rational way to achieve consciously set goals, pedagogical activity, system-activity approach to the educational process, a means of optimization and modernization of the educational process.

G. Selevko in "Encyclopedia of educational technologies" defines pedagogical technology as a system of functioning of all components of the pedagogical process, built on a scientific basis, programmed in time and space, which leads to the intended results.

A. Pekhota in the manual "Educational technologies" treats pedagogical technology as a system of rational ways to achieve the goal, the scientific organization of the educational process, which determines the most rational and effective ways to achieve the ultimate educational and cultural goals.

According to UNESCO: "Pedagogical technology is a systematic method of creating, applying and defining the entire process of teaching and learning, taking into account the technical and human resources of their interaction, which aims to optimize the forms of education."

Summarizing the various approaches of researchers to definition of concept "pedagogical technology", note that this is: 1) set of psychological attitudes that define a special set and layout of forms, methods, methods, teaching techniques, educational resources; organizational-methodical toolkit of pedagogical process (B. Likhachev); 2) meaningful technique of implementation of educational process (V. Bespalko); 3) description of the process of achieving intended learning outcomes (I. Volkov); 4) elaborate in detail the model of joint teaching activities in designing, organizing and conducting educational process with unconditional provision of comfortable conditions for students and teacher (V. Monks); 5) system set and order of functioning of all personal, instrumental and methodological means used to achieve goals (N. Klarin).

On the positive side the application of technological approach in the formation of ecological culture of future technicians ecologists include the systematic nature of the training; well-ordered, logical correct presentation of educational material; use of nontraditional forms and methods of training and student and teacher are equal subjects of the educational process, which contributes to the creation of an atmosphere of interaction [Zashchirinskaya 2008].

Thus, the solution of the problem of formation of ecological culture of future technicians-ecologists provides application of culturological, system, activity, interdisciplinary, personal and technological approaches. At the same time, there is a systematization of environmental knowledge; their application in environmental activities in addressing issues of environmental protection; awareness of personal responsibility and willingness to be responsible for the consequences of their activities in the environment [Chekha, 2010].

Formation of ecological culture of future specialists in the field of ecology takes a special place. This process is based on continuous environmental education, the formation of environmental beliefs, practical skills, environmental thinking style, mastering the basics of rational environmental management, awareness of the consequences of negative impact on nature [Rutsinskaya, 2012].

At the same time, ecological culture acts as an adaptation factor of a person to changes in environmental conditions, which is based on the principle of interaction with the natural world, ensuring harmonious coexistence with the environment and is expressed in scientific knowledge, methods of practical assimilation of moral norms, value orientations and cultural traditions [Zashchirinskaya, Lapteva, 2017].

Environmental education and promotion of environmental activities were recommended back in 1977, at the intergovernmental conference held under the auspices of UNESCO, where the following principles of environmental education were formulated: holistic approaches to the environment, both natural and anthropogenic; continuity of formal (state) and informal public education, education: the specific content of each environmental theme that is studied; consideration (cooperation) of the main issues of environmental protection at the local, regional, national and international levels; training of specialists in the ability to critically assess the ecological state of the environment, to find out the true

causes of its pollution; wide use of scientific and technical achievements in education [Sokolova, 2012].

The "Statement on education for sustainable development" adopted by the ministers of environment of the member states of the Economic Commission for Europe (ECE) has been translated into the UNECE education strategy for sustainable development and the Vilnius framework for its implementation [Рудинская, 2018]. This document focuses on the expansion and further development of environmental education, supplementing it with education in other areas on the basis of an integrated approach. A prerequisite for the successful solution of this problem is the recognition of the ideas of harmonic development as fundamental, which is reflected in the [Zueva, Zashchirinskaya, 2019].

Concepts of environmental education.

Also, the role of education for sustainable development was justified in two additional UN documents – UNEP materials "Prospects of the environment for the period up to 2000 and beyond" (May 1987) and the materials of the Brundtland Commission "Our common future" (April 1987).

The formation of the ecological culture of future environmental technicians is achieved by solving such problems:

- consistent formation of love for the natural world from the concrete to the abstract;
- education of understanding of modern environmental problems and awareness of their relevance for all mankind, their country and their native land;
- development of personal responsibility for the environment at the national and global levels;
- assimilation of the best achievements of universal and national cultures, understanding of the multifaceted value of nature;
- mastering scientific knowledge about the relationship in the system "man-society-nature", the formation of knowledge and skills of a research nature, aimed at the development of creative and business activity in solving environmental problems and life situations;
- promoting the transfer of acquired knowledge into personal beliefs that would eliminate the possibility of hypocrisy in relation to nature; development of the need to communicate with her;
- development of skills to make responsible decisions on environmental problems, mastering the norms of environmentally competent behavior;
- assimilation and use of folk traditions and the best achievements of world practice in the relationship of man with nature;
- education of constant care of own health and development of skills of its preservation;
- active involvement of young people in direct environmental protection and research work in the environment;
- involvement of the younger generation in active environmental activities on the basis of acquired knowledge and value orientations.

The formation of ecological culture is based on the principles of:

- continuity, complexity, system and systematicity, providing organizational conditions of formation of ecological culture of the person, continuity between separate links of education;
- education of understanding of integrity, unity of environment, inseparable connection of its components, interdependence of natural processes. An essential role in the implementation of this principle is played by the doctrine of the ecosystem, the biosphere and the noosphere;
- interdisciplinary approach to the formation of environmental culture, which involves not a mechanical introduction of diverse knowledge of environmental orientation in the content of various subjects, and their logical subordination to the main purpose of environmental education;
- coverage of environmental problems at the global, national and local history levels, which involves familiarization with General and local environmental problems, as well as practical

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participation in solving local environmental problems;

- focus of training on the development of value-motivational sphere of personality, harmonization of relations with the environment;

- gradation, which implies the vertical integration of environmental education, which provides a continuous increase in the level of formation of environmental culture;

- accessibility of the environmental education system, considering various forms and methods;

- diagnosticity – the ability to diagnose the level of formation of ecological culture, with the aim of its further correction;

- naturalness – in accordance with the forms and methods of environmental education psychological and physiological, age and physical characteristics of the student;

- differentiation and variability imply differentiation of the content of environmental education and upbringing, the use of a variety of programs, forms and methods of education, considering the needs for environmental knowledge;

- the principle of visibility promotes conscious, active perception, comprehension and assimilation of the material, educates observation;

- the principle of connection of training with practical activity;

- the principle of unity of scientific and educational activities of teachers and students;

- the principle of students' participation in research work;

- the principle of taking into account personal opportunities of students,

- the principle of professional orientation of educational and cognitive activity of students.

S. Soboleva identifies the following principles of environmental training, as: the integrity of knowledge of the environment, continuity, interdisciplinarity, the relationship of local lore, regional, national and global approaches to the disclosure of the essence of environmental problems, the focus of environmental training on the development of value-motivational sphere of personality, harmonization of human relations with the environment.

One of the principles of formation of ecological culture is a large-scale greening of human activity and social consciousness [Lamminpiya, Zashchirinskaya, Shelepin, 2015].

Thus, according to N. Reimers, greening is the penetration of ecological ideas into all spheres of social life, which is designed to preserve the possibility of existence and development of a long chain of generations of people within the law of unity organism-environment. I. Gerasimov reveals the concept of "greening" as "a set of methods and means of optimizing environmental management."

V. Maksakovsky notes that greening as a direction is typical for the entire interdisciplinary complex of Sciences, which explores the interaction of society, production and the environment or eco-development.

According to N. Mammadov, it is necessary to pay close attention to such issues as the greening of the education system, the formation of environmental consciousness, increasing social and environmental responsibility of the person.

V. Krysachenko notes that greening is a process of civilization that is associated with the humanization of society, which formed a moral and ecological imperative and the conditions for the ethical principles of coexistence of nature and society, this person becomes the main object of ecological knowledge.

Greening of public consciousness is the continuity of environmental education and education - from kindergarten to higher education and further in the workplace. Knowledge of works of literature, music and art, the content of which is the environmental direction, will become a condition for the implementation of the values of environmental culture of the individual, give the opportunity to correct

environmental orientation in various situations of communication with nature, the forecast and choice of correct decisions and behavior [Poletaeva, 2013].

Under environmental education we understand the continuous process of assimilation of values and concepts, which are aimed at the formation of skills necessary for understanding and assessing the relationships between people, their culture and the environment, the formation of environmental thinking and worldview, which are based on the principles of environmental responsibility [Tel'manova, 2014].

According to the "concept of environmental education" (2002), the Main purpose of environmental education is the formation of environmental culture of individuals and society as a whole, the formation of skills, fundamental environmental knowledge, environmental thinking and consciousness, based on the attitude to nature as a universal, unique value [Tonkikh, Danilova, 2019].

## Conclusion

Environmental education is directed to the combination of rational and emotional in the relationship of man with nature on the basis of the principles of goodness and beauty, mind and consciousness, patriotism and universalism, scientific knowledge and respect for environmental law [Chekha, 2011]. Ecological education is a set of ecological knowledge, ecological thinking, ecological Outlook and ecological ethics and ecological culture. Each component corresponds to a certain level (degree) of environmental maturity: from elementary environmental knowledge, representations of preschool level to their deep awareness and practical implementation at the highest levels. Conditionally it is possible to allocate such generalized levels of ecological maturity: initial (information-preparatory), basic, above, profile-professional (world outlook-mature).

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## **Обеспечение восприятия со стороны учащихся в условиях формирования системы экологического образования**

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### **Аннотация**

Индивидуальный подход заключается в том, что организация образовательного процесса ориентирована на личность как цель, субъект, результат и главный критерий его эффективности. Такой подход требует признания уникальности и неповторимости личности, ее интеллектуальной и нравственной свободы, права на уважение; предполагает создание в процессе обучения и воспитания соответствующих условий для естественного процесса саморазвития и творческого потенциала личности. Индивидуальный подход в формировании экологической культуры техников-экологов предполагает учет возрастных и индивидуальных особенностей студентов; уровня их психического и волевого развития; опыта студентов; уровня познавательной и практической самостоятельности; мотивации к учебе; выбор таких форм и методов воздействия, которые наиболее соответствуют психологическим особенностям, интересам, потребностям личности. Данный подход предполагает способность студентов к самосовершенствованию, саморазвитию, самостоятельности, развитие чувства личной ответственности за состояние окружающей среды, формирование нравственно-ценностных отношений, направленных на преодоление конфликтов между человеком и природой, осознание экологических проблем современности и их актуальности для человечества. Экологическое воспитание направлено на сочетание

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рационального и эмоционального в отношениях человека с природой на основе принципов добра и красоты, разума и сознания, патриотизма, научного знания и уважения к экологическому праву.

#### Для цитирования в научных исследованиях

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#### Ключевые слова

Экологизация, образование, формирование, реализация, стратегия.

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