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Research Article

FORMATION OF ENVIRONMENTAL COMPETENCE OF STUDENTS

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ABSTRACT

In the article, the importance of using effective innovative technologies for the formation of environmental competence of students and organization of the environmental education process, pedagogical experience of developing environmental competence of students, components of environmental competence of students, stages of means and forms of development of environmental competence of students, five main components in the technology of development of ecological competence, ecological competence the general goal of formation is defined as the carrier of ecocentric type of ecological consciousness, the meaning of ecological values and ecological activities, ecological thinking, ecological thinking, the creation of pedagogical conditions for the formation of an ecologically clean person, ecological culture, general natural principles of development in its formation, ecological knowledge, formed value -motivational relations, issues of comprehensive effective education aimed at the implementation of ecological activities for the preservation of the socio-natural environment based on specific characteristics are covered in detail.

KEYWORDS

Ecology, competence, competence, person, development, direction, student, teacher, experience, support, research, innovation, result, process, quality, formation.

INTRODUCTION

In the conditions of modern life, society is experiencing an urgent need to fully ensure environmental safety, which is primarily based on developed non-standard thinking and being ecologically sound, with special care and responsibility for the preservation of the social and natural world. Achieving this goal is based on the

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proper organization of environmental education and the use of effective innovative technologies to organize the environmental education process.

We understand the environmental competence of students as comprehensively effective education aimed at the implementation of ecological activities for the preservation of the socio-natural environment based on the accumulated experience, acquired environmental knowledge, formed value-motivational relationships. The urgency of changing the relationship between humans and nature In the last 50 years, humans have changed ecosystems faster and more powerfully than at any other time in world history.

At the same time, a number of problems of environmental education remain relevant today. One of them is the formation of skills, attitudes, values and motivation for personal participation in solving environmental problems in order to improve the quality of the environment. The main documents defining the modernization of education and the state educational standard set a task that should be formulated and solved within the competence-based approach, which implies that education is not only aimed at mastering a certain amount of students.

Main part. In the process of learning to solve environmental problems, two main directions can be distinguished in the content component of the formation of environmental competence of students. The first substantive series reveals the essence of environmental contradictions, socio-ecological and economic problems and the concept of sustainable development as a management strategy aimed at improving the quality of life of current and future generations. The second content direction includes theoretical and practical methods of identifying, solving and preventing environmental problems, practical environmental activity experience to improve the quality of life and the condition of the living environment.

In the technology of development of ecological competence, five main components can be distinguished: purposeful, meaningful, procedural, organizational, diagnostic. The general goal of the formation of ecological competence should be defined as the carrier of ecocentric type of ecological consciousness, the meaning of ecological values and ecological activities, ecological thinking, ecological thinking, creation of pedagogical conditions for the formation of an ecologically clean person. ecological culture, otherwise - in order to form a person capable and ready to act as an integral, joint subject of self-development of the "man-nature" system, in its formation both the general natural principles of development and nature are implemented by human existence [6].

In the person-oriented subject-subject pedagogical paradigm, this general goal is concretized in the interconnected, agreed goals of the subjects of the educational process, which can be defined as follows: - for the local community and society as a whole - to improve the quality of education. improvement of quality of life, environment; training of ecologically literate, educated and competent persons; - for the teacher - creating conditions for learning the knowledge, skills, abilities, motivation, attitudes, experience of environmental activities necessary to help solve ecological problems and improve the condition of the living environment; - for the student - to develop the ability, training and experience in environmental activities, to increase their competence in identifying and solving environmental problems from the level of unconscious incompetence to the level of conscious competence.

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In our opinion, in the process of developing environmental competence, it is necessary to use the method of helping to learn, in which the teacher is not the only source of knowledge, but the method of analyzing the situation or analyzing the situation (case method, situation method). It is desirable to make wider use of debates, discussion in pairs and groups, as well as methods of stimulating creative activity (brainstorming, decision trees, morphological analysis, dialogic learning, especially project technology, modular educational technology).

Thus, the formation of competencies does not represent a change in content, but a change in teaching technologies. The obtained results are not enough to draw serious conclusions about the development of environmental competence of students, but they can serve as a guide for the teacher in terms of improving environmental education at this stage of education.

Structural components of environmental competence of students:

Ecological - knowledge component

Motivational - target component

Axiological component

Creative and activity component

Initiative is a personal component

The formation of environmental competence of students is considered a purposeful and dynamic process of student personality development by actualizing and developing the above components of environmental competence in the conditions of the educational system of higher education [15].

Various means and forms of development of environmental competence of students are used in the educational process.

The first informational and motivational stage involves the implementation of individual diagnostics of students, the development of motivation for the formation of their environmental competence and the creation of a student portfolio, conducting questionnaires, interviews, tests, and the formation of a system of motivational and environmental knowledge.

In the second organizational-constructive stage, the student is engaged in independent self-learning activities, individual and group counseling, game design and resource map analysis in the process of designing his personal development trajectory.

The third stage of implementation-activity is related to the participation of students in the implementation of environmental measures to solve the current environmental problems of the region through the implementation of research projects focused on interdisciplinary practice. An important aspect of the formation of ecological competence was the active work of students in the preparation of lectures and conducting lectures, presentations and master classes in an ecological direction. At this stage, students also implemented initiatives and projects to solve current environmental problems in the area in order to protect and preserve the environment.

In the fourth reflexive-analytical stage, analysis of activity results and self-analysis, reflection aimed at understanding the reasons for success and difficulties, as well as discussion of further development perspectives were carried out. At this stage, self- and mutual evaluation, brainstorming, consultation, conversation, etc. methods are used as specific forms and methods of work.

As the second aspect of the application of the competence-based approach, it is necessary to emphasize the aspect of personal activity, where the

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set of competencies is based not only on structured social experience and personal experience, but also on the main types of activity. It allows students to master social experience, acquire life skills and practical activities in modern society [5].

Results and Discussions. Expressing the main goal of the work carried out in the form of a high level of development of environmental competence of students, we considered the support of the teacher as the main means of his development, which is an effective type of psychological-pedagogical activity based on it, the basis of cooperation between the teacher and the student and the trajectory of personal development it is considered necessary to provide optimal psychological-pedagogical conditions for the environmentally oriented development of the student through implementation.

At the same time, the drivers of biodiversity loss and changes in ecosystem services are either persistent or intensify over time [7].

• Over the past century, the transformation of natural ecosystems into fully human-modified ecosystems and the exploitation of biodiversity has increased the well-being of many.

• The most important direct factors of the loss of biological diversity and changes in ecosystem services are manifested in habitat changes and climate change.

D.S. Ermakov [8] defines ecological competence as the meaningful ability, potential and experience of a person to perform ecologically relevant complex actions, and ecological competence as a regulatory requirement corresponding to the content of this ability, potential, experience.

According to A.N. Zakhlebny [9], environmental competence includes the ability to design and organize one's own educational activities, taking into account the following factors: spatial-objective and temporal conditions; relations between educational objects; State standard and educational paradigm requirements; individual student resources are the result of environmental education.

S.V. According to Alekseev [1], ecological competence is an integral quality of a person that determines his ability to act in accordance with the concepts of ecological knowledge, skills, beliefs, motives, values acquired in the "man - society - nature" system, has ecological significance. Competence is characterized by the ability to solve problems and tasks at different levels that arise in life situations based on formed values and motives, knowledge, education and life experience, individual characteristics, inclinations and needs.

D.S. Ermakov [8] identifies the components of environmental competence: cognitive, motivational-value, activity-practical. In order to determine the place of environmental competence in the system of educational competences, it can be determined that there are different approaches to classification. According to D.Raven [13], environmental competence is not in the list of competences, the closest in content is the tendency to think about the future; study the environment to determine its capabilities and resources (both material and human); ability to make decisions; personal responsibility.

The following were identified as core competencies [4].

1. Reading - being able to use experience; to organize and organize the interrelationship of your knowledge.

2. Search - querying various databases; environmental studies; consult a specialist.

3. Thinking - organizing the relationship between past and present events; to be critical of one or another

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aspect of the development of our society; ability to deal with uncertainty and complexity; participate in discussions.

4. Cooperation - the ability to cooperate and work in a group; decision-making - resolving disagreements and conflicts; be able to negotiate; to be able to develop and implement projects.

5. Getting started - participating in the project; to be responsible; join a group or team.

6. Adaptability - ability to use new technologies of information and communication; prove flexibility in the face of rapid changes.

Our practical experience of developing students' environmental competence has shown the importance of considering the following aspects of planning and implementation of pedagogical work:

1) to provide students with a comprehensive, continuous and consistent environment-oriented professional training system by general greening of the educational environment of higher education and finding the interdisciplinary connections of the taught subjects, which helps to self-understand the surrounding reality. awareness of the close interdependence of man, nature and society, as well as personal responsibility for the state of environmental quality;

2) is a practice-oriented direction of the educational process, which ensures the direct implementation of ecological activities of social importance, along with students who have mastered the theoretical sciences of ecology and natural sciences [3].

Based on the theoretical analysis of the works of T.M. Kovaleva [10], A.A. Kezhov [11] and others, we identified the following basic guidelines in terms of developing students' environmental competence:

• independent determination of the optimal effective methods, means, methods and means of ecologically oriented education and development based on the understanding of the student's freedom of choice and his own needs, interests, values, aspirations, individual personal characteristics;

• focusing on renewing the student's personal responsibility for the quality, pace and nature of environmental activities and the implementation of their own development trajectory;

• using a wide range of external factors and conditions of educational development, connecting with the needs and individual personal capabilities of the student [2].

The relevance of the purposeful analysis of favorable conditions for the formation of environmental competence of students is primarily due to the rapid deterioration of environmental problems of a regional and global scale. Secondly, the special importance of scientific research on the study of the objective and subjective factors of the organization of an ecologically oriented educational process in higher education is noted in connection with the objective need of the society and the state to form humanitarian-oriented, high-level future specialists.

Based on the conceptual ideas and principles of the competence-based approach, the concept of "student's environmental competence" is analyzed as a holistic formation of a person consisting of knowledge, motivational and value relations, individual characteristics.

It is known that psychological-pedagogical conditions are the most important component of educational activity, representing a single set of measures of the educational process, closely connected with each other and aimed at achieving a specific pedagogical

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goal. Features of the content of the educational process, pedagogical methods, forms, technologies and specific tools of the educational environment aimed at establishing and maintaining indirect relationships between the subjects of the educational process, experience and individual personal characteristics (needs, goals, interests, qualities, abilities, values, etc.) is considered important in the formation of competencies [12].

Correct organization of preparatory work helps to determine successful research and psychological-pedagogical conditions: a clear statement of the pedagogical goal, a detailed presentation of the meaningful features of the planned final result, taking into account the characteristics and resources of the educational process, the educational environment, as well as the educational process to achieve the specified goal it is important to determine the socio-cultural, specific characteristics of the organization and implementation.

The goal and planned result of the work we are doing is to achieve a high level of environmental competence for students. In view of the sharp deterioration of the ecological situation, realizing the special importance and urgency of preparing ecologically sound graduates today, we consider it appropriate to implement an ecologically oriented educational process, to organize the active participation of all students in ecological activities, regardless of their profile and direction [14].

Psychological-pedagogical conditions can be implemented in the educational process in the context of the development of environmental competence of students and are directly aimed at optimizing it and increasing its efficiency. Consequently, the conditions we have identified are determined by the sum of the following objective and subjective characteristics of the pedagogical system:

- goals and objectives;

- specific characteristics of subjects

- participants of the educational process and specific characteristics of their interaction;

Organization of social and cultural events

• organizational factors and principles of work planning and implementation;

• substantive and methodological methods;

• forms of management and control;

• tools for evaluating the obtained results and correcting them [2].

It was carried out within the psychological-pedagogical conditions that we identified, which, in our opinion, allows us to ensure maximum variability, personalization and practice-oriented formation of environmental competence of students [3].

The general psychological and pedagogical conditions for the formation of environmental competence of students are as follows.

1. Involvement of students in the scientific and creative activities of ecologically oriented activity subjects. The main goal is to solve environmental problems of urgent social importance based on cooperation, dialogue and communication with public and educational organizations.

2. To provide a clearly expressed practice-oriented direction of implementation within the framework of the formation of environmental competence of students by introducing a personal development trajectory for the student that ensures his active professional and personal development.

3. To carry out targeted theoretical and practical training of the system of higher education professors and teachers and to develop their readiness to

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effectively form environmental competence of students in the conditions of modern higher education during their studies.

Conclusion. The selected pedagogical conditions help to increase the effectiveness of activities aimed at developing environmental competence of students in the conditions of modern higher education. Through them, socio-cultural activities, access to the educational process, students as independent subjects of their professional and personal development, their internal potential and active mastery of various forms of intellectual, social, communicative, personal and group environmental activities and voluntary, initiative, creative, moral and other individual will have the opportunity to develop personal qualities. Correct organization of preparatory work helps to determine successful research and psychological-pedagogical conditions: a clear statement of the pedagogical goal, a detailed presentation of the meaningful features of the planned final result, taking into account the characteristics and resources of the educational process, the educational environment, as well as the educational process to achieve the specified goal it is important to determine the socio-cultural, specific characteristics of the organization and implementation.

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