



MODERN PROBLEMS IN EDUCATION AND THEIR SCIENTIFIC SOLUTIONS

FORMATION OF ECOLOGICAL CULTURE: ISSUES OF EDUCATION AND UPBRINGING

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ABSTRACT: *A person who has mastered an ecological culture subordinates all types of his activity to the requirements of rational use of natural resources, takes care of improving the environment, and does not allow its destruction and pollution. Therefore, he needs to master scientific knowledge, learn moral value orientations in relation to nature, and also develop practical skills to preserve favorable conditions, the natural environment. Developing environmental education should be based on knowledge and competent use of the psychological patterns of the formation of environmental consciousness, and when designing a developing environmental educational environment, priority in the relationship between psychology and didactics should go to psychology. The problem of studying ecological consciousness, ecological attitudes and psychological mechanisms of human interaction with the natural world remains one of the central ones in the process of developing the psychological foundations of modern environmental education.*

Keywords: *ecological culture, environment, education, method, ecological education, technology, ecological consciousness, measure, environment.*

INTRODUCTION

Currently, the world is undergoing constant changes in strategies and methods in the field of environmental education, and the issue of this study is still relevant. This is confirmed by the activities of international organizations¹ that contribute to the greening of education, and by documents of legal support for environmental education.

Scientists consider the quality of a person's relationship to nature, people, and himself as indicators of the development of his ecological culture. The idea of ecological culture is concretized at each stage of personality development by certain indicators, which is due to the psychological characteristics of age. The level of development of ecological culture thus acts as a criterion for the ecological upbringing of a person [1].

Scientific discussion is a multifaceted and meaningful process as a complex social and psychological phenomenon. Researchers of this phenomenon usually focus on features that allow the mechanism of discussion to be determined. Its mechanism includes the following components:

- Identify the causes of disagreements, group the views of the parties (partners);
- Determine the level of differences in views, analyze the causes of incorrect positions, develop a common constructive position and establish the truth [11].



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In determining the criteria and indicators of ecological culture, we proceeded from the ideas: 1) about the ecological culture of the individual as a common goal of environmental education and upbringing; 2) about the specifics of ecological culture as a targeted impact on the development of the spiritual sphere of the individual, the system of its value orientations, relationships and activities.

MATERIALS AND METHODS. The specificity of the formation of ecological culture is associated with the predominant impact on the spiritual sphere of the individual and the operation of the system of concepts "values - attitude - activity", which are implemented in the process of education. In the course of environmental education, the emphasis is on the intellect and operating the system of concepts "consciousness - thinking - knowledge - activity" [2]. Considering ecological culture as a new formation of a personality, the harmonious development of its intellectual, emotional-sensual, activity spheres, I.V. Tsvetkova singles out indicators of ecological culture and classifies them into "internal" and "external" [4]. To characterize the internal indicators of the ecological culture of the individual, such concepts as: needs, motives, abilities, habits, readiness for creative work in nature were used. External indicators are characterized by such categories as: attitude, behavior, activity. As a result, as an integrative criterion of the ecological culture of the individual, the moral and ecological position of the individual is determined.

Taking into account the intensity of accumulation of personal experience in interaction with the outside world, we considered the dependence of the formation of a person's moral and ecological position on the nature of the experience gained in interaction with the environment. Ecological experience is a set of environmentally significant emotionally rich interactions of a person with the outside world that have taken place, imprinted in his memory and transformed into a motivational sphere. In this assumption, we also relied on the conclusions of previous studies close to our problems, in particular, the study of N.S. Dezhnikova in the sphere of personality, the system of its value orientations, relations and activities in nature. An ecological attitude develops on the basis of an understanding of the laws of nature that determine the life of a person, with whom he is directly or indirectly connected and on which he has one or another effect.

Diagnostics of the level of formation of ecological culture is aimed at the psychological and pedagogical study of the personality and, in turn, consists of three sections [3]:

- 1) diagnostics of personal development, relationships, behavior;
- 2) diagnostics of the emotional sphere of the personality;
- 3) diagnostics of the features of the cognitive activity of the individual.

RESULTS AND DISCUSSION

Ecologization of education is considered as:



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- the inclusion of environmental aspects in all educational subjects, the greening of the learning process, the greening of the environment of the educational institution, the greening of the teacher-student relationship;
 - inclusion of integrated environmental courses in curricula;
 - translation into the content of the educational subject of the ecological style of thinking, and not the facts related to the object area of ecology;
 - saturation of the content of education with environmental knowledge, development of environmental culture, skills and abilities of practical activities to implement the principles of environmental policy;
 - the process of penetration of environmental ideas, concepts, approaches into other disciplines, as well as the training of environmentally literate specialists of various profiles;
 - the process of value-oriented influence of ecology as a complex, integrative science on various spheres of life, in particular, on the disciplines of specialization.

It can be seen that although greening is associated with the transformation of various components of educational programs: goals, content, methods of teaching and control, the nature of the interaction of subjects of the educational process and organizational and pedagogical influences on it, its leading component is greening the content of education as a means of forming the ecological culture of students.

We consider the greening of the content of vocational training as a process of improving (updating, restructuring) the educational programs implemented in the institution or creating new programs aimed at mastering the environmental component of the content of education by future specialists, the assimilation of which is designed to ensure the formation of a diversified personality prepared for reproduction (preservation) and development of the material and spiritual culture of the society.

A number of scientists disclosed certain aspects of the greening of the content of training specialists, developed and implemented in the practice of the educational process of a professional educational institution [5]:

- integrated subjects and special courses of environmental content;
- educational and methodical complex of ecological special discipline;
- a set of methods and teaching aids to improve the environmental literacy of students - future doctors;
- a methodology for the formation of an ecological culture among students of a technical college, which is based on the “learning activities of museums”, etc. Of particular importance are the developed didactic models aimed at forming the ecological culture of specialists:
 - a model of teaching students in a pedagogical college, implemented through the “knowledge plus relationships” algorithm and describing the means and methods of forming their environmental culture at three levels: information-cognitive, operational-





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activity and practice-oriented, and also a complex of pedagogical conditions for its formation;

– a model for the formation of an ecological culture of medical students based on the ecologization of medical education (disciplines of the natural sciences, general professional, humanitarian and special cycles), including target, content, operational-activity and evaluative-effective as structural components.

The main ways of diagnosing cognitive ecological activity are:

1) ways of researching ecological perception; studying perceptual ecological actions; study of vital signs of ecological attention and memory; 2) representations and fantasies as material for diagnosing ecological imagination; 3) the complexity of the approach to the study of the intellectual development of the individual; 4) indicators of intellectual environmental activity; 5) identification of individual opportunities for successful engagement in various types of environmental protection activities.

The psychological nature of ecological views and beliefs that influence the formation of responsibility includes three main components: 1) intellectual (environmental knowledge and intellectual skills of a worldview nature, possession of causal thinking techniques); 2) personal (motivation, attitudes and assessments, confidence in overcoming environmental hazards and the need to protect nature); 3) internal readiness (desire, intention, need to realize one's positions in actions, activities for the protection of the natural environment).

The main directions in the psychological and pedagogical diagnostics of the ecological consciousness of the individual are carried out through the ratio of studies through short-term tests (slices) and long-term (longitudinal) studies and observations. The advantages of the latter from the point of view of understanding the integral organization of the personality and the laws of personal development are well known.

The psychological nature of ecological views and beliefs that influence the formation of ecological culture includes three main components [6]:

1) intellectual (environmental knowledge and intellectual skills of an ideological nature, possession of causal thinking techniques);

2) personal (motivation, attitudes and assessments, confidence in overcoming environmental hazards and the need to protect nature);

3) internal readiness (desire, intention, need to realize one's positions in actions, activities for the protection of the natural environment).

The worldview, beliefs, ideals, interests of the individual, which are at the same time the motives of his activity, are saturated with environmental content in the educational process (Having considered the essence of the concept of ecological culture, we come to the conclusion that it incorporates all the essential features the concept of responsibility as a social and psychological category and is an act of environmental consciousness. Accordingly, the pedagogical process should be aimed at the formation of such psychological properties of the individual as the need for communication with





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nature, interests in knowing it. laws, motives for behavior and activities to preserve nature, beliefs in the social conditionality of people's attitude to nature, in the need to control natural phenomena. The process of forming an ecological culture should begin as early as possible. According to psychologists, artificial prolongation of childhood in the conditions of a developed society drags out boys and girls shek a state of irresponsibility. The artificial deprivation of responsibility is the cessation of development [7].

A range of environmental issues, the consideration of which within the framework of a training course on psychological and pedagogical diagnostics can help in the formation of an ecological culture of a person who is quite competent both in diagnostic and analytical activities, allowing them to interact with the objects of nature with knowledge of the matter . At present, two main functions of psychological and pedagogical diagnostics in education can be distinguished. 1) Firstly, it is to ensure the effective assimilation of educational knowledge and skills, as well as full-fledged mental and personal development. 2) Secondly, the assessment of the quality of education itself, i.e., the identification of how much one or another educational system ensures the full development of the individual. In accordance with this, two classes of tasks of psychological and pedagogical diagnostics in the field of environmental culture can be distinguished (Fig. 1).

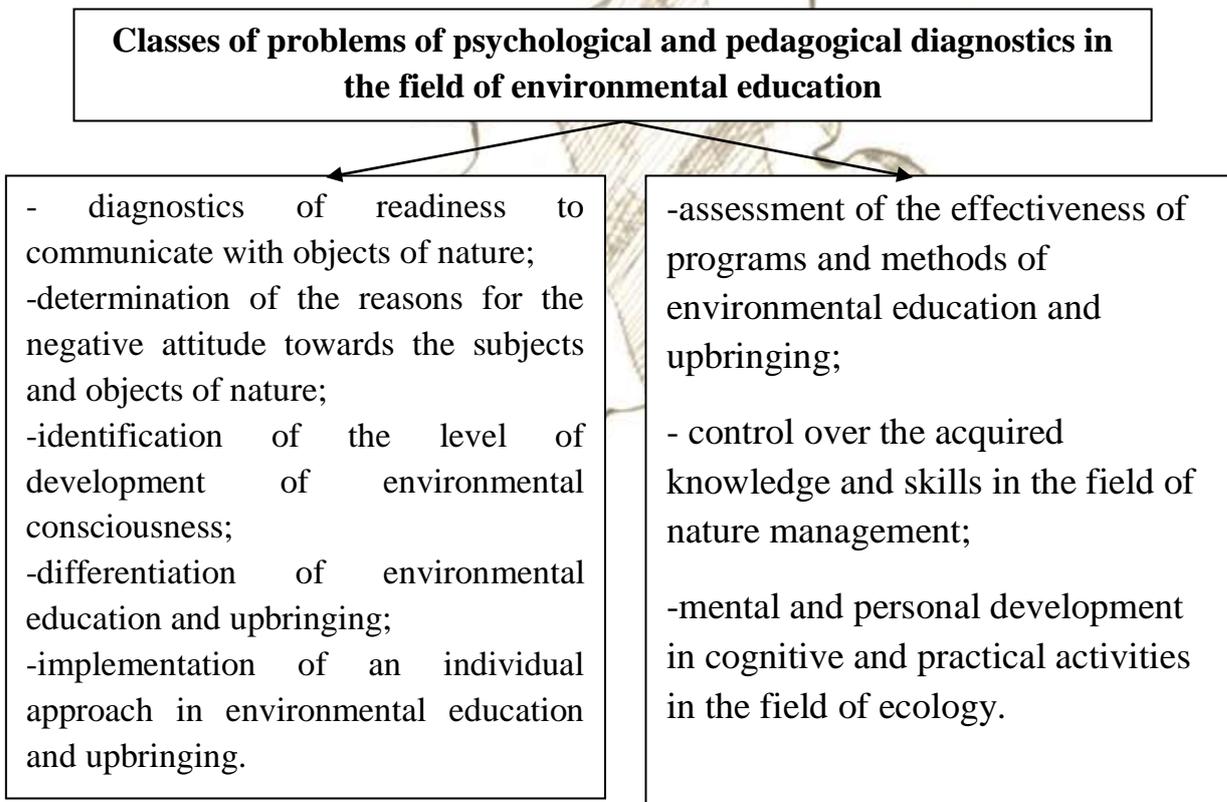


Fig 1. Two classes of problems of psychological and pedagogical diagnostics in the field of environmental education [8]





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The change in the functions of psychological and pedagogical diagnostics in education required a revision of many of its theoretical and methodological principles, the introduction of new types of methods into its arsenal. For example, in the book of the famous American psychologist A. Anastasi, we find only a cursory mention of these methods. So, for example, the introduction of computer testing opens up the possibility of studying the procedural side of the activity that the test models, helps to identify individual strategies for solving tasks, and analyzes the difficulties experienced by the subject when performing various tasks.

Computer diagnostics of the level of formation of ecological culture and its components has great prospects, as it makes it possible to predict and control changes in the increase in the level of ecological culture, to correct its direction. As a rule, such tests simulate the process of learning or development. They are applied at the preliminary and final stages of training. The problem of meaningful diagnostics is also important in connection with the demands of preschool institutions and schools, where much attention is now paid to the differentiation of education, including environmental education.

With the introduction of the principle of normativity, there is a need to reconsider the methods of processing the results. Obviously, the qualitative analysis of test results becomes a priority. Since we put a completely specific content into the test (concepts, logical-functional relations, etc.), a qualitative analysis will allow us to identify difficulties, developmental shortcomings, the most typical mistakes, the least assimilated content characteristics, etc.

It is possible to outline the main lines of qualitative analysis of test results. They are as follows [9]:

- 1) analysis of the features of assimilation of terms and concepts included in the test (which ones are learned better and which ones are worse). At the same time, terms related to different educational cycles, as well as concepts of different degrees of generality, are analyzed;
- 2) analysis of the features of understanding the semantic content of tasks;
- 3) correlation of the content of tasks with the content of training programs and the life experience of the subjects, which is absolutely necessary for understanding the specifics of the mistakes they make.

CONCLUSION. Carrying out such a qualitative analysis makes it possible to obtain characteristics of the thinking features of a person who is at different educational and age stages of development. In our opinion, a modern diagnostic program in the field of the formation of an individual's ecological culture must necessarily open up ways of correcting, optimizing development and offering their own options for such work. The considered methodology of psychological and pedagogical diagnostics can also be used to diagnose the level of formation of the ecological culture of the individual.

In pedagogical diagnostics of the ecological culture of a person, according to K. Ingekamp, we, first of all [10]:





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1) compare the observed behavior in nature with the previous behavior of the same person, with the behavior of other persons, with a description of the behavior of a person or with a description standard behavior;

2) analyze in order to determine the causes of deviations in behavior, predict, in order to anticipate behavior in other situations or in the future;

3) we interpret, so that after indexing and evaluating the available information, we can evaluate this or that behavior;

4) we inform the person being diagnosed of our assessment of his behavior, because with the help of feedback we want to influence the behavior in the future;

5) we control the impact of these messages in order to know whether the expected result in raising the level of environmental culture and environmental awareness of the individual has been achieved.

Only on the basis of an analysis of the totality of the data obtained, their consideration in a system and integrity, one can draw final conclusions, on which, in some cases, the further process of environmental education and upbringing may depend. Such an approach to the problems associated with the diagnosis of the components of the ecological culture of the individual brings a certain amount of clarity to the issues of training and education.

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