

CERTAIN SUGGESTIONS REGARDING ELEMENTARY ECOLOGICAL CULTURE OF EARLY SCHOOL-AGE STUDENTS

Vasile PANICO,

State Pedagogical University „Ion Creangă” from Chisinau

În lucrare sunt examinate unele idei referitor la cultura ecologică elementară a elevilor de vârstă școlară mică. Ideile de bază reflectate în lucrare sunt următoarele: conceptul și componentele constitutive ale culturii ecologice elementare; criteriile și indicatorii de evaluare a culturii ecologice elementare la elevii de vârstă școlară mică sub aspect cantitativ și calitativ. Criteriile fundamentale sunt: cunoștințele ecologice elementare; trăirile emoționale sau atitudinile de ordin ecologic; abilitățile/ acțiunile și deprinderile ecologice mentale și practice. Cultura ecologică elementară a elevilor de vârstă școlară mică integrează în sine un sistem de cunoștințe, trăiri emoționale sau atitudini și abilități mentale și practice de ordin ambiental.

Cuvinte-cheie: *conceptul și componentele culturii ecologice elementare, criteriile și indicatorii, cunoștințele ecologice elementare, abilitățile și atitudinile ecologice.*

UNELE SUGESTII PRIVIND CULTURA ECOLOGICĂ ELEMENTARĂ A ELEVILOR DE VÂRĂ ȘCOLARĂ TIMPURIE

In the paper, certain ideas are examined regarding the formation of elementary ecological culture in early school-age students. The basic ideas reflected in the work are the following: the concept and constituent components of elementary ecological culture; the criteria and indicators for the evaluation of elementary ecological culture in early school-age students in quantitative and qualitative aspects. The fundamental criteria are: elementary ecological knowledge; emotional experiences or ecological attitudes; mental and practical environmental abilities/actions and skills. The elementary ecological culture of early school-age students integrates in itself a system of knowledge, emotional experiences or attitudes and mental and practical skills of environmental order.

Keywords: *concept and components of elementary ecological culture, criteria and indicators, elementary ecological knowledge, ecological skills and attitudes.*

Introduction

Man as a sociohuman being is responsible and obliged to preserve and enrich by all means the natural living environment. In the first decades of the 20th century, academician V. Vernadski warned humanity about the negative, irresponsible attitude of man towards nature. He was firmly convinced that if human society does not take care of the natural environment, humanity will self-destruct [10]. The uncontrollable actions of human society have brought TERRA to the brink. Humanity has taken and takes everything it likes from nature and almost nothing or very little fortifies it reasonably. Care and responsibility towards the natural environment must always accompany human activity. The relationship between society and the natural environment is a question of existence or non-existence of the human species.

The rapid development of society and the preparation of personality for the future require major changes in education. Education aims to anticipate social changes to form a personality open to change and development, able to integrate without major difficulties in the dynamics of social life and contribute to its progress. Man has the mission to predict the evolution of events and processes that society will generate in the possible future. At the same time, the human species must be an active participant in these changes (economic, moral and spiritual, scientific and cultural, political and informational events and phenomena) [6].

The anticipatory development of personality is conditioned by the competence to face the future positively, to predict and adequately analyze social events and probable natural phenomena, to adequately evaluate the consequences of decisions and actions. Anticipation directly implies the assumption of responsibility and obligation in the determination, design and positive realization of the future within the limits of national

and general human values. The development of society is determined by the intense changes of sciences, techniques, technologies and arts. Man as a socio-human being is permanently involved in the objectivity and natural inevitability of the laws of nature development, in the irrational change of lithosphere, biosphere and stratosphere. The result of such involvements endangers the existence of flora, fauna and human being. The danger comes from the consciousness and behavior of the personality in which uncontrollable changes occur quite frequently. We emphasize the fact that the imbalance in the natural environment is a consequence of the uncontrollable and unbalanced development between the consciousness and the behavior of personality, in some cases also the uneven and non-value development of the psychic formations [1, 7].

„In society there are many prejudices that inhibit the activity of forming the ecological culture in the personality, destroy the beneficial relations between man and his/her living environment. These are: a) the idea that nature exists to be mastered and exploited by man; b) the idea of „uncritical” optimism (the disappearance of thousands of plant and animal species should not worry us); c) the idea that nature is infinite and has infinite defense capabilities against the imbalances that threaten it; d) the idea that it is necessary to return to a technical civilization, based on traditional agriculture, crafts, domestic economy” [5, p. 136].

These ideas are destructive and are aimed at intensifying man-nature conflicts, which can and will contribute to disastrous consequences for the existence of human species and the living world.

The universal law - the balanced development of nature, society and personality is violated by the human species, endowed with a creative potential formed and developed at the maximum level. Human society is responsible for the environment. This indebtedness is generated by the non-value-motivated actions of human species for the increasing satisfaction of material and physiological needs.

The change and development of contemporary world is profound, complex and radical. In order to change and develop science and culture, technique and technologies, economy, politics and human spirituality, it is beneficial to change and develop in a planned way, positive consciousness and behavior of personality and society under moral, ecological, technological, professional, managerial aspect. Solving the problems related to environmental education is possible when ecological education will become a problem of educational policy and ideology and will permanently accompany all types of socio-human activities.

Concept and Constituent Components of Elementary Ecological Culture

Ecological education is an oriented process of training and self-training, development and self-development of consciousness and behavior in personality and society. The product or result of environmental education and self-education is ecological culture. The formation of elementary ecological culture in early school-age students is carried out in the framework of formal, non-formal and informal education.

The level of ecological culture is determined by the formation and development of ecological consciousness and especially the attitudes of responsibility and obligation regarding the preservation and improvement of natural environment, the formation of skills to make positive decisions and to detect/discover optimal practical solutions regarding the human relationship (and society) with the natural living environment, to prepare the personality to positively influence the relationship between man and the natural environment. The term ecological culture is treated differently in the educational sciences. Next we examine some of them. Thus, in the view of A. Teleman and S. Gînju, ecological culture is an outcome of education about the environment and aims to develop responsibility towards the environment, the motivation to participate in activities to improve the environment by promoting a lifestyle compatible with a healthy natural environment and conducive to life [9].

E. Stamati offers, in our opinion, a broader definition regarding the content of ecological culture. „Ecological culture is expressed in the responsible readiness for behavior and activities in accordance with moral duty and the rule of law.... Emerging emotional empathy and internal protest lead to the need for action to change the situation - environmental action. In them, ecological consciousness and thinking acquire a specific practical orientation, which manifests itself in the form of certain facts” [8, p. 108]. According to M. Hadîrcă and E. Chiriac “ecological culture is an outcome of ecological/environmental education, which is formed through a lasting educational process, oriented towards the formation of consciousness (knowledge, opinions, beliefs and ecological attitudes) and ecological behavior (facts, habits and ecological habits) of the emerging personality” [4, pp.162-163].

For early school-age students, the formation and development of elementary ecological culture is carried out within formal, non-formal and informal activities and needs to be designed and carried out in relation to age and individual particularities, with their life and activity experience. The key factors in the formation of ecological culture belong to social institutions: state and non-state organizations, family, education and educational system, formal associations and mass media.

The content of educational process is based on general culture. „General culture ensures the axiological substance of the content of learning (and of education) which is the basis of curricular construction of the education plan and school programs” [3, p. 700]. Next, S. Cristea mentions that “within the education system, general culture ensures the pedagogical foundations of specific objectives of each level of education” [3, p. 704]. In the framework of primary education, the acquisition, internalization and valorization of elementary general culture is ensured.

Education in the broad sense of the word, including the ecological one, is oriented towards the formation and development of consciousness and behavior in personality and society. *The consciousness of personality* regardless of its content (intellectual, moral, ecological, aesthetic, professional, hygienic, political) is made up of the following basic components: the system of acquired and realized knowledge, representations, judgments and reasonings; mental abilities and skills; virtual activity intentions and models or activity projects in various life situations and conditions; opinions, beliefs and ideals. *Behavior* in general terms is made up of the following components: the system of actions and deeds, skills and habits of a practical order, which are constantly accompanied by reactions and emotional/sentimental states. From the above, it appears that *the basic/primary ecological culture* of early school-age students represents or constitutes a prototype or mold of the general culture.

The components of ecological culture are generated by the general social culture. These components are the following: a) *knowledge* about nature and the means of activity that ensure their application for the transformation and preservation of environment. Knowledge about nature is of a different kind – factual, notions, laws and theories, principles and rules of behavior regarding the natural environment, knowledge related to means of activity or action, evaluative or attitudinal knowledge; b) *the means of activity* or the system of ecological capabilities or skills; c) *emotional (sentimental) attitudes* that form and develop based on emotional experiences. Emotional experiences have specific content for each side/educational component, in our specific case they have ecological content. Emotional experiences generate in the personality the system of motives/needs towards the environment. They can be direct (related directly to the natural environment) and mediated (moral, aesthetic, economic, professional, etc.).

In the first half of the 20th century, the renowned psychologist L.S. Vygotsky demonstrated that consciousness is not located after life, but life is located after consciousness [11]. “We want to emphasize the fact that if consciousness is not well formed and developed, it is in an unbalanced state in its structural components, then the life designed by people with this type of consciousness is capable of generating socio-human phenomena and processes, unwanted, undesirable, negative, not accepted by human society. Such people can in some cases generate destructive effects for the human species. Social crises are the result of limited and poorly organized education” [7, p. 332].

Based on ecological culture, man and society design, organize and regulate their activities in relation to the natural environment. Ecological culture constitutes the “substance” of activity of man and society in relation to nature. The unity of social environment with the natural one constitutes the fundamental criterion of ecological culture. Ecological culture consists of two fundamental components: a) *spiritual* (knowledge, principles and skills, opinions, beliefs and ecological ideals); b) *practice* (all forms of interaction of man and society with nature or actions and deeds of influence, preservation/conservation and enrichment of nature).

Currently, a new ranking of ecological culture values is necessary. Its base or core needs to be constituted by new reasons/moral duties, norms and rules of behavior based on the Human Eco principle. Attitudes of moral behavior constitute the core of ecological culture, and the principles of humanism education such as: democratization, solidarity, responsibility, obligation and duty towards the present and the future of the Earth represent the fundamental reasons for building relationships between Man and Nature.

Diagnostics of Elementary Ecological Culture in Early School-Age Students

The formation of ecological culture is possible through a permanent and efficiently organized training and education, starting from childhood, primary school, gymnasium, high school, university and continuing throughout the personality's professional activities. The process of forming the ecological culture is mainly oriented towards the formation and development of attitudes of responsibility and obligation of all people/society towards the natural environment. People are meant to assume knowledge, skills and attitudes to act individually and in groups/teams in solving environmental education problems. The fight for a favorable living environment will be won only to the extent that education will be based on the affective/attitudinal dimension of Man/society-Nature relations.

Through the experimental study, we pursued the major objective of extensively examining/evaluating the elementary ecological culture of primary school students, taking into account their developmental peculiarities, the components of ecological culture and the educational experience described and analyzed in pedagogical sciences.

The elementary ecological culture of early school-age students includes/integrates within itself a system of knowledge, emotional experiences/attitudes and mental and practical skills of an environmental order. Thus, elementary ecological culture can be measured quantitatively and qualitatively by applying three fundamental criteria: a) ecological knowledge; b) emotional experiences or ecological attitudes; c) mental and practical ecological skills or actions, facts and skills.

Criterion - elementary ecological knowledge (*What knowledge does the student possess?*)

1. Possesses knowledge of life on earth, in soil, water, air.
2. Knows the vegetation of the forest, the meadow, the garden, the plain.
3. Has knowledge about domestic and wild animals, endangered animals.
4. Acquires knowledge about the nature of the native locality.
5. Knows the specific characteristics of the living environments of plants and animals.
6. Knows and name certain plants and animals that live in the locality and the vicinity of locality as well as the basic natural factors (water, air, soil).
7. Nominates certain protected natural objects from the Republic of Moldova.
8. Knows the ways of rational use of the components of natural environment.
9. Has basic knowledge about waste processing methods.
10. Has knowledge about the impact of local environmental sanitation actions on the quality of life.

Criterion - emotional experiences or primary/core ecological attitudes (*Which attitudes underlie the behavior?*)

1. Shows tendencies to participate in environmental care activities: school yard, slum, park, forest, protective strips.
2. Shows responsibility towards the environment of the locality.
3. Expresses sensitivity and aesthetic taste towards nature.
4. Demonstrates curiosity in learning about natural phenomena.
5. Shows tendencies to learn new things from the surrounding environment.
6. Expresses the desire to discover new knowledge and phenomena from the natural environment.
7. Manifests positive emotional feelings towards activities organized in nature.
8. Demonstrates creative questioning tendencies in environmental activities.
9. Shows sensitivity regarding life on earth, in soil, water, air.
10. Has tendencies to be active in natural environment research projects.

Behavioral criterion – elementary ecological actions and facts (*What mental and practical skills does the student master?*)

1. Has the ability to argue the consequences that demonstrate excess in the collection of natural resources: hunting, fishing, deforestation.

2. Possesses actions and basic facts of positive behavior towards the natural environment.
3. Has the ability to participate in actions to comment on the various behaviors of peers and other people unfavorable for the natural environment.
4. Has the ability to argue the role of local organizations and associations in the protection of natural environment.
5. Masters the ability to explain certain connections in the environment.
6. Demonstrates the ability to care for decorative plants.
7. Demonstrates the ability to identify the elements of human living environments (rural/urban locality; of the living environments of plants and animals – terrestrial, aerial, aquatic, underground in the locality).
8. Possesses the ability to determine certain relationships or dependencies from the world of plants, animals and the ability to fit into actions to protect the local environment;
9. Masters the ability to argue the importance of waste processing and environmental protection.
10. Has the ability to identify relationships between living things in the immediate and more distant living environment.

The nominated criteria and indicators constitute the basic parameters, by means of which the system of educational activities oriented towards the formation of elementary ecological culture among early school-age students can be diagnosed and designed. In studying the level of formation of ecological culture among students, *the Test* was applied: „**Elementary Ecological Culture of Early School-Age Students**”, elaborated on the basis of nominated criteria and indicators. The results obtained from a qualitative and quantitative aspect are placed in Table 1. **Rating and interpretation of results.** For each statement, as many points are obtained as indicated by the answer option (not at all -1; a little -2; a lot -3; very much -4). To calculate the score, the sum of scores obtained for all statements is made. The minimum value is 30 points and the maximum is 120 points.

According to the number of accumulated points, the students were placed in the following groups-levels of elementary ecological culture training.

30-60 points – low level

61-90 points – medium level

91-120 points – high level

Table 1. Results Obtained Regarding Level of Elementary Ecological Culture Training for Early School-Age Students.

Level	High	Medium	Low	Total
Percentage of students examined	13% students	42% students	45% students	100%

The data presented in Table 1 demonstrate that the majority of students have a good and very well formed elementary ecological culture (average level – 42%; high level – 13%), and at the low level of formation and development of elementary ecological culture there are 45 % people.

These results have a general character regarding the formation of elementary ecological culture in students and are related to the age characteristics of second grade students, who are from the countryside and who constantly spontaneously contact nature. Most of them believe that nature is a source of existence for people and „heals its wounds” by itself.

The presented data generate two nodal questions:

- Why do many students show curiosity and interest in learning about nature, but consider nature only as a source of human life?

- Why elementary ecological actions and facts are predominantly formed at a low level in relation to the degree of acquisition of ecological knowledge.

In order to answer these questions and clarify some causes of the imbalance between knowledge - emotional experiences/attitudes - actions and ecological facts, we resorted to the separate investigation of ecological culture components: *the criterion - ecological knowledge; the criterion - emotional experiences or ecological attitudes and the behavioral criterion - ecological actions and facts (mental and practical skills).*

Based on observation, conversation with students and parents, the following data/facts were revealed regarding the level of formation and development of elementary ecological culture among students. The obtained results are placed in Table 2.

Table 2. Results Obtained Regarding Mastery Level of Knowledge, Emotional Experiences/Attitudes and Actions, and Elementary Ecological Facts by Students.

Criterion	Ecological Knowledge			Emotional Experiences or Ecological Attitudes			Ecological Actions and Facts		
	High	Me- di- um	Low	High	Me- di- um	Low	High	Me- di- um	Low
Percentage of students examined	58%	36%	6%	45%	39%	16%	26%	39%	35%

The obtained data demonstrate that the majority of students, 58% subjected to the diagnosis, possess high-level ecological knowledge and 45% show high-level ecological attitudes. Ecological actions and facts at this level are present only in 26% students. We observe that actions and practical ecological facts at the low level constitute 35%. Behavioral actions in relation to knowledge are formed and developed at a modest/reduced level.

Students with a high level of formation of elementary ecological culture are characterized by the following defining characteristics:

a) possess knowledge about life on earth, in land, water and air; have information about domestic birds and wild animals; have knowledge about the nature of my hometown; know the specific characteristics of living environments of plants and animals; have information and name certain plants and animals that live in the locality and the vicinity of locality and the basic natural factors (water, air, soil); possess knowledge about the ways of rational use of the components of natural environment and waste processing;

b) show tendencies to participate in the activities of care and preservation of the natural environment (school yard, slum, park, forest); demonstrate responsibility towards the environment of locality; are curious about the phenomena of nature; manifest desires, tendencies to know the new from the living world; demonstrate sensitivity to life on earth;

c) possess actions and elementary facts of behavior towards the natural environment; fall into actions of commenting on the various behaviors of peers; argue the role of local organizations and associations in the protection of natural environment; participate in plant and animal care actions; possess the ability to identify the elements of human living environments; argue the importance of waste processing and environmental protection.

Students placed at the average level of elementary ecological culture formation knowledge, attitudes, actions and behavioral facts are approximately at the same level of development. The obtained data demonstrate the following characteristics: knowledge – 36% students; attitudes – 39% people; ecological actions and facts - 39% students.

We note that the level of possession of ecological knowledge is slightly lower compared to the level of formation and development of ecological attitudes and actions. This difference is insignificant and constitutes 3% students. This fact is due to the so-called psychological phenomenon named by the psychologist L. Bojovici „psychic court”, which is mainly characteristic for children of preschool and early school age. Students imitate the teacher, peers, elders, different literary characters, behave and show similar actions.

The low level of ecological culture training is characteristic for students who possess some fragmentary knowledge regarding general ecological problems and which are mostly not supported by concrete examples. They show interest in the phenomena of nature and especially in the living world. The attitude towards the surrounding world is passive-contemplative, characterized by a low emotional level in the perception of objects and phenomena in nature. They show a pragmatic attitude towards nature and fundamentally realize

the value potential of nature for man and society. As a rule, these students emotionally admire the objects and phenomena of nature. Attitudes of responsibility towards the natural environment are manifested periodically. They encounter certain difficulties in communicating with peers and adults on environmental issues, communication skills are formed and developed at a low level. In some situations, the separation of the „I” from the surrounding reality is manifested.

Attitudes towards the natural environment are dominated by cognitive interest and sympathy for living beings. Moral reasons are manifested through actions to care for animals and birds, manifest tendencies to improve and preserve the environment. Caring for animals and plants is done under the guidance of adults. Experience of contact with the environment is good and has a positive influence on the formation of interest in environmental issues and generates certain tendencies to participate in activities to protect the natural environment.

Conclusions

- Elementary environmental culture represents a system of knowledge, emotional experiences or attitudes, mental and practical ecological actions and facts. It is the result or product of formal, non-formal and informal environmental education. Elementary ecological education is a priority of the activity of training and development of the personality of early school-age students. It needs to be carried out in accordance with the age and individual characteristics of students, with the conditions of life and activity of the educational subjects. The purpose of ecological education is the oriented process of forming elementary ecological culture in students. Parents need to be environmentally trained/educated. They feel the lack of some guidelines and practical recommendations regarding the beneficial realization of children’s ecological education.

- The fundamental criterion of ecological culture is the unity of consciousness and behavior relative to the environment. Educational agents are meant to explain and demonstrate to students that man, as a social being, belongs not only to the social but also to the natural environment, and the duty of each person is to show responsible and caring attitudes towards him/her. Within ecological education, teachers and other educational agents have the obligation to be guided by the following principles-rules: the formation of attitudes of responsibility and obligation towards the natural environment is an indissoluble component in the general development of student’s personality; ecological culture integrates components of intellectual, moral, emotional education and practical life activities; the process of forming elementary ecological culture is based on the principles of: continuity, systemacity, interdisciplinarity, unity in the formation of consciousness and behavior; the cohesion of formal, non-formal and informal education; harmonizing traditional and participatory-active methods; permanent inclusion of students in practical activities possible to protect the environment.

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Data about the author:

Vasile PANICO, PhD in Pedagogical Sciences, University Professor, „Ion Creangă” State Pedagogical University, Chisinau.

E-mail: panicovasile@gmail.com

ORCID: 0000-0002-4431-1770

Presented on 14.08.2024