

# Developing the structure of the personality's ecological culture

Nadezhda N. Maslennikova<sup>1\*</sup>, Valery D. Panachev<sup>2</sup>, Leonid A. Zelenin<sup>2</sup> and Anatoly A. Opletin<sup>2</sup>

<sup>1</sup>*Department of Biology and Chemistry, Kazan Federal University, 420008, 18 Kremlyovskaya Str., Kazan, Russian Federation*

<sup>2</sup>*Department of Physical Culture, Perm National Research Polytechnic University, 614990, 29 Komsomolsky Ave., Perm, Russian Federation*

(Received 11 March, 2017; accepted 30 April, 2017)

## ABSTRACT

The article is devoted to a detailed analysis of the personality's ecological culture and the description of its components. The author systematizes the elements of ecological culture, selected and described by modern researchers in the field of forming ecological culture and environmental consciousness of the person, systematizes them and establishes a functional relationship between them. The author considers the implementation of personal ecologically oriented activities to be the main purpose of forming ecological culture; therefore, the author proposes to enlarge the structure of ecological culture under consideration with such elements, as expert opinions and scientific environmental assessment (expert review).

**Key words :** *Ecological culture, Environmental consciousness, Components of ecological culture, Ecological beliefs, Environmental values, Environmental attitude, Environmental viewpoint, Environmental behavior.*

## Introduction

At the present moment scientists attach great importance to the issues of forming students' ecological culture at all levels of the education system.

In pedagogics the term "formation" means the process of development and formation of the person under the influence of upbringing, education and social environment (Kodzhaspirova, and Kodzhaspirov, 2005), conscious control of the process of human development, or certain aspects of his personality, qualities, properties of nature and bringing them to the planned form (Antziferova, 1981; Bezrukova, 2000). Consequently, to form the ecological culture of the individual (pupil, student) you must be certain about its structure.

A great number of scientific papers deal with the

problems of discriminating and characterizing components of the ecological culture of the individual, however, the variety of conceptual and categorical apparatus of ecological culture requires systematization, improvement, establishing relationship between its components and elements, introducing additional and required elements to the existing structure.

The aim of the article under consideration is the analytical study of contemporary educational and psychological research works on the problem of ecological culture of personality and drawing out proposals for its further development. To achieve it, the following tasks were solved:

- studying the concept of the personality's "ecological culture" and comparing its components, pointed out and described by various authors;

---

\*Corresponding author's email: m-nadine@yandex.ru

- establishing links between the selected elements and combining them into a coherent systematic structure;
- finding out grounds for the expansion of the existing structure of the personality's "ecological culture", the introducing new elements into it.

## Materials and Methods

Ecological culture was formed mainly in the XX century as a specific kind of ethics, moral imperative (Partridge, 1981), as a certain type of cultural reflection that occurs in an era of modernization and growth of the world population (Douglas, 1992; Murphy, 1997), when the rising expectations of humankind in the conditions of democratization began to contradict the declining quality of the environment (Vari and Tamas, 1993).

We have analyzed many definitions of the term "ecological culture" and consider the definition of E.V. Muravyova to be particularly important for studying. According to it, ecological culture is an integral part of human culture, a new stage in its development; it includes a complex of ecological thinking, ecological world outlook, environmental awareness, as well as universal values and ideals, humanistic ideas, ways of learning and activity, moral and environmental regulations and requirements, which contribute to the formation of nature-creative attitude to the world (Muravyova, 2003). This definition provokes interest, as it allows evaluating the structure of ecological culture of a personality and its basic elements very tentatively.

Many scholars consider environmental consciousness to be the most important component of the person's ecological culture, along with environmental education. In this regard, elements of environmental awareness can rightly be included into the structure of ecological culture. For example, in the works of D.V. Bagin it is presented as "the highest level of mankind's reflecting environmental conditions and relations in the process of development and functioning of the system "man – nature – society" in the form of environmental ideas, concepts, laws" (Bagin, 2002). S.D. Deryabo defines it as a set of ideas about the relationships in the system "man – nature" and in the nature itself, the existing relationship to the nature, and corresponding strategies and technologies of interacting with it (Deryabo, 1999). N.N. Egorova sees it as a process of acquiring specific knowledge and skills that are realized in the

form of environmental values (Egorova, 2002). In the works of E.V. Girusov environmental consciousness is the man's perception and understanding of his close connection with nature, the ability to act without breaking these ties; his role is to form the evaluation approach, the system of beliefs, habits, values, and specific forms of human behavior in relation to the nature (Girusov, 1983).

Taking into account the definitions, given above, we turn to the analysis of the structure of the personality's ecological culture. An adequate view on the environmental problems, on the formation of ecological responsibility and on the personality's ecological culture is based on *scientific knowledge* (Deryabo, 1999; Scott and Gough, 2004; Waliczek and Zajicek, 1999), which in its turn forms adequate *ecological thinking* and *ecological consciousness*. The most important thing in this case is the fact, that scientifically based consciousness will always contain *prognostic component* (Zimnaya, 1997), which enables the individual to identify, analyze and predict the impact of various human activities on the environment and human health. Moreover, besides the fact that profound environmental consciousness promotes the strengthening of the motives of ecological and cognitive activity, consequently it will lead to the individual's realizing the need of practical participation in *environmentally-oriented (pro-environment) activity* (Jurin, 2000; Lubell, 2002), i.e. will influence the formation of another component of its environmental culture.

The person's axiological relation to knowledge, people, natural objects, and the world as a whole becomes a measure of his moral, aesthetic, ideological, intellectual, emotional readiness to certain actions; values create conditions for the realization of the individual activity (Asafova, 2006; Corraliza and Berenguer, 2000; Pooley and O'Conner, 2000). Therefore, further components of ecological culture are the system of *environmental values* and *attitude to the nature*, which manifests itself in the form of definitions, opinions, inferences, concepts, beliefs, preferences, ideas, ideals, principles and so on.

The man's relations to the objects, phenomena and processes, significant for him, indicates the presence of the system of attitudes, which define a stable, consistent and purposeful character of his activities and preserve this orientation in the changing conditions (Cornelissen *et al.*, 2006). The person's mature environmental attitude enables him to carry out his professional activities in an environmentally

oriented way; therefore, the system of environmental attitudes is also referred to the components of ecological culture.

A more sophisticated, in-depth and well-structured system of relations of the individual to the environment, to people, to himself, which is manifested in the corresponding activities and behavior, forms its *environmental viewpoint* (Holodilova, 2003); it serves as an independent component of the ecological culture.

An important element of the person's ecological culture is his *auto-evaluation* of himself and his state. It reflects the results of his impact on the nature, the intuitive or scientifically valid conclusions about the possible consequences of some activity, takes into account the prognosis of events (Makhmutova, 1997), i.e. serves as the basis for the formation of *environmental responsibility* – the next component of ecological culture.

Knowledge or *assumptions* about the results of human activities, combined with the ideas, auto-evaluation and a prognostic component, form another element of ecological culture – *environmental expectations*; it determines the individual solutions, their characteristics and the course of action taken by the person (Corraliza and Berenguer, 2000; Medvedev and Aldasheva).

The analysis of the concept of “environmental consciousness”, suggested by S.D. Deryabo, which is defined as a set of the personality's *environmental concepts*, his *subjective relationship* to the nature, *strategies* and *technologies of interaction* with it (Deryabo, 1999), makes it possible to add these items to the previously emphasized components of ecological culture.

Environmental beliefs, values, and attitudes are the persistent *motives* for the individual's environmental activity. The stronger is the person's belief that individual behavioral acts can actually and positively impact the environment, the higher will be his environmental activity (Nesgovoroda and Savelyev, 2009). In the long run, considerate, personally significant and effective *environmental activity* forms his *environmental behavior*, – we also refer these elements to the important structures of ecological culture.

## Results

Taking into account the fact that the described structure of the individual's ecological culture may seem

complicated, and to make it easier to operate this concept, we combine the selected items in the three component parts:

- cognitive (environmental knowledge and skills);
- value-oriented (environmental ideas, ideals, beliefs, attitudes, reasoning, environmental values, environmental expectations and prognosis, environmental responsibility, environmental viewpoint, motives of environmentally oriented behavior, attitude to knowledge and the need to implement it);
- pragmatic (environmental activity and behavior).

We believe that it is necessary to enlarge the individual's structure of ecological culture under discussion with such components, as *environmental expert opinion* and scientific *environmental assessment (examination)*.

Environmentally oriented professional work of the individual may be based on his introduction, development and establishment of new production technologies, new materials and products; it will require preliminary research-backed assessment of their ecological compatibility. So expert judgements must form another element of the value-oriented component of environmental culture; they express an expert's opinion to the procedures for the implementation of certain technical and technological projects. Besides, their environmental assessment (examination) must be considered an element of the activity component, which is the scientific study of these issues and, unlike environmental prognosis and expectation; it demands special knowledge of ecology, engineering and technology, law, economics, and others (Maslennikova, 2015).

## Discussion

Thus, beyond all doubt, the basis of the personality's ecological culture is the knowledge. The cognitive component is characterised by its complexity, as it includes the knowledge of many scientific fields: ecology, economy, law, culture, politics, history, professional safety and environmental protection, and others. The knowledge, received by the personality, is modified by cognitive and mental analytic-synthetic activity. The perception of new information happens with the “support” of intellectual emotions, arising in the active learning environment. Mental processes (sensation and perception, memory, imagination and thinking) and various logical operations (identification, subjectification,

analysis, comparison, synthesis, generalization, imagination, abstraction, concretization, contrasting, deduction, and induction) contribute to the understanding of knowledge, comparing with the existing knowledge and memorization. The formed stock of new knowledge undergoes the process of adaptation to environmental conditions.

On the basis of the corrected system of knowledge, the person's mind reflection of reality and forms a certain attitude to it. It manifests itself in the form of judgments, beliefs, concepts, definitions, conclusions, views, preferences and ideals. If the acquired knowledge is not enough to form attitudes, or the newly formed position of the person is absolutely opposite to the existing one, the person feels a great interest to search for the missing knowledge or reconsider the available one.

The individual's attitude to the natural world, in its turn, forms a system of values. Thus, it helps to manifest his ability to assess the activity of humanity and the ability to self-assessment of his own state and behavior, to predict the results of environmental events or his own planned activities, to formulate conclusions and environmental expert judgments about these events and activities. Environmental expectations play a significant role in this case.

Corrected knowledge and attitudes, confirmed by certain motifs, form ideas, intentions, attitudes, decisions. It arouses a need for a purposeful environmentally competent activity. It should be scientifically based and can be manifested in eliminating the causes of the impact on man and nature, reducing the consequences of some influence; in environmental impact assessment, modeling, and experimentation. Targeted ecologically oriented activity, emerging in the form of environmental attitudes, reveals the person's environmental viewpoint in a particular model of his behavior.

It is obvious that the elements in question are arranged in a chain structure, in which some parts are appropriately arranged with reference to other parts and have certain relations and connections with each other, thereby forming a purposefully functioning system (Fig. 1).

## Conclusions

Many researchers consider the formation of ecological culture of each individual to be one of the most effective solutions of the ecological collapse for the humanity. The processes of environmental training

of students and the formation of their environmental culture, corresponding to the needs of the modern society, will be effective when the teacher has a corrective effect on all the components and elements of their ecological culture.

Having studied the issues of forming the personality's ecological culture and singling out its components and elements, we conclude the following:

1. The personality's ecological culture is characterized by a rather complex structure; its elements consists of three blocks:
  - cognitive (or environmental erudition) – it stimulates the person to be interested in studying the natural world. It includes a set of knowledge of various scientific fields, as well as the processes of perception and processing information.
  - value-oriented (or environmental consciousness) – it characterizes the attitude of the individual to the natural objects and includes environmental values, moral beliefs, ideals, principles and motivations, expert judgment, which guide future activities of the personality.
  - pragmatic (or environmental activities) – it ensures ecologically-oriented professional and social activities of the individual.
2. The personality, whose professional work should be based on the creation of environmentally oriented technologies, materials and objects of technosphere, which are not aimed at destroying nature, must be able to assess and justify their environmental friendliness. Thus, the structure of his ecological culture should contain (and be enriched in the teaching and learning process) with such elements as expert opinions and initial environmental impact assessment (evaluation).

We see the practical significance of establishing and developing the structure of "ecological culture" in the following: beyond all doubt, the elements of this system change during environmental training of the person in terms of their content, functions and main characteristics. Changes in one element can cause certain changes in the entire system. With this in mind, a teacher at a certain time and under certain conditions may further affect some element (or elements) to make an impact on the ecological culture of the person as a whole. Meanwhile, the additional elements emphasized by us, are able to reinforce the formation of value orientated and pragmatic components of the personality's ecological

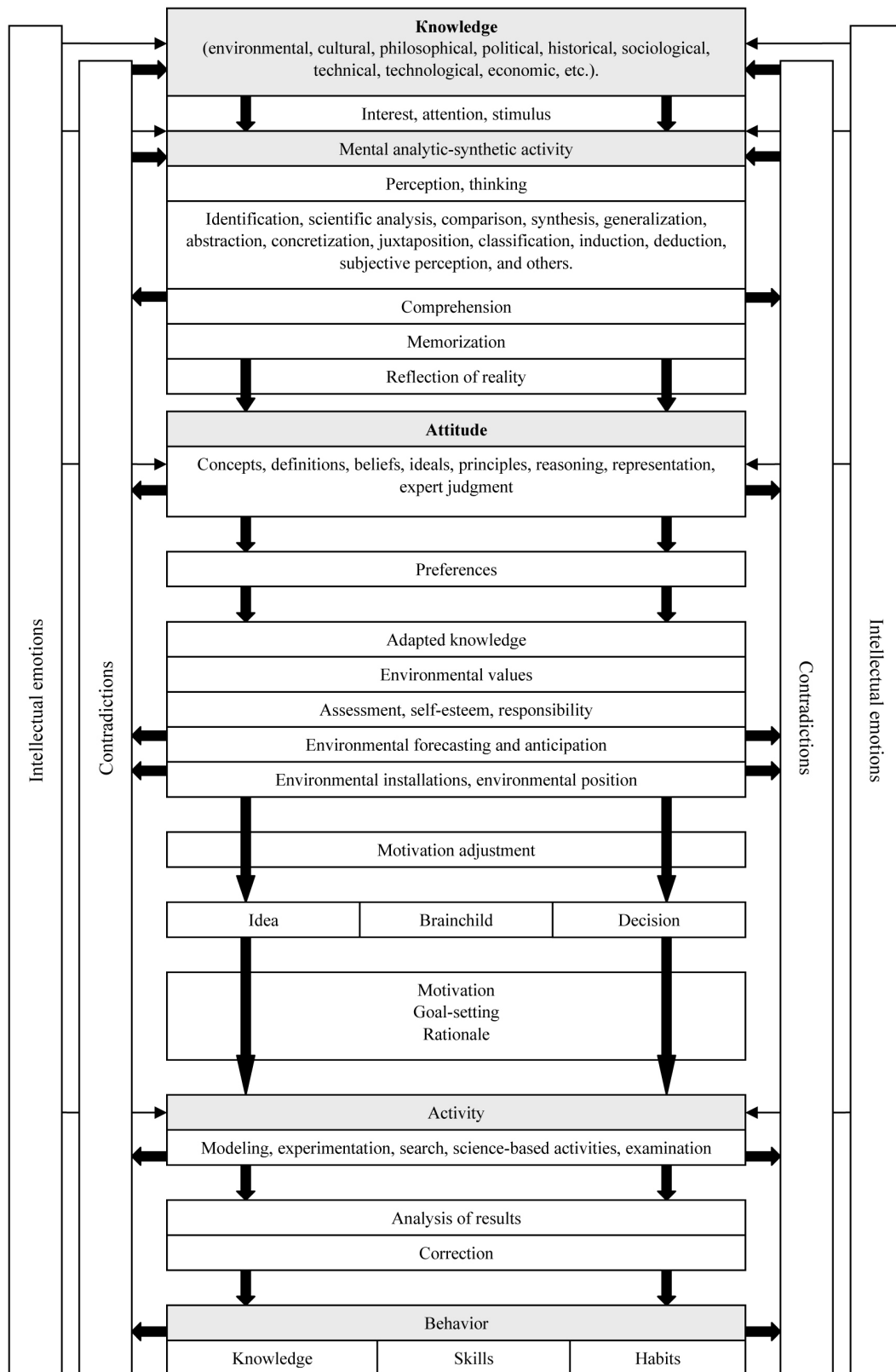


Fig. 1. Structure of the personality's ecological culture

culture, to increase the activity of its environmental attitude and to form a truly competent person, who thinks and acts environmentally.

### Acknowledgements

The work is performed according to the Russian Government of Competitive Growth of Kazan Federal University.

### References

- Antziferova, L.I. 1981. On the psychology of the personality as a developing system. Psychology of formation and development of the personality. Moscow: "Nauka".
- Asafova, E.V. 2006. Evolution of pedagogical culture in the development of a competitive specialist. *Education and Self-Development*. 1 : 47-51.
- Bagin, D.V. 2002. Formation of ecological culture of the future engineer on the basis of information technologies: Doctoral thesis, Moscow.
- Bezrukova, V.S. 2000. Basics of spiritual culture: Teacher's encyclopedic dictionary. Yekaterinburg.
- Cornelissen, G., Pandelaere, M. and Warlop, L. 2006. Cueing Common Ecological Behaviors to Increase Environmental Attitudes. *LNCS 3962*: 24 : 39-44.
- Corraliza, J. and Berenguer, J. 2000. Environmental values, beliefs, and actions. *Environment and Behavior*. 32: 832-848.
- Deryabo, S.D. 1999. Environmental psychology: diagnosis of environmental awareness, Moscow: MPSI.
- Douglas, M. 1992. Risk and Blame: Essays in Cultural Theory. London: Routledge.
- Egorova, N.N. 2002. Teacher's ecological culture: eco-pedagogical aspect: Author's thesis, Tomsk.
- Girusov, E.V. 1983. Ecological consciousness as a condition to improve the interaction between society and nature. *Philosophical problems of global ecology*. Moscow.
- Holodilova, E.V. 2003. Opportunities for development of cultural and environmental awareness: regional approaches. *Materials of the Conference "Strategy of Development of the Russian Far East: Opportunities and Perspectives"*. Khabarovsk.
- Jurin, R.R. 2000. Symbolic beliefs as barriers to responsible environment behavior. *Environmental Education Research*. 8(4) : 373-394.
- Kapitonov, I.A., Shulus, A.A., Simonova, M.V., Sviredenko, D.A., Shreyner, R.T. 2016. Green Energy Revolution Perspectives in Modern Russian Economy. *International Journal of Economic Perspectives*. 3 (10) : 166-175.
- Khamzin, A.Sh., Aldashev, S., Tileubergenov, Y.M., Kussainova, A.K., Khamzina, Zh.A., Buribayev, Y.A. 2016. Legal Regulation of Employment in Kazakhstan. *International Journal of Environmental and Science Education*. 11 (18) : 11907-11916.
- Khamzina, Sh.Sh., Semenova, L.A., Kairbekova, B.D., Suleimenova, G.A., Sarsembayeva, E.Yu. 2016. The Impact of the Environmental Students' Extracurricular Activities on Formation of their Environmental Consciousness. *Information (Japan)/ 19(9B)*: 4163-4168.
- Kodzhaspirova, G.M. and Kodzhaspirov, A.Yu. 2005. *Pedagogy Dictionary*. Moscow: PCC "MarT".
- Lubell, M. 2002. Environmental activism as collective action. *Environment and Behavior*, 34 (4) : 431-454.
- Makhmutova, E.N. 1997. Characteristic features of environmental awareness of government personnel (gender aspect). *Proceedings of the First Russian Summer School on Women and Gender Studies "Valdai-96"*. Moscow: Moscow Center for Gender Studies.
- Maslennikova, N.N. 2015. The structure and content of students' ecological training. *Modern Problems and Prospects of Development in Pedagogics and Psychology: The materials of the 8<sup>th</sup> International Scientific and Practical Conference*. Makhachkala.
- Medvedev, V.I. and Aldasheva, A.A. *Environmental awareness: Tutorial*. Moscow: Logos: 25.
- Melnichuk, Yu.A. 2013. The role of non-material incentives in the development of motivation of students of educational institutions. *Materials of the Afanasiev Readings*. 1 (11) : 174-178.
- Muravyova, E.V. 2003. Didactic conditions for the development of environmental culture of the students of technical higher school: Author's thesis. Kazan: Kazan State University.
- Murphy, R. 1997. *Sociology and Nature. Social Action and Context*. Boulder: Westview Press.
- Nesgovoroda, N.P. and Savelyev, V.G. 2009. Motivational-axiological component in the ecological culture of high school students. *Omsk Scientific Bulletin*. 79 (3): 143-146.
- Partridge, E. 1981. *Responsibilities to Future Generations. Environmental Ethics*. Buffalo: Prometheus Books.
- Pooley, J.A. and O'Conner, M. 2000. Environmental education and attitudes. Emotions and beliefs are what is needed. *Environment and Behavior*. 32 (5) : 711-723.
- Rabinovich, P. 2015. Biosocial essence of fundamental human rights. *Journal of the National Academy of Legal Sciences of Ukraine*. 4(83) : 8-20.
- Scott, W. and Gough, S. 2004. *Key Issues in Sustainable Development and Learning*, Routledge Falmer., N.Y.
- Uznadze, D.N. 2001. *Psychology of Attitude*. Saint Petersburg: Peter.
- Vari, A. and Tamas, P. 1993. *Environment and Democratic Transition. Policy and Politics in Central and Eastern Europe*. Dordrecht: Kluwer Academic Press.
- Waliczek, T.M. and Zajicek, J.M. 1999. Relationship between environmental knowledge and environmental attitude of high school students. *Journal of Environmental Education*. 30 : 231-256.
- Zimnaya, I.A. 1997. *Pedagogical psychology*. Rostov-on-Don: Phoenix.