



Study of Dominant Type of Student Ecological Focus

Evgenii A. Alisov^{1*}, Elena I. Cherdymova², Galina F. Trubina³,
Alexander N. Yakushev⁴, Sergey P. Zhdanov⁵, Olga V. Popova^{6,7},
Margarita N. Kobzar-Frolova^{8,9}

¹ Moscow City University, Moscow, RUSSIA

² Samara National Research University named after Academician S.P. Korolev (Samara University), Samara, RUSSIA

³ Ural State University of Economics, Ekaterinburg, RUSSIA

⁴ Plekhanov Russian University of Economics, Moscow, RUSSIA

⁵ Russian Customs Academy, Lyubertsy, RUSSIA

⁶ Financial University under the Government of the Russian Federation, Moscow, RUSSIA

⁷ Russian State University of Humanities, Moscow, RUSSIA

⁸ Russian State University of Justice, Moscow, RUSSIA

⁹ Russian State Agrarian University named after K.A. Timiryazev – MAA, Moscow, RUSSIA

* Corresponding author: evgenii.alisov@mail.ru

Abstract

The problem of effective development of ecological attitude with the use of educational technologies aimed at the formation of structural components of ecological consciousness becomes more and more urgent: ecological focus and ecological perceptive abilities of students. The study objectives: to study of main characteristics and structural components of environmental attitudes which are dominant in student age, using projective techniques; to identify within the theoretical and experimental study the types of environmental attitudes and level of environmental perceptual abilities of students. The leading methods for the study of this problem are the methods of questioning and testing, allowing to do a qualitative analysis of the characteristics of the student leading type of environmental attitude. The article presents a thorough and detailed analysis of the concept of environmental attitude, highlights the structural components of environmental focus. Special attention is paid to the methods studying the type of ecological attitude and the level of ecological perceptive abilities. It is revealed that the aesthetic type of attitude prevails among the first-year students. The data obtained in the work can be used in social psychology, pedagogy, practical psychology, environmental psychology, sociology, as well as for the further theoretical development of this issue.

Keywords: students, environmental awareness, environmental attitude, environmental attitudes' types

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INTRODUCTION

The current environmental education, based on analytical knowledge about nature, could not reverse the destructive motives in the worldview among the large part of the population (Kuznetsova et al. 2018, Zakhlebny 2000). This identifies the need for a fundamental change in the philosophy and methodology of ecological training and education, based on a fundamentally new holistic, synthetic view of the World and the place of Man in it. Such ecological training and education should give people a clear and reasoned knowledge on the basic principles and rules of interaction between people, society and nature

(Cherdymova et al. 2018, Khapai 2009, Suravegina 2000).

While the teaching of knowledge about the laws of nature and the laws of society is currently sufficiently tested and verified in schools and universities, the teaching of knowledge about the laws of compatibility, interaction of society and nature as a whole system is virtually absent (Kondrashova 2005).

Environmental awareness is an acquired and accumulated human knowledge about the natural relationships, sustainable equilibrium, codependence, interdependence, and interactions of living organisms with the environment and each other in the spheres of nature, society and the individual – in this way the

substantive aspect of environmental awareness is defined by Likhachev. And he further notes that the environmental awareness, its diverse definitions of the shape, can be formed and developed in man only through deliberate, systematic, continuous education (Deryabo and Levin 1996).

As a reflection of interaction with nature it is necessary to allocate in consciousness: knowledge on natural phenomena and laws; understanding of the purposes; contents and ways of activity; estimates of the external and internal world of pupils; self-assessment of a personal position in the relations with nature and people (Zalygin 1992). Its study as a focus requires a distinction between what is reflected in it and how it is reflected, that is, the logical separation of the objective content of judgments from the form in which such content is expressed.

Sense of nature is the basis of ecological and aesthetic consciousness of man, emphasizes Dobretsova (1996). To do this, children need not only to be educated, but also to be learned to behave in nature, to enrich the experience of environmental decision-making. In other words, without pedagogical participation there is no sustainable consolidation of ecological attitude to nature, reasonable limitation of one's own needs for preservation of the environment in all its integrity. Norms of behavior in nature should be learned by every child, as a multiplication table, as the rules of grammar (Sorokoumova and Bogatyreva 2016).

As the leading criteria in the study all the real properties, processes and phenomena of nature can be included, with which students interact and as well as planning real actions with them in certain situations (Girusov 1998).

These natural factors included in the activities of students become objects and conditions of their activities. Although, as K. Marx (1983) notes, human objects are not natural objects in the form as these latter ones are directly given in nature, turning into objects of student activity, natural objects are beginning to increasingly determine the direction and content, breadth and depth, duration and sustainability of real environmental attitudes of students. Thus they begin to define more and more the holistic attitude of students to nature, and therefore – begin to act as its determinants, or criteria (Markov 1987).

According to K. Marx (1983), a person is connected with the world in two ways. On the one hand, he/she is

a free active subject, influencing and changing the world around him/her. On the other hand, he/she appears to be a being dependent on the world, attached to it by his/her urgent needs. Hence, in ecological activity the personal orientation of the subject of activity is directed on giving to the nature of a certain socially significant value. The system of values is a set of social definitions of objects of the surrounding world (Shagun et al. 1996). At the same time, it can be associated with certain spheres of human activity, with characteristic ways of acting with natural objects, as well as with internal emotional assessments of various aspects of the surrounding world and parameters of its activity (Markovich 1997, Markovich 2001, Moiseyev 1998a, 1998b, Park 2002).

Everyone is a bearer of ideas and attitudes that he/she did not create – just as he/she speaks a non-invented language. This sum of non-genetic information (or sum of information by non – genetic means, if one will) is simultaneously the property of the individual and the property of the group, which brought up this individual in accordance with its attitude to reality, and with its way of adaptation to reality-culture (Panov 1994).

Ecological focus - readiness, predisposition of the person to perception of future events and actions in the natural environment in a certain direction; provides steady purposeful nature of corresponding activity's course in the natural environment and serves as a basis of expedient selective activity of the person in the world of the nature (Cherdymova 2013).

The following components can be distinguished in the environmental focus:

- a) Cognitive component (awareness of the environmental focus object);
- b) Affective component (emotional evaluation of a natural object, identification of feelings of sympathy or antipathy to it);
- c) Behavioral (conative) component (consistent behavior in relation to the natural object) (Cherdymova and Sorokina 2013).

According to the type of dominance Deryabo and Levin (1996) distinguish conditionally 4 types of ecological focus.

- Aesthetic ecological focus-a person perceives nature as an object of beauty;
- Cognitive ecological focus-a person perceives nature as an object of study, knowledge;

- Ethical ecological focus-a person perceives nature as an object of protection;
- Pragmatic ecological focus-a person perceives nature as an object of benefit (Yasvin 2000)

Yadov (1975) suggests that there are other dispositional formations at other levels of needs and, in more complex ones, including social situations, and at the same time, they arise every time when a certain level of needs and a certain level of situations of their satisfaction are *met*.

RESEARCH METHODOLOGY

The following methods were used in the research process:

1. Method of questionnaire survey. This method is a universal method, as it allows solving the following problems:

- The survey allows one to mentally simulate many of the situations necessary for the researcher, appealing to the internal mechanisms of the person, his/her experience.
- It provides an opportunity to penetrate into the inner world of people and learn about their motives, assessments, aspirations, plans, etc.
- The results of the questionnaire are amenable to various types of mathematical processing, which in modern computer programs gives researchers ample opportunities (Zborovski and Shuklina 2004).

In total, 90 first-year students of the faculty of physics and mathematics were surveyed. The study used a target sample. Data analysis was carried out by using the SPSS 17.0 for Windows software package.

To identify the type of student dominant ecological focus the method of testing was used.

After the study, it was found that about a quarter of respondents had a pragmatic focus-the perception of nature as an object of benefit to themselves (23.5%). And the fifth part had cognitive focus (20.6%). This may indicate that children from childhood were inculcated focus on the perception of the beauty of nature, not paying enough attention to the protection and study of nature. Such results are confirmed by the results obtained during the pilot study.

The first measurement in the experimental group is characterized by the predominance of aesthetic focus,

that is, the focus on the perception of nature as an object of beauty (44.1%). Almost four respondents in this group out of ten have a pragmatic attitude, characterized by the perception of nature as an object of benefit to themselves (38.2%). Only 6.6% have a cognitive orientation, that is, to study, and 2.9% - ethical, protection of nature.

The study of the problem was conducted in three stages:

Stage 1 - preparatory. Development of the experiment program. Development of research tools - questionnaires, preparation of diagnostic methods for the study of the development level of student environmental focus.

Stage 2 - Formation of control and experimental groups. The carrying out of diagnostic techniques and questionnaires.

Stage 3 - Analysis of the study results of the development level of the students' environmental focus.

RESULTS

After the study with repeated measurement the significant changes were not found. So, 52.9% have an aesthetic focus, 20.6 % - pragmatic. But at the same time, it should be noted that the percentage of respondents with an ethical focus, that is, the attitude to the perception of nature as an object of protection (17.6%) increased and the percentage with a cognitive attitude (8.8%) decreased (**Fig. 1**).

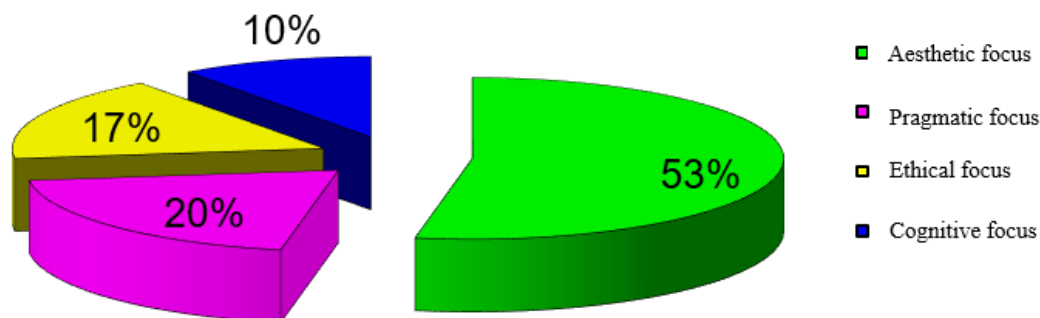


Fig. 1. Types of environmental focus

If we talk about the development level of the environmental focus among the control group, it should be noted that the majority has an average level (70.6%), almost a quarter of them - the low level (23.5%), and high belongs only to 5.9% of respondents. The results indicate the predominance of the perception of nature in terms of its own benefit, there is virtually no desire among respondents to protect nature, to preserve it. Such attitudes, with a certain degree of probability, can be explained by the spread of consumer behavior of the modern generation, including in relation to nature, which is understood as a source to meet human needs.

In the second measurement in the control group an increase in the percentage of students with a high development level of environmental focus (17.6%) can be noted. The average level belongs to 20.6%, and low – to 61.8%. When compared with the results of the first measurement, some changes can be noted. Thus, the increase in the percentage of respondents in the control group with a high level of environmental focus development indicates some positive impact of the educational system on this feature.

While the re-measurement the significant differences were found. Thus, almost a third of the respondents in the experimental group have an aesthetic focus (32.4%), and four out of ten have an ethical focus (41.2%). Almost a quarter of respondents (23.5%) have a cognitive attitude, and only 2.9% have a pragmatic attitude. When analyzing the results obtained among the experimental group, one can see an increase in the percentage of students with a cognitive attitude, which indicates an increase in interest in the objects of nature. There is also a decrease in the percentage of pragmatic focus; students cease to consider nature as something that can benefit them. There is a reorientation on desire to protect, preserve the nature, to help it.

If we move to the development level of student environmental focus in the experimental group, it

should be noted that the first measurement showed that more than half had a low level (58.8%), more than a third - the average (38.2%), and only 2.9% - high. It can be assumed that such a low percentage of respondents with a high level of environmental focus development within this group indicate a low level of environmental culture.

The Mann-Whitney U-test was 346.5, which corresponded to the significance zone for the studied groups. This suggests that the differences in the location of the two samples are significant. Thus, the value of this criterion proves that the differences in the control group and the experimental group, which introduced the program of the experiment before-after with the control group for the development of the environmental focus, are reliable, and therefore one can assume that the program has an effect.

In the study of the criterion φ - angular Fisher transformation $\varphi=3,764$, which corresponds to the zone of significance and suggests that the program of the experiment before-after with the control group on the development of environmental focus has the effect from the training. This leads to the conclusion that the differences in the level of development of environmental attitudes among students in the two study groups are significant. This leads to the conclusion that a certain effect of the program has been achieved.

When calculating the Wilcoxon T-test for the control group, the $T=50$ following results were obtained, which corresponded to the zone of insignificance. For the experimental group, the Wilcoxon T - test was 24, which corresponded to the significance zone. These data indicate that the differences in the control group when comparing the two measurements of the development level of the environmental focus are not significant, while for the experimental group they are significant.

When comparing measurements before and after the inclusion of an independent variable in the control and experimental groups, significant differences were observed. Thus, in the control group, where there was no independent variable, the difference between the two indices was +0.147, while in the experimental group this difference was +0.735, which proved the effectiveness of the program of the experiment before-after with the control group for the development of the environmental focus. And the difference between the values of the indices in the control and experimental groups is 0.588 that is not equal to 0, which once again proves the existence of a causal relationship between the variables.

DISCUSSIONS

The transitions to the information society, as well as changes in people's lives, associated with it actualize the problems of man and his/her needs. A system consisting of man, society and the world around them – nature, it is a holistic integration. A change in any one subsystem will inevitably entail a transformation in the other subsystems. Of particular importance is the acceleration of changes in nature, in connection with which the uneven dynamics of these processes are becoming increasingly evident, which leads to the emergence of environmental, inter-social and inter-subject problems and crises, as well as to the growth of deep contradictions between the needs of people and the quality of their lives.

The very concept of ecological focus dates back to the middle of the last century. And it should be understood that some scientists distinguish the concept of focus in relation to the environment and focus in relation to environmental behavior. Thus, the structure of the ecological focus, consisting of three elements, namely the emotional, cognitive and behavioral components relate specifically to the ecological focus of the first type. Initially, the influence of each of the three elements on environmental behavior was unconditional. Subsequently, however, versions varied and preference was given to one or more components. Environmental focus-a developing phenomenon, dynamic, which is based on the possibility of the emergence and development, so it can be both the subject of diagnosis of its presence or absence, and the subject of targeted formation. At the same time, the

focus has a stable structure, and in order to change it, clear, consistent actions are necessary. The following components are distinguished in the focus: a) cognitive (awareness of the object of ecological focus); b) affective (emotional assessment of the natural object, identification of feelings of sympathy or antipathy to it); c) behavioral (conative) (consistent behavior in relation to a natural object), where the ecological focus is defined as awareness, assessment and readiness to act.

CONCLUSION

Modern Russian society has entered the stage of development, when the problems of ecology began to be affected at the state level. 2017 was declared the year of ecology, and at the annual press conference with the President of Russia, held on December 23, 2016, the question was raised about the results we want to achieve. Indeed, 2013 was also declared the year of ecology, but at that time no significant results for the environmental education of the younger generation were achieved. If one considers the existing periodicals on environmental issues, one can see that they all relate to certain technical changes in the protection of nature, while one can observe the deepening of the environmental crisis in this country. If we refer to the presidential Decree on the strategy of environmental safety of the Russian Federation for the period up to 2025, among the items relating to the tasks of ensuring environmental safety as one of the priority areas is the development of environmental education and training, training in the field of environmental safety. But in the same order in the point concerning the main mechanisms of implementation of the state policy in the sphere of ensuring ecological safety already, unfortunately, there are no mechanisms concerning increases in ecological education which influence ecological consciousness of people.

The ecological focus concept's modern interpretations coincide in the fact that the study of this element of ecological consciousness is the way to solve the environmental problem, which is pushed by the current situation. The concept itself, having arisen in the middle of the last century, has to date not so many definitions, but at the same time, there are many ways to measure this element. Thus, today this problem is not so much practical as theoretical one.

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