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FORMATION OF ECOLOGICAL CULTURE OF STUDENTS

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Abstract:

The severity of the modern environmental situation characterized by contradictions in the relations between society and nature, the complexity of its overcoming in a transformed Russian society, pointed out that to maintain the biosphere of traditional measures to improve the uptake of natural resources and deepening environmental knowledge is not enough. To overcome the current situation possible enrichment of moral and aesthetic potential of the person. In this regard, a modern pedagogical science pays special attention to improving the system of environmental education, environmental awareness, environmental activities and environmental culture in general. For the formation of ecological culture of students of the Institute of fundamental medicine and biology of Kazan Federal University teaching teacher education plans except special disciplines ("Ecology", "Social ecology and environmental management") were introduced additional units and modules, which disciplines enrich the moral and aesthetic components of ecological culture students. Special course "Formation of ecological culture of students" allows purposefully, systematically forming ecological culture of the future teachers in the conditions of higher education, increase the level of professionally significant ecological and pedagogical knowledge and skills.

Keywords: Ecology, Ecological culture, Education of ecological culture

1. Introduction

The structure of modern moral relations "man-nature" demonstrates a reasonable, rational, emotionally and aesthetically enriched responsible attitude towards nature. The international community has accumulated a number of common spiritual and moral values, for example, the set of rules and principles on environmental ethics, bioethics, philosophy, environmental theology. Moral human interests and values allow us to regard the natural world through an ecological perspective [1]. An aesthetic perception of the world for the development of ecological culture and the

spiritual world of an individual is of particular importance. An aesthetic phenomenon reflects reality (beauty, harmony, aesthetic uniqueness of the natural world), existing outside of a man's consciousness. It is expressed in a refining influence on a person and is the basis for its conservation [2].

An efficient organization of ecological culture development process enhances basic ecological knowledge, determines ecological worldview and develops the need for appropriate activity on the development of nature and the rational use of natural resources. An environmental component of educational process content contributes to the establishment of new relations in the "man-nature" system. The problem of ecological culture development among students is updated due to the general trends of ecological space conservation [3,4,5].

In order to develop the ecological culture of students at the Institute of fundamental medicine and biology of Kazan Federal University the curricula of teacher education, in addition to special subjects ("Ecology", "Social ecology and environmental management") additional disciplines, units and modules are introduced which enrich the moral and aesthetic consciousness of an individual.

Special course "The development of a person ecological culture" allows to develop the ecological culture of future teachers purposefully and systematically within the conditions of higher education, to increase the level of professionally significant ecological and pedagogical knowledge and skills.

The purpose of the special course is to cognize the value of the natural world and a man as part of nature, to organize a reasonable activity in natural environment, based on the moral and aesthetic perception of the natural environment, leading to the establishment of the correspondence between the environmental needs of society and the capabilities of the natural world. The main objectives of the course are the following ones:

- 1) To reveal the need for the development of ecological culture, to identify system forming components;
- 2) To show the origins of moral norms, rules of human behavior in nature; to enrich the knowledge by a new concept, representing the development of the world towards the perfection and the harmony between a man and nature;
- 3) To develop the conceptual basis of environmental problem origin;
- 4) To demonstrate a man's impact on nature.

Special course solves a strategic task - it prepares students for teaching activities during which they will form a moral and aesthetic component of ecological culture among pupils. The course content is interdisciplinary one and encompasses the knowledge gained by students during the study of general cultural training, ecology, evolution and

other similar subjects. However, the basic concepts that the students learned during the study of various disciplines, are broadened, deepened and supplemented significantly in this course. Students learn new concepts (the essence of nature mythologizing, the animation of nature, the humanization of nature, cosmism, floral art, floral collage, etc.). The mastered concepts serve as the basis, which enables future teachers to adapt the knowledge to future educational practice.

The logic of the special course content is the following one:

- The analysis of the problem concerning moral and aesthetic education of a student;
- The interaction of nature and a man through the acquaintance with the origins and the meaning of nature mythologizing;
- The value of personification, and deification of nature;
- The disclosure of cosmism concept as a phenomenon, revealing a person as a developing natural being who is able to develop harmonious relationships with the natural world;
- The analysis of moral and aesthetic relationship dynamics between a man and nature from ancient eras till the present day;
- The consideration of human ecology and environmental issues.

2. Methods

During the stating experiment the survey of students was conducted, which revealed a lack of student knowledge in moral and aesthetic area. The forming part of the experiment included the performance of theoretical and practical training. The amount of the special course makes 72 credit units, 32 hours are intended for classroom training, including 12 hours of lectures and 20 hours of practical training. The form of knowledge control is pass-fail exam. The discipline is studied by 5th year students during the 9th semester. The students who chose the course "The development of a person ecological culture" made up the experimental group (20 people), other students of the 5-th course made up a control group. The textbook "Moral and aesthetic education in the process of student ecological culture development" [6] containing the analysis of moral and aesthetic education issues was written for a deep study of this material by students. The lecture "Man and nature: the search for harmony" reveals the relation between a man and the world of nature, the awareness a man's unity with nature and considers the ways to stabilize the relationship between a man and nature. It demonstrates the emergence of morality: the philosophical, religious, materialistic views, reveals the historical development of aesthetics and describes the interaction of moral and aesthetic aspects.

The lecture "The origin and the sense of nature mythologizing" is dedicated to the disclosure of nature mythologizing essence, the personification and the deification of nature. On the basis of the fundamental positions about culture (A.F. Anisimov, A.N. Afanasyev, G.M. Ponomareva, B.A. Rybakov, E.B. Tylor, et al.), a myth is regarded as one of the first forms of symbolic culture. During the study of mythology (the analysis of ancient fairy tales) the prevailing moral standards, the practical rules of a man's behavior in the natural environment, the understanding of one's being, the accumulation of collective experience - the wisdom of the ancestors, the manifestation of a man's creativity are disclosed. The lecture "The philosophy of nature and cosmos" reveals the unique trend in Russian philosophical thought - "cosmism". Cosmism founders, religious cosmism philosophers are presented by V.G. Derzhavin, A.N. Radishchev, N.F. Odoyevsky, N.F. Fedorov, N.A. Berdyaev and others, representing the idea of evolution by an active deliberately directed stage of the world development towards perfection and harmony between a man and nature through the devotion to Christian morality. The representatives of the scientific field in cosmism are described in detail - V.I. Vernadsky, A.L. Chizhevsky N.G. Holodny, A.K. Maneev and others. D.L. Andreev's idea about human capabilities, the use of which would completely change the relationship between a man and space, time, nature, the other layers of existence, is represented as an original philosophical reflection. Attention is paid to modern domestic science fiction writers G. Gor, A. Yakubowski et al. They represent the image of a man's future and reveal his unique opportunities in the cognition of nature. Science fiction demonstrates a new understanding of the world, raises new problems and constructs new relations in the system of "man-nature". The view of modern religious thinkers on the process of "transformation" is revealed, which will be possible when mankind restores the integrity of nature. The lecture "The dynamics of moral and aesthetic relationship between a man and nature" allows you to observe the changes of a man's relation to nature under the influence of society spiritual evolution, as well as in the course of tools improvement by which a man made an impact on nature. A.A. Gorelov's scheme is proposed [7], where the social relations within a society define environmental relations. Five stages of nature and society relationship are characterized in detail: hunting and collective, agricultural and pastoral, industrial and postindustrial unity. Regional, federal, global problems are revealed [8, 9, 10]. The works (projects) on the environmental activity of the Republic of Tatarstan (The Earth Charter), Russia and the Club of Rome are presented. The lecture "Human ecology" offered a generalized material about a man's origin. The concept about a man's origin depended on the degree of cultural and social development (Anaksimer, Aristotle, K. Lucretius, K. Linnaeus, Zh-B. Lamarck, Ch. Darwin). The ideas on the origin of life were not dried up, they continue to occur and up to now. Public projects,

programs, documents, and developments aimed at the provision of ecological human security are presented. A man's needs are specified. These needs act as regulators of conduct and determine the appearance of culture. The formation of post-industrial society, characterized by the idea of environmentalization of all structural elements that make up a civilization (V.I. Danilov-Danilyan, Akimova T.A., V.V. Haskin, V.A. Sitarov, Pustovoitov V.V. et al.) and the necessity of ecological culture development.

During seminars the problematic issues are discussed in the form of a free dialogue, a discussion, the author texts are analyzed, personal opinions are expressed and seminars are completed by substantiated conclusions and summaries. Each topic is accompanied by control questions, a list of essays for more in-depth self-study of the issue.

Theme 1. "Man and nature: search for harmony":

1. What are the ways which can be used to stabilize the "man-nature" relationship?
2. Describe the concept of "ecological consciousness".
3. Determine and describe the components of ecological culture.
4. Trace the genesis of "man-nature" relations.
5. Consider the concept of morality and the principles of humanity.
6. Establish the relationship of morality and aesthetics.
7. Determine the goal and formulate the problems of ecological culture.

The following essay topics are offered for this chapter:

1. The aesthetic value of nature;
2. The moral aspect of relationship between a man and nature;
3. The components that form the ecological consciousness.
4. Aesthetic role of nature in the development of culture.

Theme 2 "The origins and the meaning of nature mythologizing"

1. Select the main features of environmental culture.
2. The methods of different era cultures interaction.
3. Your idea of about the nature myth.
4. Describe the religious ideas of prehistoric people (Animism. Fetishism. Totemism.).
5. Please comment on the fairy tales about animals, plants and natural phenomena.
6. Aesthetic, moral significance of impersonation (deification) of nature.

Topics for essays:

1. Natural myths, legends, fairy tales as an element of ecological culture.
2. Totemism is an ecologized form of the ancient religion.
3. Moral and aesthetic component in folk tales.

Theme 3 "The philosophy of nature and cosmos"

1. Where the roots of Russian cosmism can be found?
2. What scientific authors may be regarded as cosmists?
3. What ideas and opinions are put forward by cosmists? What unites them?
4. What's your idea about "Russian cosmism"?
5. What's your attitude towards cosmism?

Topics for essays:

- 1 Russian cosmism is the idea of active evolution.
2. Eco-cultural society is the stage of noosphere development.
3. Space prospects of humanity.

Theme 4 "The dynamics of a man and nature moral and aesthetic relations"

1. What are the changes of a man's impact on the environment in different historical epochs?
2. What are the differences of "man-nature" relations in industrial society and in the post-industrial period?
3. Describe the alternative energy sources.
4. What is a protected area?

It is fixed by the following essay topics for content mastering:

1. The global ecological issues of the planet.
2. Ecological issues of Russia.
3. Environmental problems of RT.
4. The value of protected areas.

Theme 5 "Human ecology" raises the following issues:

1. A man's life environment: natural and social one.
2. Describe the industrial and post-industrial society.
3. Ecological culture and the characteristics of its components.

Topics for essays:

1. The relationship between society and nature in the history of civilization.
2. Ecologization of education.
3. The appearance of ecological culture, the ways of development.
4. The moral aspect of "man-nature" relationship.

At the end of the forming experiment the check-up of students in experimental and control group was conducted in order to identify the level of formation dynamics concerning moral-aesthetic education of students.

4. Results

The analysis of results allows to establish the fact of changes in a moral-aesthetic education of experimental group students. The changes were noted that took place in the structure of a person moral consciousness. The idea of morality, the rethinking of moral position in society expanded, the activity reflecting the moral relationship to the natural world increased. The growth of values with a high level of moral consciousness increased by 19% and made 33% among the experiment participants. The sufficient level decreased and amounted to 63% due to the participant awareness of the elementary level of significance and the value of moral ideas which are enriched by knowledge and become moral concepts. These concepts in its turn become moral sentiments via complication and moral sentiments are the components of moral consciousness. There are only 4% of the participants at the elementary level (Figure 1).

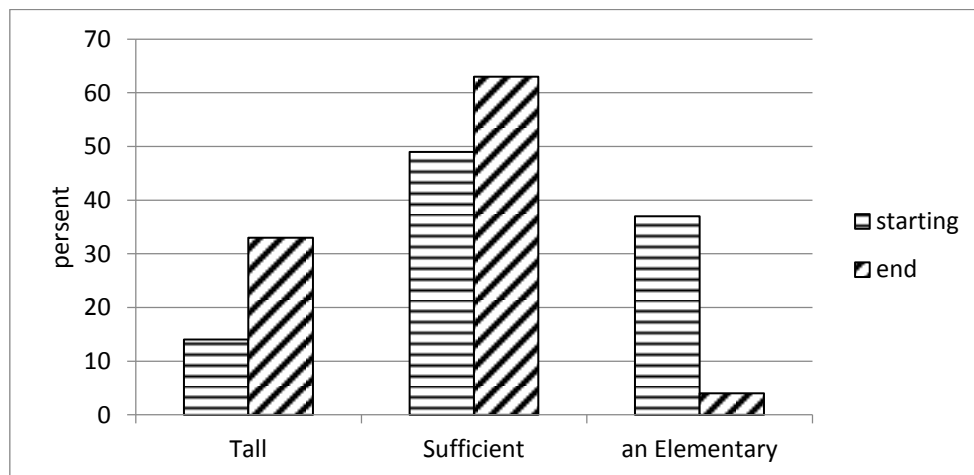


Fig. 1 Change of student moral consciousness.

The aesthetic consciousness among students and among experimental and control group is more pronounced than the moral consciousness. This is manifested in the fact which the students noticed themselves - their eyes opened to the fact which they did not notice before. The desire appeared not only to enjoy the aesthetic phenomena in the natural world, but to create independently and teach others. The conditions developed for the reflection of the aesthetic

knowledge about natural world, the creative activity increased. High-level indicator as the result of an applied model increased to 50%, a sufficient level decreased due to the quantitative growth of the group with a high value and made 48%. Students with elementary expressed consciousness made only 2% (Fig. 2).

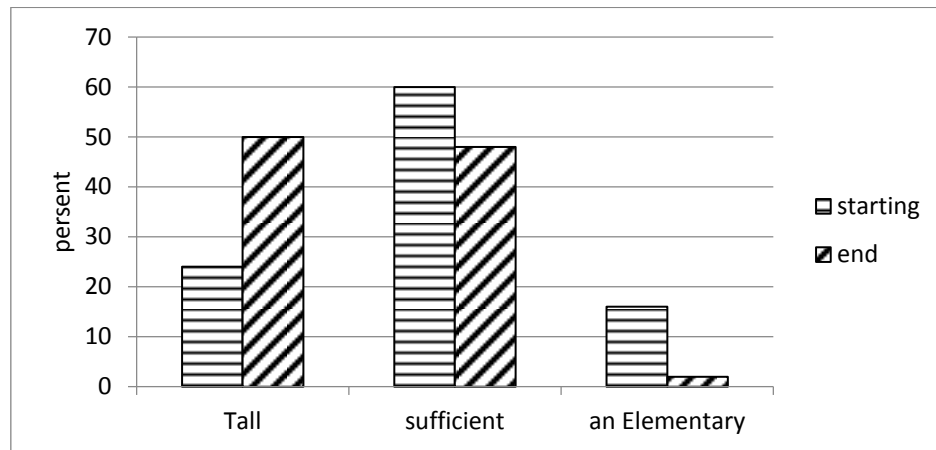


Fig. 2 Change of student aesthetic consciousness.

Therefore, the obtained results allow to conclude that the work carried out for the formation of moral and aesthetic components of ecological culture of students was successful.

5. Conclusions

The knowledge gained during the study of the course "The development of a person ecological culture" greatly expands the concepts of environmental relationship history between a man and nature, and develop the interest to an in-depth knowledge of the issue and the use of knowledge for future work at school for the development of ecological culture of students.

One of the main components which determines the formation of ecological culture among students is the moral and the aesthetic one. Moral and environmental education is based on environmental knowledge learned behavior standards and is shown in timely prevention or solution of environmental stressful situations. The aesthetics in ecological culture occupies a special place. The perfection of natural forms and phenomena contributes to the appearance of aesthetic feelings, experiences, and relationships that are expressed in a rational and creative use of its resources. The aesthetic values of nature contribute to the creative development of a person, so the possibilities of moral-aesthetic factor at the formation of student ecological culture are enormous ones.

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