

# Formation of Environmental Culture of Students in Universities of Samara Oblast (Russia)

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**Abstract.** The article analyzes the experience of the development of environmental consciousness and the formation of environmental culture of students of several universities in the Samara oblast, including pedagogical, technical and orthodox. The urgency of the chosen problem is determined by the aggravated ecological crisis, the way out of which is possible only on condition of increasing the level of ecological culture of the population. According to a number of researchers, properly organized system of environmentally-oriented education will contribute to the development of environmental consciousness of the teacher, the formation of environmental culture of students and schoolchildren. The authors of the article describe the system of environmental education of students, which has developed at the Faculty of Natural and Geography of Samara State University of Social Sciences and Education and some other universities of the Samara oblast. The article also presents the results of diagnostics of ecological consciousness and ecological culture of students in the first and fourth years of study. The received results allow to draw a conclusion that integration of various directions of educational and methodical, research, social and educational work in higher educational institutions promotes development of ecological consciousness and formation of ecological culture of students. In the process of higher education there is a steady increase in the level of their environmental consciousness and ecological culture.

## 1 Introduction

The growth of anthropogenic load on the environment, as well as the dominant paradigm of uncontrolled consumption in modern society contributes to further aggravation of the global environmental crisis. The way out of this crisis is possible not only on the basis of normative-legal regulation of all spheres of social-economic life, but also by means of increasing the ecological culture of the population.

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Environmental legislation of the Russian Federation affects various aspects of economic and economic activities of our society and is generally quite elaborate and effective. But at the same time, it should be developed in the direction of legislative support for the development of environmental education of the widest segments of the population. The basis for this can serve as a system of ecologically-oriented education, which in turn will contribute to the development of environmental awareness of teachers and specialists in other areas, the formation of environmental culture of schoolchildren and students (Hildenskiold et al., 2019).

Over the past twenty years there have been serious changes in the environmental education of the younger generation. A sociological study of the environmental culture of sixteen-year-old schoolchildren in 1996 and 2017 showed a decrease in the proportion of adolescents expressing serious concern about environmental problems. According to L.Y. Ivanova, this is due to the reduced attention of the state and society to environmental problems, the lack of appropriate information in the media and the shortcomings of environmental education of children and adolescents (Ivanova, 2019).

In this connection the problem of ecological education and enlightenment of students at different levels of education, as well as the study of the process of formation of ecological consciousness and ecological culture of future teachers and environmental specialists is of particular relevance (Agadzhanian et al., 2002; Semenov et al., 2021).

The aim of the work is to describe the experience of forming ecological consciousness and ecological culture of Samara university students in the process of their professional training.

## **2 Materials and Methods**

The methodological, theoretical and methodological basis of the study consists of the works in the field of formation of environmental consciousness and environmental culture, as well as environmental education by S. V. Alekseev (2001), S. N. Glazachev (1998), S. Deryabo (1998), S. Deryabo and V. A. Yasvin (2006), I. N. Ponomareva (2017) and other researchers.

To achieve the goal, we used traditional methods of pedagogical research, such as the study of scientific and methodological literature on the problem of formation of environmental consciousness and environmental culture, the method of theoretical analysis and synthesis, the method of observation and diagnostics.

## **3 Results and Discussion**

Analysis of literary sources allows to say that the majority of culturologists, psychologists, teachers and methodologists consider environmental education as the leading one in sustainable development of nature and society. The main goal of environmental education can be called the process of formation of ecological culture of a person.

E.V. Girusov (1986) believes that ecological consciousness is not any reflection of people's attitude to nature, but only one that is aimed at ensuring its viable properties, at preserving and improving it as a living environment.

S.N. Glazachev (1998) considers ecological culture as a set of spiritual values, principles of legal norms and needs ensuring optimization of relations between society and nature.

From the point of view of S.V. Alekseev (2001), environmental education is a process of inheritance and expanded reproduction of human ecological culture, which is aimed at the formation of a system of scientific and practical knowledge and skills, value

orientations, behavior and activities that provide a responsible attitude to the natural and social environment.

According to A.M. Makarskiy (2017), ecological culture is not a skill of reasonable, rational communication with the environment, it is a style of thinking, an updated worldview, a certain way organized consciousness, realized itself as a link in a complex chain of environmental events.

Thus, we can say that environmental consciousness is a basic component of environmental culture.

S.D. Deryabo (2004) defines ecological consciousness as a reflection of social, natural and specific social-ecological laws of functioning of "nature-society" system, which are the object of reflection of this form of consciousness.

Ecological consciousness can be considered in a broad sense, at the level of public ecological consciousness, and at a narrower level of individual consciousness.

The modern system of environmental education is aimed at the development of environmental consciousness of the individual on the formation of its environmental culture.

For example, at the Faculty of Natural and Geography of Samara State University of Social Sciences and Education there is a team that has a great scientific and methodological potential. This allows it to successfully organize and carry out work on the formation of environmental awareness and environmental culture of students. The pedagogical activity of the teachers of the faculty affects not only the educational and methodological work, but is also connected with the research, social and educational activities. The table 1 shows the approaches to the formation of environmental culture of students studying at the faculty.

**Table 1.** The main approaches to the formation of environmental culture of students

<b>Main areas of work with students</b>	<b>Approaches to fostering students' environmental culture</b>
Educational and methodological work	Ecologization of the content of the working programs of academic disciplines
	Organization and conduct of training (campestral, field trips) practices
	Conducting practical training on the basis of scientific institutes and enterprises
	Organizing and conducting ecological excursions (in specially protected natural areas, at industrial enterprises in the Samara oblast, at the zoo, the museum of local history, etc.)
	Organization and conduct of student environmental projects and competitions within the framework of the studied disciplines and organized internships
	Organizing and conducting meetings and open lectures with scientists, public figures in the field of ecology, polar explorers, etc.
Research work	Organization and conduct of environmental research works by students
	Participation of students in international, all-Russian, regional and university conferences
	Publication of student papers in journals of various levels, including refereed and peer-reviewed journals
	Involvement of students in grant applications and projects
	Participation and victory of students in scientific competitions and Olympiads at various levels (international, all-Russian, regional, etc.)

**Table 1.**

Public work	Work of the volunteer group of the Faculty of Natural and Geography «KleVerus» Cooperation between students and state, public and non-profit organizations, and participation in their environmental activities: Samara Regional Youth Public Organization "Center for Social Projects", "Samara Youth House", "Samara Center for Volunteerism Development", etc.
Educational work	Participation of students in actions: - All-Russian action "Let's save the forest"; - ecological action "Plogging"; - ecological action "Become Nature's Friend" in the framework of the All-Russian festival of energy saving and ecology "Together Brighter"; - International educational action "Geographical Dictation", "Ecological Dictation"; - Help Our Little Brothers" campaign (raising funds for the "Participation" animal shelter); - an action to improve the territory of the campus. Constant collection of recyclable materials (waste paper, plastic, etc.)

Close intertwining of all areas of environmental education of students in various universities of Samara oblast contributes to the development of their environmental awareness and the formation of environmental culture.

To determine the level of environmental consciousness of the students of the Faculty of Natural and Geography, we conducted diagnostics using the method "The development of my environmental consciousness" by A.P. Sidelkovsky. There were 122 first- and fourth-year students who participated in the study. Most 1st year students showed an average level of development of environmental consciousness (48.4%), with 32.2% of respondents having a low level of environmental consciousness and 19.4% a high level. The majority of senior students have a high level of environmental consciousness (51.6%), and approximately equal number of students have an average and low level (25.1% and 23.3%, respectively).

We also tested students using the method "Environmental culture of students" by E.V. Asafova. The analysis of the testing data showed that the majority of fourth-year students have a high level of environmental culture (48.3%). While among the first-year students only 12.9% of students have a high level of environmental culture, and the average and low level showed an equal number of first-year respondents. The key direction of ecological culture formation in higher education institutions, for example, in Samara State Technical University is traditionally teaching and extracurricular activities connected with the basics of resource conservation and waste management. A number of departments and scientific-analytical center of industrial ecology actively position the main currents of modern engineering ecology. In addition to training specialists of different levels (both bachelors of direction "Energy- and resource-saving processes in chemical technology, petrochemistry and biotechnology" and masters of direction "Technosphere safety", as well as graduate students in specialties "Ecology" and "Geoecology"), a fruitful cooperation with major industrial enterprises and organizations: Ministry of Forestry, Environmental Protection and Nature Management of Samara region, Ministry of Energy, Housing and Communal Services of Samara region, Ministry of Industry and Trade of Samara region, "Gazprom" units, "Rosneft" units (Kuibyshev, Novokuibyshevsk and Syzran oil refineries, Otradnensky and Neftegorsky gas processing plants, Samaraneftgaz), Transneft - Privolga, Ecobezopasnost, the regional operator of Samara region on waste management - EcoStroyResource, Samaraneftkhimproekt, etc.

Also, on the basis of Samara State Technical University operates the Environmental Club "Life", whose mission is to develop a space for joint action of students and staff, as

well as to provide resources for all stakeholders to actualize their vision of a more environmentally friendly functioning university and spread initiatives in the external spheres of its influence today and in the future. The Environmental Club regularly holds various environmental events and activities, so in 2021 the club hosted the VII inter-university festival "VuzEkoFest-2021".

The system of formation of environmental culture of students of the Volga Orthodox Institute (Togliatti, Samara oblast) is carried out both in the framework of academic and extracurricular activities. First-year students receive basic values and ideas about environmental culture in the academic disciplines "Natural Science" and "Concepts of Modern Natural Science". Due to the specifics of the higher education institution, great attention is paid to the interdisciplinary direction of "Human Ecology", which includes knowledge about the interaction of people with living and non-living components of the environment. Since human ecology is studied by biologists, demographers, sociologists, psychologists, philosophers, such relevant topics as "human adaptation to living conditions in megacities", "morbidity level", "human lifespan", "deep changes in social structures" became the subject of consideration in an overwhelming number of humanities disciplines. Extracurricular activities of students, including Povolzhsky Orthodox Institute includes participation in the International Educational Actions "Geographical Dictation", "Ecological Dictation", in urban activities for planting forests, as well as collecting recyclable materials.

## 4 Conclusions

Integration of various areas of educational and methodological, research, social and educational work at universities in the Samara oblast, including the Faculty of Natural and Geography at Samara State Social and Pedagogical University, promotes the development of environmental awareness and formation of environmental culture of students.

On the basis of generalization of the received data it is possible to draw a conclusion that in the course of training in higher education there is a steady growth of level of ecological consciousness and ecological culture of students of natural-geographical faculty. This confirms the relevance and necessity of preparing ecologically literate graduates.

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