

## THE ROLE OF TECHNOLOGY IN SOLVING ENVIRONMENTAL PROBLEMS

**Ulukhanov Ibrokhir,**

NamDPI, professor of Intellectual sciences and information technologies  
department, [ibrohimuluhanov@gmail.com](mailto:ibrohimuluhanov@gmail.com)

**Dehkonbayeva Saida Yahyokhon qizi,**

master [saidadehqanbayeva@gmail.com](mailto:saidadehqanbayeva@gmail.com)

**Ismoilova Nodira Madaminovna,**

master [nodiraismoilova1987@gmail.com](mailto:nodiraismoilova1987@gmail.com)

**Masharipxo'jayeva Madinabonu Bahodirxoji qizi,**

student [masharipxojayevshoxruh@gmail.com](mailto:masharipxojayevshoxruh@gmail.com)

**Xafizova Gulsevar Abdulvosit qizi,**

student [gulsevarxafizova@gmail.com](mailto:gulsevarxafizova@gmail.com)

**Abstract:** The article considers the issues of developing students' environmental knowledge in school technology lessons. The ways of providing environmental education to students of secondary schools today are presented. The guidelines and recommendations for implementing environmental education and upbringing in technology lessons are presented.

**Keywords:** ecological culture, ecological education, ecological knowledge, ecological awareness, environment, nature, natural resources.

## РОЛЬ ТЕХНОЛОГИЙ В РЕШЕНИИ ЭКОЛОГИЧЕСКИХ ПРОБЛЕМ

**Аннотация:** В статье рассматриваются вопросы развития экологических знаний учащихся на уроках технологии в школах. Представлены современные способы обучения учащихся средних школ основам экологии. Приведены методические рекомендации по внедрению экологического образования и воспитания на уроках технологии.

**Ключевые слова:** экологическая культура, экологическое образование, экологические знания, экологическая осведомленность, окружающая среда, природа, природные ресурсы.

## TEKNOLOGIYANING EKOLOGIK MUAMMOLARNI YECHISHDAGI ROLI

**Annotatsiya:** Maqolada maktab texnologiya darslarida o'quvchilarning ekologik bilimlarini rivojlantirish masalalari ko'rib chiqiladi. Bugungi kunda umumta'lim maktablari o'quvchilariga ekologik ta'lim berish usullari taqdim etilgan. Texnologiya darslarida ekologik ta'lim va tarbiyani amalga oshirish bo'yicha ko'rsatmalar va tavsiyalar taqdim etilgan.

**Kalit so'zlar:** ekologik madaniyat, ekologik ta'lim, ekologik bilim, ekologik xabardorlik, atrof-muhit, tabiat, tabiiy resurslar.

## INTRODUCTION

The heated discussion of the subject "Technology" at the level of the pedagogical and professional community, associated with the need to modernize it and go beyond the scope of understanding the subject only as a separate technology lesson, has led to the need for scientific substantiation of this subject. The proposed point of view on the methodological problems of technology makes it possible to identify the main issues that are unthinkable for the development of technological education in the conditions of the transition to a new technological order and will arise in the near future.

The scientific approach to the subject of "Technology" implies the existence of a certain scientific or scientific-practical field of knowledge that can serve as the basis for determining the content of the school subject and the logic of its study by students. The results of research show that technology is a multidimensional, universal concept that covers all aspects of human life and society. In fact, "Technology" is at least a philosophical, socio-pedagogical, economic category that requires additional study.

## METHOTOLOGY

When justifying the essence of technology as a subject (or subject area, which is also one of the problems), the following three approaches can be distinguished:

- scientific (assuming the existence of a specific field of scientific knowledge reflecting the content of the subject);
- culturological (considering technological culture as one of the components of culture and serving as the basis and result of technological education for schoolchildren);
- activity (revealing the structure of human transformational activity to create objects of labor, products).

The concept of ecological culture in the teaching of technology today occupies a special place for several reasons. Firstly, it is a systemic factor in changing people's worldview towards nature and the use of nature, secondly, in the process of forming all its components, and thirdly, it includes many problematic issues related primarily to environmental education and nature protection.

## RESULTS

The novelty of our research lies in the detailed formulation of the aspects of the need to educate ecological culture and the identification of a number of problems of the general scientific and educational cycle encountered on this path. The article argues that the entire set of problems can be solved in the process of an integrated approach as a result of combining the efforts of natural science teachers and specialists.

How organizationally complex and important it is to meet the tasks set by society to educate the younger generation in the field of ecology.

Perhaps, today it is impossible to fully answer the problems and questions posed in the study. Scientific work on the consolidation of efforts and coordination of programs is just beginning. In this regard, there is a need to carry out scientific and research activities to solve the problems of forming an ecological culture in education. Informatization and digitalization of education, of course, expand the scope of training and education. However, the issues of forming an ecological culture must be deeply understood by the subjects of organizing the educational process.

In this sense, one of the goals of the study is to discuss the two-way improvement of environmental education, which is of concern to teachers and students alike.

The purpose of our study is to consider the methodological possibilities of harmonizing traditional and innovative methods in the upbringing of the main elements of ecological culture. The formation of ecological culture creates conditions for a spiritual and moral attitude towards nature and the use of nature. It is possible to educate only in the context of multilateral education, using innovative methods of teaching, in which a comprehensive analysis of the skills of a rational attitude to nature is necessary, and taking advantage of the opportunities that open up in the process of improving traditional approaches.

The most complete description of the concept of "ecological culture" is important. It contains all the factors of the material, energy and Information World. Ecological culture should be understood as a wide set of foundations for the existence of a person and society that have a direct and indirect impact as a result of various

types of economic activity. The concept of "ecological culture" includes a tendency to worsen conditions for the existence of the environment, which is the result of the interaction of society and nature without the use of universal knowledge about the peculiarities of these processes.

This study analyzed many years of experience in the education of ecological culture in the educational science of technology, as well as the experience of shaping the necessary concepts in ecology at the country level. In addition, a lot of literature is used on ecological culture and its basic concepts.

Their generalizations provide the basis for analyzing the possibilities of teaching environmental sciences and introducing basic and additional topics into the school's technology science curriculum. Because science is closely related to the technological preparation of products from various raw materials and its recommendation for consumption. The study used methods such as the historical-genetic method, Noosphere, evolution, which allows you to observe the development and main topics of teaching ecological culture, a comparative method that allows you to compare different positions in the teaching of many concepts.

Ecological culture today occupies a special place for several reasons. Ecology itself is an integrated discipline that encompasses many natural and humanities knowledge. In ecology, it is customary to understand the science of the relationship of living beings with each other and with nature around them, the structure and functioning of systems higher than the organism. In turn, there are a lot of definitions of culture. Definitions are fundamental, and culture emphasizes the understanding of human activity in its most diverse manifestations, including all forms and methods of human self-expression and self-knowledge, the accumulation of skills and abilities by man and society as a whole.

Culture is also manifested as a manifestation of human subjectivity and objectivity (character, competence, skills, abilities and knowledge). In this regard, ecological culture is the preservation of the relationship of human activities, skills and abilities of living beings, including people, in the environment. It is a system of concepts and practical skills for the protection and organization of the environment and the natural processes inherent in it.



It is important to understand how the three aspects of ecological culture are distributed among the different components of the content of science:

1. Compliance is due to the fact that ecology is a component of various fields of knowledge, including: biology, technology, economics, chemistry and other natural sciences, among others. Therefore, these pieces must be interwoven with themes that are similar in their basis and systematic outcome. It is important to understand how the three aspects of ecological culture are distributed.

2. Unlike metaphysics, dialectics treats nature as a state of being continuous. As the subject of Ecology itself is in the process of developing its basic definitions, becoming more and more accurate, the ecological component is also being improved, each in a separate science.

3. The problematic organizing points are that ecology has not completely solved the content of curricula in each individual discipline. Therefore, it takes time and practice to improve the content of training courses and bring them as close as possible to strong environmental content in each subject.

Problems are identified as a result of their examination in the process of preparing recommendations for Ecology on topics or in the process of technological education. The problem is exacerbated, on the one hand, in the conflict between the need to form an ecological culture in the younger generation in order to eliminate environmental problems, and, on the other, a formal approach to the formation of an ecological culture in education.

The anthropogenic impact on the environment is increasing from year to year, and the stage of development of society leads to the emergence of a number of environmental problems. The teacher is recognized as a link in the study and implementation of systemic factors for which the formation of an ecological culture is important in their personality. Currently, the concept of the teacher's ecological culture is not sufficiently defined.

## ANALISIES

The formation of the ecological culture of the individual should be relevant to all activities of the educational system. The prerequisite for this should be the leading elements of school education, which should consist in mastering the various

attitudes of society, natural resources and norms of values that make up the assimilated ecological culture.

When teaching subjects, the following should be taken into account:

- Focus on specific knowledge that will help educate and train the skills and competencies of preserving the environment and acting to protect it;
- the latter is related to the general nature of Environmental Education, which is integrated into various disciplines and, in general, gives a comprehensive picture of how a person forms his activity in the environment.

Particular attention can be paid to such specific aspects as the original beauty inherent in nature, the moral principle, the elements that develop an individual world-view and the disclosure of personal characteristics that affect human life and its orientation to different areas. Modern man cannot be imagined without understanding that the use of nature and nature brings some aspects of a responsible and moral attitude to an active life. Particular attention can be paid to such specific aspects as the original.

Only a teacher who is a carrier of ecological culture can influence the environmental consciousness of his students. It is possible to organize such professional training of the teacher that he solves the problem of the formation of an ecological culture, is able to organize work on the formation of special knowledge with students, regardless of his specialty.

The existing nature of their interaction with their natural and social environment serves as clear evidence that the cause of the environmental crisis is not in backward technologies, poor environmental indicators and imperfect legislation, but in the crisis of culture and spirituality. This cannot be ignored.

The preservation, restoration and development of cultural values, which ensure the interaction of nature and human-ecological culture, the formation of a holistic worldview, the adoption of a new system of values, is one of the main pressing issues of today. It is important to systematically disseminate knowledge that reflects the tasks of acquiring and educating ecological culture in the environment of students. The desire of the student audience to behave carefully, economically, and correctly in the natural environment should be supported at all levels.

An integrated approach is necessary, which includes a set of data on all levels of cultural relations to nature and the use of nature. Ecological culture is part of the general culture of mankind, which focuses on rational ways of working with nature and Natural Resources. The essence of the issue is that the problem of raising an ecological culture is also a complex process that affects all levels of human existence in the world. There is no power other than human consciousness to understand all the features of the development of ecological culture.

Today, the attitude to a lively and inanimate nature cannot be imagined without a sufficient level of knowledge that allows you to distinguish between the means of Labor and consumption and use them effectively. However, culture is a necessary condition for environmental awareness. It maintains the positive and negative experience of generations. It is not enough just to understand what is good and what is bad today, when society has a global character. Knowledge should lead to the implementation of universal means, the meaning of which is understandable to different peoples on different continents.

That is why the upbringing of ecological culture and the formation of ecological consciousness in education is carried out with the embodiment of complex, diverse scientific knowledge: philosophical, biological, chemical, technological. For this knowledge to be cohesive and functional, long-term work is needed, which must be continuous in education and include programs for all generations, ages and skill levels.

Today we can say that the reader's audience should be saturated with knowledge in the field of Ecology and its main issues. In particular, we are talking about the fact that advanced achievements in the field of environmental knowledge in the form of Educational Sciences should have not only a popular, but also a deep scientific character. The goal achieved as a result of such actions is that the formation of responsibility and maturity in matters of Environmental Management and resource use should become the usual norm of knowledge and skills.

Innovative approaches to teaching the disciplines that make up ecological culture can be fully implemented today. Special computer programs allow you to

communicate with natural objects in different parts of the world, get acquainted with the system of their protection or restoration.

Today, students' experimental work in the field of Environmental Protection is rare, most of which has been thought of as an important part of a future profession or activity.

The study consisted of comparing traditional and innovative educational factors in the process of educating ecological culture. It turns out that this topic is a promising direction that is able to combine the efforts of teachers in educational processes around a modern and heuristic topic. It is effective both for the science of technology and for solving everyday problems of shaping the worldview of the younger generation.

Dedicated to the types of teaching using new technological solutions of environmental education in the teaching of Technology Science.

Efforts related to new technological approaches and innovative methods aimed at systematizing educational disciplines that shape ecological culture in a broad sense in terms of teaching technology are still concentrated in small quantities.

### CONCLUSION

As a result of the study, it was concluded that an important system requirement in the process of training specialists with elements of ecological literacy is the use of innovative approaches in harmony with traditional approaches in the process of professional training of specialists.

When analyzing literature and educational practice, it became known that in the process of implementing educational programs in ecology, it is important to actively demonstrate the formation of interest in environmental issues, the competence in this regard does not contradict the main areas of Personnel Training. The methods listed in the work can help activate learning, create an optimal awareness environment that creates a whole complex of motivation and incentives for studying and practicing environmental cultural disciplines. From this point of view, it should be noted that the acquisition of an ecological culture is a mutual process that equally worries the teacher and the student. In the mutual assimilation



of knowledge, an atmosphere of creative approach to solving environmental problems and problems arises.

The materials of the article can be used in the preparation of special courses on ecological culture for teachers and teachers, and also serve as a methodological guide to reflect the problems of environmental education.

It should also be taken into account that the scientific problems of Ecology explain the meaning of extremely general knowledge in philosophical and biological content is a task that teachers who are able to explain the essence of the profession take.

## REFERENCES

1. Poleshchuk, P. V. Methods of developing an ecological worldview among schoolchildren; PhD in pedagogical sciences: 13.00.02 / P.V.Poleshchuk. Omsk, 2004-215 C.
2. Bondarenko, V. D. Culture of communication with nature / V. D. Bondarenko, M., Agropromizdat, 1987, 172 p.
3. Tuxtaxo'jaevich, U. I., & Soyibjanovich, X. S. (2025). UMUMTA'LIM MAKTABLARI TEXNOLOGIYA FANINI O'QITISHDA METROLOGIYANING AMALIY AHAMIYATI. *Journal of universal science research*, 3(3), 27-30.
4. Uluxanov, I. (2024). Bo'lajak texnologiya fani o'qituvchisini tayyorlashda kasbiy tayyorgarlik tushunchasi. *Universal xalqaro ilmiy jurnal*, 1(12), 84-86.
5. Uluxanov, I., & Dehqonboyeva, S. (2024). Bo'lajak texnologiya fani o'qituvchisini "yashil iqtisodiyot" tushunchasini anglashga o'rgatish masalasi. *Universal xalqaro ilmiy jurnal*, 1(12), 87-91.
6. Ulukhanov, I., Karimova, M., Erkinjonova, G., Jumaniyazov, F., Khudayberganov, K., Yuldoshev, J., & Murodov, H. CHALLENGES AND SOLUTIONS IN VIRTUAL LABORATORY WORK FOR ENVIRONMENTAL ENGINEERING.