



# USING INFORMATION COMMUNICATION TECHNOLOGIES IN THE EDUCATIONAL PROCESS IN TEACHING ECOLOGY

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## ABSTRACT

*The article summarizes the experience of using modern information technologies in studying the course of ecology in a technical university, considers options for further improvement to ensure the educational process. The author of the article considers that with the help of an innovative education students search for solutions to the global environmental crisis, determine the main ways of solving environmental problems, evaluate and discuss the proposed ideas for solving the problem, offer their own solutions.*

**KEY WORDS:** *information technologies, education, ecology, policy, pedagogical, creative abilities, develop, provide, modern, students, communication.*

## DISCUSSION

Significant changes are currently taking place in Uzbekistan in the national education policy. This is due to the transition to the position of personal-oriented pedagogy. One of the tasks of the modern educational system is to unlock the potential of all participants in the pedagogical process, to provide them with opportunities for quality education, displaying creative abilities.

The modern university is the result of the huge changes that have taken place in the national education system in recent years. In this sense, education is not just a part of social life, but its avant-garde: hardly any other subsystem can confirm the fact of its progressive development by such an abundance of innovations and experiments.

As it can be seen from the requirements of the state standard, the subject of ecology is quite complex and visual, requires demonstration of processes, systems and regularities, which complicates teaching.

Teaching ecology is successful only if the teacher's work with students in all its forms is a purposeful system of training and education, developing in unity ecological concepts, dialectical-materialistic worldview, thinking and skills of independent practical work.

Teaching ecology involves the use of different forms, means and methods of teaching.

Needless to say, due to the specifics of the subject it is often necessary to highlight and summarize the essential features of the object being studied, which is possible only when working directly with it. At the same time, methods of studying living objects, i.e. observation and experiment, are the leading ones.

Introduction of the notion of modern educational technologies into pedagogical science is the result of wide introduction of computers into education. The main distinctive feature of the use of information technologies in biological and environmental education is the redistribution of information flows in the classroom. At the same time, the student becomes an active participant in the educational process. The student's active participation leads to a significant increase in his or her motivation and stimulates active search and cognitive activity. Therefore, teaching ecology using IT should be regarded as a form of organization of independent qualitatively new mastery of the content of the subject by students and their development [2].

It is already widely accepted that ICTs are a catalyst for change in learning and provide opportunities to change means and modes of action, to review methods and organizational forms of learning, and to improve the quality of learning. The benefits of ICTs are manifold compared to those of traditional technologies. It provides a visual representation of material, allows for effective validation of knowledge, and expands the diversity of



organizational forms in the work of students and the methods used by teachers.

Informatization of the educational process includes:

- computerization - the process of improving the means of searching and processing information;
- intellectualization - the process of developing knowledge and abilities of people to perceive and create information;
- mediatization - the process of improving the means of collecting, storing and disseminating information.

Ways of introduction of modern technologies in educational process are different. Among them we can highlight the creation of the institution's information space through the university website, the use of electronic resources in subject areas, the development and implementation of inter-subject projects, and others.

The main problem in the use of computer programs for teachers is the inadequacy of programs in relation to "their" textbook and the difficulty of adapting them to specific methods, students, lessons. The ecology is a vivid example of this problem. The most accessible tool for creating your own training products is the Power Point program for preparing presentations. A skillful teacher can turn a presentation into a fascinating way to involve students in educational activities. Moreover, the presentation can become a lesson plan, its logical structure, i.e. it can be used at any stage of the lesson or at any type of lesson, whether it is the introduction of new material, training and consolidation, application of knowledge in practice, credit or control, homework, etc. The presentation allows the teacher to show creativity, individuality and avoid a formal approach to the lesson. It provides the teacher with the opportunity to:

- information support;
- illustrations;
- usage a variety of exercises;
- saving time and material resources;

It is easy for both teachers and students to master the technique of making presentations [1]. At Ferghana Polytechnic Institute, students practice preparing presentations as homework in various subjects. Students work in a comfortable psychological environment, they are confident in themselves, in their abilities, which gives their work special importance and provides a friendly learning environment. This is achieved through the use of animations, scenes with explanations, which are displayed on the monitor if the learner in the self-control unit answers incorrectly. Information presentations on environmental lessons consist of each student preparing a message on different environmental topics. In order to make a presentation

to the audience, a presentation is prepared to help the pupil in the process. University students who have a good command of the computer and the subject prepare presentations, which the teacher can use during the lecture on various environmental topics.

At the preparatory stage, the topic of the presentation is chosen, its structure and content is discussed. The main stage involves implementation of the project and includes work with different sources of information, including the Internet, selection of illustrations, computer processing. Students classify the collected material, analyze it (presenting it in the form of diagrams and graphs), and summarize the data obtained.

At the final stage, the presentation is submitted, the results of the work are analyzed, discussed and evaluated with a whole group of students.

Informatization of education should, first of all, contribute to solving pedagogical problems. Information technologies are effective only in combination with appropriate pedagogical technologies: if the teacher thinks in the same way, the use of technical means does not change the essence of the educational process and traditional reproductive method of material presentation. Unfortunately, the use of presentations by teachers during the learning process is often reduced to replacing the blackboard. The teacher forgets that the main advantages of using teaching presentations in the learning process are interactivity, increased efficiency of perception, and the possibility of replication and dissemination. Using different types of exercises, animation in the creation of slides, the teacher can make the presentations interactive, i.e., facilitate the inclusion of students in a dialogue with each other, the teacher, the computer [4].

Use of electronic textbooks and educational resources on electronic media as visual aids, with their illustrative and animation capabilities. Using software resources to create your own teaching aids using Microsoft Power Point, Microsoft Publisher, Adobe Photoshop, etc.

In the course of ecology the basic skills and practical skills of communication with wildlife are received by students at carrying out of supervision, laboratory experiments and practical works with reception of the laboratory equipment.

There is an opportunity to increase the volume of laboratory and practical works (by obtaining laboratory equipment and ready-made micro preparations), which allows to increase the interest in ecology as a college subject, to develop practical skills and abilities of students, and eventually - to improve the quality of knowledge.

Practical activity allows students to form holistic ideas about the world around them, the ability to clearly establish causal links between



objects and phenomena. First of all, it is caused by that at performance by pupils of laboratory practice there is a formation and development of abilities and skills of experimental studying of an alive nature, deep penetration into laws of its existence.

Problem learning is a type of learning in which the teacher organizes relatively independent search activities of students, during which they learn new knowledge, skills and develop general abilities, as well as research activity, and form creative skills [3].

Seminar-dispute (from English. teaching), assuming collective discussion of any problem with the purpose of an establishment of ways of its reliable decision, a method of "Brainstorming" (or brainstorming, from English. brainstorming) - a method of the decision of a problem on the basis of gathering as much ideas as possible, directed on activation of creative thinking, overcoming of a usual course of thoughts at the decision of the discussed problem.

## CONCLUSION

The systematic use of various forms of work in their own practice has made it possible to achieve certain results in the teaching of ecology. Innovative pedagogical technologies contribute most effectively to the formation and development of skills required in the study of the discipline "Ecology".

In improving the methods, means and forms of learning, each teacher should be as creative and proactive as possible in order to ensure the active learning of pupils and lay the foundations for their full development.

## REFERENCES

1. Akramova N.M., Nigmatullina A.Sh., Galiakberova A.R. (2019) *Fostering the process of learner autonomy in foreign languages classrooms //Problems of science.. №11-2 (144). URL: <https://cyberleninka.ru/article/n/fostering-the-process-of-learner-autonomy-in-foreign-languages-classrooms>*
2. Berseneva O. A. (2016) *Innovative pedagogical technologies of the XXI century in realization of the system-active approach in teaching the discipline "General biology". Moscow: Publishing House GBPOU Moscow State Educational Complex. P. 21*
3. Kurbonova U.S. (2019) *Advantages of applying case studies in the educational process // Problems of Science.. №12-1 (145). URL: <https://cyberleninka.ru/article/n/preimuschestva-primeneniya-tematicheskikh-issledovaniy-case-study-v-obrazovatelnom-protssesse>*
4. Mikhelkevich V. N. (2004) *Innovative pedagogical technologies. Samara, SSTU. P.88.*
5. Yusupov I.I., Usmonov D.I., Akramova N.M. (2019) *The role of tests in students' knowledge*

*assessment // Issues of science and education.. №3 (47). URL: <https://cyberleninka.ru/article/n/the-role-of-tests-in-students-knowledge-assessment>*