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ISSUES OF IMPROVEMENT OF ECOLOGICAL EDUCATION MECHANISMS BASED ON DIGITAL TECHNOLOGIES

Submission Date: May 21, 2024, Accepted Date: May 26, 2024,

Published Date: May 31, 2024

Crossref doi: <https://doi.org/10.37547/ajsshr/Volume04Issue05-44>

Sh.E. Khamrokulova

Senior Teacher Of The Department Of "Pedagogy And General Psychology" Of Uzmu, Uzbekistan

ABSTRACT

The use of modern ICT capabilities in improving the mechanisms of environmental education in general secondary schools is now implemented starting from primary grades. The majority of schoolchildren can use computers independently, which gives students the opportunity to use modern tools for the development of moral, social and ecological education.

KEYWORDS

Ecological education, ecological culture, ecological awareness, education, pedagogical conditions.

INTRODUCTION

The development of ecological education on the basis of digital technologies was developed in accordance with the concept of "sustainable development" by the 90s of the 20th century. Its essence is to learn new rules for the joint life of people using equipment and technology to ensure modern comfort, but not harm the environment and human health. Based on this concept, scientists A.D. Ursul, N.D. Nikandrov, A.N. Zakhlebny put forward the idea of a new function of

the educational system - the advance function. According to its proponents, by training a person in foresight and predictability, society can believe in the successful implementation of preventive actions aimed at the survival of civilization and its sustainable development. As a result of the "futurization" of education in its content, the main attention is focused on today and the future. This can be the basis not only

for the revival of spirituality, but also for the collective consciousness of humanity to foresee its existence.

Therefore, we can assess that the improvement of the mechanisms of ecological education through software tools is a set of tools used in the development, implementation and monitoring, teaching and learning of the software that influences the processes of nature use and environmental protection.

To improve the mechanisms of environmental education in general secondary schools, the use of modern ICT opportunities is now implemented starting from primary grades. The majority of schoolchildren can use computers independently, which gives students the opportunity to use modern tools for the development of moral, social and ecological education. In our opinion, general secondary schools:

use of software for enriching the educational and methodological base on subjects included in academic subjects;

- the use of animations, presentations, virtual (modeled), video-rolls aimed at instilling love for nature in the minds of students by informing students about nature, earth, water, flora and fauna, natural resources;

- the system of environmental education (improving the content of educational programs, training manuals, textbooks) in order to form the skills,

qualifications and competences of students in the wise use of natural resources;

- Setting up a system of improving the qualifications of students studying social and humanitarian, concrete and natural sciences, as well as the subject of "Education" and their retraining;

- the topics of natural disasters (earthquakes, floods, hurricanes, typhoons, etc.) are not limited to only 5 classes, but natural disasters that are likely to occur in the territory of our Republic, for example, earthquakes, are in the class section: causes of origin; at home; on the street; at school; in public places (cinema, amusement park, concert hall, stadium, etc.); in shopping centers; by means of transport (metro, bus, railway, plane, etc.); it is necessary to enrich the content of theoretical and practical exercises on the rules of movement in the event of environmental stress in swimming pools.

Based on the above, we have developed software test tasks aimed at assessing students' knowledge of facts, relationships, processes, concepts, and equipment. From our observations, it is clear that on the basis of the software, the students' accurate and comprehensive knowledge based on the facts of the educational subjects allows the students to successfully perform the more complex cognitive activities necessary for scientific activity.

In the improvement of ecological education mechanisms on the basis of software tools, we can imagine a pedagogical system that includes elements consisting of interrelated goals, principles, content, tools, and methods. It is known that the goal is a defining feature of the education system.

Thus, ecological education requires integration based on consideration of general, special and unity in each specific act of pedagogical interaction according to the forms of manifestation (evaluative, emotional, practical-effective relations). In this type of education, the exchange of personal values, moods, and emotions takes place, which requires strict consideration of the subject-subjectivity of this process.

At this point, it is worth mentioning the thoughts about mobile tools in education. According to the research of T.A.Maslova, A.V.Antakova, M.Aksenova, speech depends on the tactile sensations of the fingers. However, a group of scientists estimate that excessive use of mobile devices has a negative effect on the speech of young people. (V.M. Belousova, A.M. Karpov, M.A. Utkuzova). A.V. Andreev, L.V. Goryunova, I.N. Golisina, S.V.Kuvshinov, V.K.Kukharenko emphasized the ease of use of software products, the importance of electronic portals in education, and the possibilities of mobile education in their research.

Scientists have different approaches to the concept of pedagogical conditions. N.Y. Naydenova, Y.V. Yakovlev

interpret the concept of pedagogical conditions as a set of conditions aimed at increasing the effectiveness of pedagogical activity. According to A.A.Andreev and V.I.Soldatkin, the purposeful selection of content elements, the content of methods, and the identification and application of organizational forms of teaching are pedagogical conditions for achieving didactic goals in education. In the studies of scientists like I. Zadorojnyaya, S. Zhidko, T. Zyuzina, it is mentioned about organizational pedagogical conditions, such as organization of the information system in the educational process, diagnosis of the effectiveness of distance education, giving importance to educational technologies.

Analyzing the pedagogical conditions for improving ecological education mechanisms using software tools, we put forward 4 requirements based on the above opinions. In other words, we defined pedagogical, didactic, psychological and technical requirements.

Electronic educational complexes, educational portals and resources include all educational activities and independent education in accordance with educational standards. Electronic means of education are introduced through modern information technologies. The components of current educational complexes in the improvement of ecological education mechanisms with software tools. One of the reasonable ways to evaluate and control knowledge in the current era,

when ICT opportunities are widely used in education, is test control. The main requirements for test-based control in education are as follows: - validity (adequacy in terms of function and content); - clarity (understandability for everyone); - simplicity; - mean the same thing (evaluation according to the answers); - reliability. Taking this into account, the use of the test method in modern education to assess the knowledge and skills of students gives an effective result. By using the test method in improving the mechanisms of ecological education, the student can first analyze himself, the extent to which he has acquired ecological knowledge, skills and abilities, and the possibility of evaluation in the system is also distinguished by the size. The world that surrounds the child is, first of all, the world of nature, which is rich in infinite phenomena and inexhaustible beauty. Nature is the eternal source of a child's mind - says V. Sukhomlinsky. Pedagogical conditions for the development of ecological education using software tools are manifested in the correct assessment of the opportunities of young people to organize their free time, work on themselves and receive independent education.

The unique aspects of working with software tools are combined with the growing competence of young people to work with online tools and the wide range of use of mobile communication tools, the suitability of mobile applications for all young people, the convenience of getting the information they want at

any time, personalized education, independent and inclusive education. It should be noted that there are a lot of options.

It is possible to improve the mechanisms of ecological education with software tools in the following directions:

- visualization - depicting the impact of man on nature through animations, video sequences;
- understanding - by imagining ecoimages, understanding environmental problems;
- perception through feelings - love nature, care for animals, describe environmental problems;
- practical - practical application of knowledge related to nature protection, orientation to work
- selection of topics related to environmental education in textbooks, enrichment of content related to environmental education;
- introducing the implementation of environmental education software models into educational and methodological activities;
- improvement of environmental education and culture through self-control in the test system;
- improvement of the scientific-methodical-software support for the development of ecological-pedagogical competence of teachers and future specialists;
- development of the content of environmental activities in the educational system, quality control of online resources;

- to create an innovative system of developing students' ICT competence in improving the mechanisms of environmental education.

International Scientific Research Journal, 4(1), 766–771

It is now possible to promote the use of modern possibilities in improving the mechanisms of ecological education in general secondary schools even from primary classes. The reason is that most of today's schoolchildren can independently use telephones and computers, which gives students the opportunity to use modern tools for the development of spiritual-ethical, social-ecological education.

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