



STEAM INTEGRATED EDUCATIONAL TECHNOLOGY IN ENHANCING ECO-LEARNING EFFECTIVENESS

Kuchkinov Abdumalik Yuldashovich

**Doctor Of Philosophy In Pedagogical Sciences (Phd) Chirchik State Pedagogical University,
Senior Lecturer Of The Department Of "Primary Education Methodology", Uzbekistan**

ABSTRACT: - The article discusses the importance of improving the didactic support of improving the effectiveness of environmental education technologies in the process of providing environmental education to students, STEAM education, interdisciplinary and practical approach.

KEYWORDS: Environment, student, environmental education, technology, didactics, STEAM education, interdisciplinary and practical approach, educational scheme, project, integrated sciences.

INTRODUCTION

In the conditions of modernization of modern education, the competency-based approach is one of the leading principles of determining the content of education and methods of its organization. This can be considered a specific direction of implementation of the competence approach in school education.

The transition to profiling of the third stage of school education implies early professional

self-determination of students and, therefore, their more successful socialization. At the same time, at the final stage of the basic school, the importance of preliminary preparation increases and the practical orientation of education increases.

The real need to increase the practical direction and practical importance of natural science education, including environmental education, is of particular importance.

“STEAM INTEGRATED EDUCATIONAL TECHNOLOGY IN ENHANCING ECO-LEARNING EFFECTIVENESS”

ANALYSIS OF LITERATURE ON THE SUBJECT

The goals and tasks, principles, content of ecological education, as well as pedagogical problems such as the formation of theoretical knowledge, practical skills and qualifications in students were researched by I.D. Zverev, V.N. Maksimova, L.P. Salaeva, K.A. Rikovlar[1].

Yu.Sh.Shodimetov, B.Ziyomammedov, Sh.Mahmudov, S.Mamashokirov with social, natural and philosophical aspects of ecological education Sh.T.Otaboev, A.S.Tokhtaev, R.U. Beknazov, S.Kh. Fayzulina and others were involved[2].

L.T.Shonosirova and G.O.Komilova conducted research on environmental education for preschool children[3].

Pedagogical problems related to providing students with environmental education, their goals and tasks, content, form and methods, Sh.Avezov, N.O'.Nishonova, M.A.Yuldashev, G.Sultonova, N.Ashurova, various aspects of environmental problems in primary education, M.B. Rahimkulova conducted research on the topics of education of elementary school students based on environmental values in extracurricular activities, as well as N.M. Egamberdieva, moral education of students under the influence of the environment, M. Rahmatullaeva, formation of interest in the aesthetics of nature in students during class and outside of school[4].

RESEARCH METHODOLOGY. Is to improve the didactic support of increasing the efficiency of environmental education technologies in the process of providing environmental education to students.

ANALYSIS AND RESULTS

The systematicity of ecology as a science, the undoubted relevance of environmental education at the current stage, the possibility of using various organizational forms of classroom and extracurricular work with

students make ecological education one of the priority directions of the development of modern schools.

In the context of the above-mentioned problem of preliminary preparation of students, the special importance of environmental education in the first and especially the second stage of school education is manifested due to the following reasons:

- environmental education is an important and relevant component of the general education of schoolchildren;

- the ecological and pedagogical educational environment helps to effectively and comprehensively develop the value orientations of schoolchildren, helps their professional self-determination[5].

The impact of ecological and pedagogical educational environment on the processes of values orientation of schoolchildren is very great. This is confirmed by pedagogical studies conducted in this field.

As a result of our research, a number of pedagogical conditions have been identified that influence schoolchildren's orientation to values in ecological education and contribute to the rapid and holistic development of their value orientations. conscious selection of the most important life instructions by students.

The student has a complex positive effect on professional self-determination in various spheres of activity.

The conducted research made it possible to draw the following conclusions:

- any level of inclusion of environmental content in the educational process contributes to the positive dynamics of students' value orientations;

“STEAM INTEGRATED EDUCATIONAL TECHNOLOGY IN ENHANCING ECO-LEARNING EFFECTIVENESS”

- optimal pedagogical conditions for the development of students' values are achieved through the interaction of the content of environmental education and activity components[6].

In this regard, the issues of practical implementation of the interaction between the content and activity components of environmental education in the organization of lessons and extracurricular activities with schoolchildren are of interest.

Organizational-pedagogical activities occupy a central place in creating an ecological-pedagogical educational environment.

It should be noted that regardless of the chosen organizational model in this field, a comprehensive approach to working with schoolchildren is necessary. It is the basis of the lesson work, at the same time, due attention should be paid to the development of a system of work outside the classroom with students in the field of environmental education, taking into account the unique organizational and pedagogical conditions of the institution.

Special attention is paid to the use of modern information technologies in the process of environmental education. Today, in the modern ecological educational institutions of the world, special attention is paid to the formation of real relations between man and nature, to the identification of specific socio-natural aspects that ensure a more stable development of man and nature [7, p. 66-67].

In developed countries, environmental education is an "interdisciplinary subject" with three main concepts - system, outlook, future [8, p. 69-73]. and students develop an aesthetic attitude to nature and practical skills.

It is important to improve the didactic support of increasing the effectiveness of environmental education technologies in the

process of providing environmental education to students. [9, 243 p.].

The concept of environmental protection defined in the concept of environmental protection is defined in the concept of environmental protection in the ecological education of the new Uzbekistan "Enhancing the ecological culture of the population, increasing the level of transparency of the activities of state bodies in the field of environmental protection and strengthening the role of civil society" [10] In this regard, the National Action Plan for the implementation of the Paris Agreement on Climate Change, 2019-2030, strategies for the transition to a "green" economy in 2030, and the National Action Plan for the formation of a new state administration were developed in Uzbekistan and accepted. System To provide students with the technology of environmental education in the field of sustainable development in the implementation of ambitious goals such as the prevention of environmental disasters. That's why STEAM projects can become one of the forms of unification of scientific fields of natural sciences of the world.

STEAM educational technology is a new method of teaching schoolchildren, and it is a different method from the traditional teaching method. When talking about STEAM education, it should be noted that it is based on the use of an interdisciplinary and practical approach, as well as combining five subjects into one educational scheme. These technologies include S– science, T– technology, E– engineering, A– art, M– mathematics. STEAM-School learning allows for a blended environment where students begin to understand how scientific methods can be applied in practice. Thus, the implementation of STEAM projects in the educational process makes it possible to make theoretical materials relevant, practical and

“STEAM INTEGRATED EDUCATIONAL TECHNOLOGY IN ENHANCING ECO-LEARNING EFFECTIVENESS”

below the academic level. This aspect is especially important in the process of implementing ecological projects, when the student has a real opportunity to apply the knowledge he has acquired in life if he applies the universal educational actions of the meta-subject and unwittingly interferes with the problems of environmental protection and protection.

STEAM environmental projects are implemented within the science lab. The form of the school laboratory allows to create a single interdisciplinary didactic space, the students' knowledge of biology forms a holistic idea of the place of people in the biosphere, allows to establish connections between processes. the influence of environmental factors; basic chemical knowledge helps students to reveal the mechanisms of biogeochemical processes; physics shows the threatening scale of human influence on nature; geographical knowledge allows to assess the changes occurring in nature.

Each topic of an integrated science course contributes to environmental education for students. And engineering thinking, modeling skills allow students to create non-standard projects.

One of the most obvious examples of STEAM projects is the creation of models of various ecosystems. STEAM tasks include performance in the following areas.

C is Science: Understanding the Role of Producers, Consumers, and Degraders in an Ecosystem. Knowing the biological diversity of flora and fauna of fresh and salt water bodies and their characteristics.

T - technology: Tools: Aquariums, soil, sea salt, cardboard, pencils, markers, scissors, glue.

E - Electronic Engineering: Residency Preparation.

A - art: The choice of materials and techniques is up to the students

M – math: Calculation of ratio and concentration of salts for fresh and salt water. Estimating the population of certain species of plants and animals.

It can be considered a special task to teach the student to live in harmony with the environment, to respect and be careful with nature. As part of this issue, you can use the project to create your own eco-labels, which is encouraging rather than prohibitive.

CONCLUSIONS

In order to familiarize students with the nature and form a culture of communication, the research project "Ecotourism trip" will be organized. It allows students to get knowledge and information about natural objects and phenomena in the natural environment. Pupils understand the natural world with its richness and diversity, see the natural processes occurring in nature and learn to be aware of them.

Thus, STEAM education allows the implementation of new methodological technologies aimed at the formation of environmental culture of preschool and primary school students.

REFERENCES

1. Борискин, А.Ф. Проектирование содержания и реализация методического обеспечения экологического образования школьников в естествознании: дис. ... канд. пед. наук. / А.Ф.Борискин. Екатеринбург. - М.: РГБ, 2002. – 174 с.
2. Кучкинов А. Бошланғич синф ўқувчиларни экологик тарбиялаш технологиялари.13.00.01-Педагогика назарияси. Педагогика таълимотлар тарихи.Педагогика фанлари бўйича

- фалсафа доктори (PhD) илмий даражасини олишчун ёзилган диссертация. Термиз-2020.
3. Авазов Ш. Мактабда экологик тарбияни амалга ошириш йўллари. – Тошкент, РЎММ, 2019. - 46 б.
 4. Саттаров В. Умумтаълим мактабларининг V-IX синф ўқувчилари-да экологик маданиятни шакллантириш (қишлоқ хўжалик меҳнати таълими мисолида): Пед. фан. номз ... дисс. автореф. – Тошкент, 2002. – 22 б.
 5. Раҳматуллаева М.Д. Ўсмирларда синфдан ташқари ишлар жараёнида табиат эстетикасига қизиқишларини шакллантириш. Пед. фан. номз ... дисс. – Тошкент, 2005. – 202 б.
 6. Матрусов И.С. Теория и практика связи обучения географии с жизнью: Дис. на соиск учен. степени док. пед. наук в форме научного доклада. – Москва, 1986. – 45 с.
 7. Avezov Sh. O'quvchi shaxsida ekologik madaniyatni tarkib toptirish haqidagi masalaga doir / O'quvchi shaxsining axloqiy xislatlari-ni shakllantirish: Ilmiy ishlar to'plami. - Toshkent, 1991. -B. 62-67.
 8. Aliqulova M. Ekologik ta'lim jarayonini takomillashtirishda ijtimoiy pedagogika fanining imkoniyatlari//Xalq ta'limi.– Toshkent.-2015. -2-son. – B. 69 – 73.
 9. Valixanov M.N. Tabiatshunoslik asoslari. - T.: Mirzo Ulugbek nomidagi O'zbekiston Milliy universiteti, 2004. - 243 b.
 10. O'zbekiston Respublikasi Prezidentining “2030-yilgacha bo'lgan davrda O'zbekiston Respublikasining atrof-muhitni muhofaza qilish konsepsiyasini tasdiqlash to'g'risida”gi PF-5863-son farmoni Toshkent, 2019-yil 30-oktyabr.