

## Article

# Innovations in Professional Training of Specialists in Environmental Education

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**Abstract:** The article examines the innovations in the professional training of specialists in environmental education, with a particular focus on the integration of ecological principles into modern pedagogy. It highlights the increasing urgency of environmental education in the context of global ecological challenges and the need for sustainable development. The study employs analytical and comparative methods to assess the effectiveness of innovative teaching approaches such as dialogue-based learning, educational discussions, and case study techniques, which enhance students' problem-solving, critical thinking, and ecological competence. The results show that the implementation of innovative technologies and interactive forms of education fosters environmental culture, encourages ecological thinking, and prepares future specialists for environmentally responsible decision-making. The novelty of the research lies in substantiating the role of educational innovations as system-forming elements for the ecologization of education, while its practical significance is expressed in the possibility of applying these methods in secondary and higher education institutions to promote sustainable environmental behavior.

**Keywords:** Environmental Education, Innovations, Methodology, Interactive Methods, Ecological Competence, Sustainable Development

## 1. Introduction

The impact of humans on the environment has grown significantly in the era of scientific and technical advancement. Humanity is left wondering about the state of nature for future generations as a result of the repercussions of careless, rash technological decisions. Environmental education is becoming more and more important in this context. Ancient Western and Eastern cultures already practiced "environmental education" in a non-specialized way. The founders of philosophy—Confucius, Lao Tzu, Democritus, and Aristotle—had a broad view of the world that included the environment. As environmental science emerged and developed in the contemporary era, non-specialized environmental education also emerged. According to Pestalozzi, Montaigne, and Rousseau, education should cultivate empathy and a love of the natural world [1]. Since resolving the environmental crisis through technical methods alone has proven difficult in the twenty-first century, there is a need for widespread education in the area of environmental preservation. If society does not change its morals and mentality and instead depends solely on technical knowledge and solutions, it will be impossible to preserve balance [2]. The creation of a civilization that satisfies man's evolving demands while being in harmony with the changing realities of the natural world will be crucial to humanity's endeavors during the protracted and challenging process of transforming both nature and society. An organic and important component of the entire educational system, environmental education gives it a new dimension and shapes a distinct perspective on

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society, man, and nature (eco-humanism). A new worldview and method of action founded on the development of noospheres of environmental and humanitarian values is what is meant by "greening" education [3].

### Review of Literature

Advances in environmental specialists' professional training

The fundamental idea behind creative teaching methods is to structure the learning process as a conversation, which will teach students how to articulate their ideas, evaluate difficult circumstances, and come up with workable solutions. These techniques make it possible to raise educational standards, help students grow, and help them build the skills and abilities they will need for their future careers. As a result, courses are delivered as lecture-conversations that incorporate debate, opinion sharing, and brainstorming. This approach enables students to participate in dialogue, group problem-solving, and opinion sharing. When studying complex and extensive content, the pedagogical conversation method works well [4]. Students can be split up into small groups of five to seven people and given consideration for certain financial circumstances. The benefits of the educational discussion approach include not only the consolidation of the content, the application of students' own experiences, and the capacity to transfer information from one field to another, but also the growth of independent thought, teamwork, and communication skills. The following method's fundamental idea is a case. A case is a description of a complicated scenario with related facts that must be broken down into distinct, largely independent elements in order to be understood. Each part must then be examined, and the results must be combined to provide a comprehensive picture [5]. Specific tasks can be solved using the case study method, such as identifying a set of issues in a particular situation, figuring out its structure, identifying the factors that led to the situation, and modeling it; creating an assessment system; projecting the future state; and creating recommendations and an action plan to address the situation. A young person's environmental culture assumes that he or she is prepared for action, possesses certain information and values, and takes practical steps that align with the demands of a mindful attitude toward the environment [6]. An essential determinant of a young person's social participation and consciousness is their environmental culture. Environmental culture is formed and developed through a complicated process. Politics, legislation, science, production, art, and education all work together to ensure it. A student's personal requirements alter as a result of mastering environmental culture since "thinking ecologically" leads to "acting ecologically."

## 2. Methodology

Cutting-edge educational technology make it possible to control and guide learning. People have always viewed changes negatively and have been afraid of anything new and unknown. Stereotypes that are prevalent in society have an impact on daily life, cause unpleasant events, and impede the advancement of all forms of education. The suppression of basic demands for safety, comfort, and self-affirmation is the cause of people's resistance to changes in contemporary schooling. Innovative behavior suggests the development of one's own uniqueness and self-improvement rather than adaptation. The educator must realize that teaching a balanced personality is possible through innovative education. "Ready-made templates" are not appropriate for him; you should always raise your own cognitive level. A teacher is prepared to participate fully in innovation once they have removed psychological hurdles and "complexes" [7].

A teacher needs to realize that fostering a harmonious personality is a goal of creative education. "Ready-made templates" are not appropriate for him; he needs to continuously raise his own cognitive level. A teacher who has overcome psychological obstacles and "complexes" is prepared to fully engage in creative transformations. Unlocking each student's potential through the pedagogical process and giving them chances to showcase

their creative ability is one of the responsibilities of a modern school. Without adopting the diversity of educational processes, which give rise to a variety of new educational institutions that demand in-depth knowledge of both science and practice, these issues cannot be resolved. According to N. M. Mamedov, the trend of environmental ideas, concepts, and principles permeating other disciplines, as well as the development of environmentally literate professionals with diverse profiles, are all characteristics of the greening of the educational system [8]. These days, the entire system of education and rearing needs to be made greener. The ultimate objective of this change is for contemporary environmental concepts and ideals to permeate every aspect of society. With consideration for the particulars of each subject, information about environmental issues is incorporated into the core curriculum. This can be used at the conclusion of the topic's (section's) presentation, at the conclusion of the course's study, and throughout theoretical and practical lessons [9–10]. At the same time, each section should have a clearly defined space for the environmental content. Implementing the interrelationships between the environmental, educational, and environmental aspects of the content under study is also essential, as is carefully considering the presentation methodology. According to this idea, the uniqueness of environmental education is demonstrated in the way the entire educational process is constructed from the perspective of developing a particular set of values in students, as well as behavior skills that enable them to make individual and collective decisions at the local and global level to improve the quality of life without endangering the planet's future [11]. At the same time, a significant part is played by structuring classroom, school, and group life so that daily actions align with the model of ecologically appropriate behavior. Implementing this strategy as a 335 approach to design and execution, rather than as a stand-alone course, is the greatest solution for such teaching.

### 3. Results and Discussion

Since innovations are common to all of a person's professional endeavors, they are naturally the focus of research, analysis, and application. Innovations are the product of scientific research, the advanced pedagogical experience of individual teachers, and the combined efforts of entire teams. The new is defined as follows in S. I. Ozhegov's dictionary: new – for the first thing manufactured, created, or emerging recently, to take the place of the old, recently found, connected to the recent past or the present, not well known, or insufficiently familiar. It should be highlighted that the definition of the phrase makes no mention of progressiveness or the efficacy of the new [12]. Innovation in the pedagogical process refers to the incorporation of novel ideas into the objectives, subject matter, pedagogical approaches, and modes of instruction, as well as the planning of collaborative activities between the instructor and the learners. The term "pedagogical innovation" refers to modifications made to teaching and learning methods, including material and technology, with the goal of improving their efficacy. The incorporation of ICT into the curriculum necessitates the integration of computer science with other subject areas, which results in students' awareness and comprehension of the information processes in contemporary society (in its professional aspect)[13]. It is crucial to recognize the new trends in the school information process, which range from students learning the fundamentals of computer science to using computer software to study general education subjects to the saturation of computer science components in the curriculum and the implementation of a radical reorganization of the entire educational process centered on information technology. As a result, new information technologies are incorporated into the educational system, and graduates are equipped to become proficient in these technologies for their future careers [14]. This trend is carried out by adding additional computer science and ICT-related disciplines to the curriculum. Experience with ICT in schools has demonstrated that: a) the information environment of an open-type school, including various forms of distance education, greatly increases students' motivation to

study subject disciplines, especially when using the project method; b) the information of education is attractive to students because it relieves the psychological stress of school communication by shifting from subjective “teacher-student” relationships to more objective “student-computer-teacher” relationships; c) the information of teaching is attractive to teachers because it allows them to increase their productivity, improves their general information culture, and increases the efficiency of student work, increases the share of creative work, and expands the opportunity to receive additional education in the subject within the school walls, which in the future, a prestigious job is realized.

#### 4. Conclusion

In keeping with the objectives of sustainable development, the current state of the environment is creating new cultural and educational canons that ought to serve as standards for modern schoolchildren's environmental competence and environmental culture development. In order to accomplish successful learning, many teachers today employ cutting-edge teaching techniques and contemporary technologies in the classroom. Among these techniques are interactive and dynamic teaching methods. Active ones allow the student to have an active role in connection to the teacher and other students who are learning alongside him. Textbooks, notes, and computers are considered separate teaching tools that are used throughout classes. Working with other students to acquire knowledge is made possible via interactive methods. These techniques fall under the category of communal learning, in which a group of students collaborate on the subject matter under study, with each student being accountable for their own effort.

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