

Implementation of a Comprehensive Concept of Education in the System of Environmental Education

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Abstract. The article is devoted to the problems of environmental education. The idea is expressed that the ecological education of the population is the most important means of overcoming the ecological crisis. A brief review of the definitions of the concept of “environmental education”, as well as some concepts of environmental education, is made. The main attention is paid to the complex concept of education, developed on the basis of the Moscow International University and the Laboratory for Cognitive Research of Consciousness named after Said Makhdikhon Sattorov under the guidance of Professor of RAE (RANS) Maira Makhaev. Methodological bases of the complex concept of training are revealed. The complex concept is based on the allocation of four blocks (the “knowledge” block, the methodological block, the skills and abilities block, the responsibility block), which are the parameters of any training. An idea was expressed about the possibility of introducing this concept into the system of environmental education, which will improve the quality of environmental education.

1 Introduction

Currently, the world has developed a special type of environmental situation, which experts call the global environmental crisis.

Ozone holes, acid rains, superecotoxicants, the greenhouse effect - these are the very negative phenomena that cause the global economic crisis.

Not the last place among the causes of such a crisis is occupied by the neglectful (predatory) attitude of people towards nature.

The founder and first president of the Club of Rome, Aurelio Peccei, also spoke about the dangers of the expansion of technogenic civilization into the natural world and the need to harmonize the dimensions of human existence [1].

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Already in 1972 in Stockholm, within the framework of the first United Nations (UN) Conference on the Environment, a Declaration was adopted, which emphasized the need to disseminate knowledge among young people and adults about the problems of human interaction with the environment [2]. Thus, the UN conference came to the realization that it is possible to overcome the unrestrained consumer attitude towards nature with the help of universal environmental education, environmental awareness. Environmental education plays a huge role in the modern world.

We consider it very important to create such a system of environmental education that would bring real results (the main among which is the inculcation of a high environmental culture), and would not just give formal indicators (the number of classroom lessons held, the number of students, the number of excellent exam marks, etc.) .).

Just as philosophy has its main question, education is based on three fundamental questions: why and for what a person should learn (the purpose of education), what should he learn (content of education) and how should he learn (teaching methodology) [3].

Currently, various definitions of the concept of environmental education have been formulated and various concepts of environmental education have been proposed, in which original interpretations of these issues have been proposed.

At the first conference on environmental education in the United States (Nevada, 1970), one of the first attempts was made to formulate a unified definition of environmental education. Environmental education should lead to humankind's awareness of the value of the surrounding nature, understanding of their interdependence [4]. The student should receive not only general theoretical information, but also practical skills that allow them to interact harmoniously with the environment.

The Finnish National Commission for UNESCO understood environmental education as a way to achieve the goal of protecting the environment.

Danilov-Danilyan V.I. and Piskulova N.A. saw the goal of environmental education in the formation of a person as a responsible individual who would be able to make environmentally sound decisions [5].

Ziyatdinov Sh.G. saw in environmental education the process of gaining knowledge about environmental problems and the causes of their occurrence, as well as ways to solve them [6].

The developers of the concept of general secondary environmental education I. D. Zverev, I. T. Suravegina define environmental education as a continuous process of education, upbringing and development of the individual, aimed at the formation of such knowledge and skills, values, behavior that would ensure a responsible attitude towards nature [7].

One of the most promising concepts in modern pedagogy is a comprehensive concept of learning, developed in the 21st century by scientists from Moscow International University and the Sattorov names Laboratory for Cognitive Research of Consciousness under the guidance of Professor RAE (RANS) Maira Makhaev (Mair Makhaev).

The principles of a comprehensive concept of education are quite universal and are applied to specific educational practices and to various types of education (including environmental education).

This article will characterize the integrated concept of education, as well as analyze the possibilities for its application to environmental education.

2 Research methodology

The bibliographic base of the study is made up of various scientific articles that present a comprehensive concept of education.

The study used the modeling method, the historical method, as well as the operations of analysis, synthesis, abstraction.

3 Results and Discussions

Education in a complex concept is the transmission of social experience. The basis of any educational process is made up of four complex blocks:

- 1. The knowledge block consists of lessons and lectures traditionally taught in schools and universities. This block includes numerous fundamental knowledge about the laws of nature, the development of society, historical events, etc.
- 2. The methodological block broadcasts various techniques for the development of non-standard thinking, technologies for critical work with information.
- 3. The block of practical skills and abilities translates practical skills and abilities: social (the ability to work in teams, manage, educate, etc.), cognitive (the ability to write texts, conduct research, fill out declarations, etc.), technical (the ability to repair, drive a vehicle, rearrange, etc.), etc.
- 4. The block of moral and civic responsibility involves following moral and legal norms, cultivating civic deeds and good deeds, values of goodness [8].

Each block has its own tasks.

The “knowledge” block broadcasts fundamental knowledge and is aimed at replenishing society with knowledgeable citizens (experts, erudites).

The methodological block is aimed at the formation of correct and critical thinking in accordance with the laws of logic, as well as the development of the creative abilities of the individual.

The block of practical skills and abilities gives the society highly qualified specialists, masters of their craft, experts, and the block of moral and civic responsibility gives the society a responsible citizen: a reflective, high-minded citizen who does noble deeds.

Table 1. Characteristics of learning blocks

Blocks	Foundation	Structure	Task	Total (for society)
Block 1	Fundamental knowledge	Traditional school subjects	Translation of knowledge	Knowledgeable person (expert, erudite)
Block 2	Thinking and imagination	Simple and complex (non-standard) tasks	Development of correct and critical thinking; development of creative abilities	Thinking man, creative man
Block 3	Skill and ability	Writing texts and releases, project activities	Transfer of practical skills and abilities	A man who knows how
Block 4	Responsibility	Following moral and legal norms, a civil act, a good deed, etc.	Raising Responsibility	Responsible person

All blocks are essential to the learning process.

Robots are gradually replacing humans from the sphere of routine production. They cope with any standardized operations. Robots (smart algorithms) are able to store huge amounts of information in memory: know the place of birth and date of death of Leo

Tolstoy, the plot and plot of the play “At the Bottom”, perform operations with large numbers.

But they are not capable of creative thinking and solving non-standard tasks. More precisely, they are very limited in this.

Therefore, the methodological block is essential for the learning process.

In addition, computer machines do not bear any moral or legal responsibility for the results of their work. They are incapable of moral reflection. Whereas man is a reflective being. In the 20th century, homo sapiens created a weapon capable of destroying the entire planet Earth. Only man can reflect on the consequences of the use of nuclear weapons. Therefore, the Responsibility Block is also important for education.

Traditionally, the education system is focused on the development of a block of knowledge. As noted above, the basis of learning is the transmission and assimilation of knowledge.

Environmental education in accordance with a comprehensive concept of education should be based on the calculation of 1 lesson (1 lecture) for each of the four blocks.

For example, within the framework of block 1, students receive knowledge about what ecology, the environment, scientific and technological progress are; how scientific and technological progress affects the ecological state; how greenhouse effects and acid rains are formed.

The ultimate goal of this block is to give students environmental knowledge.

As part of the second (methodological) block, students develop thinking, solve complex environmental problems, analyze catastrophic situations, conduct brainstorming sessions, put forward hypotheses, develop predictive scenarios, etc. (for example, task number 3)

As part of the third block, students learn certain environmental skills.

A.N. Zakhlebny, I.D. Zverev, I.T. Suravegina noted an important detail that reveals the essence of the third block of the comprehensive concept of education: “Scientific knowledge of nature alone, if they are not combined with practical matters, is still not enough. What is important is not passive admiration of the beauties of nature, not contemplation of what the state has done to protect nature, not regret about what is not being done, but active, effective participation in its preservation and improvement. Only in practical activities can the necessary skills and abilities for nature protection be formed...” [9].

We do not set ourselves the task of systematizing the composition of environmental skills and abilities (it is quite extensive). It is possible to single out skills related to the assessment of the state of the environment; skills related to nature protection; skills related to the dissemination of environmental knowledge, etc. [10]

As part of the fourth block, students master environmental standards (norms of humanistic, harmonious interaction between man and nature). The task here is to form an ecological and humanistic worldview among students.

The motto “man is the king of Nature” gave rise to an exploitative (merciless) attitude of man to the environment. We have already noted in the introduction that such a worldview has led to an ecological crisis. The world is on the verge of an ecological catastrophe. The need to change worldview (value) attitudes is obvious. In the lessons (lectures) of block 4, students analyze real cases in which a careful attitude to nature was manifested.

Mair Makhaev emphasized in his publications that the blocks are not separated by an impenetrable wall. The borders between them are open. This is especially true for block 1, related to knowledge. Aspects of block 1 are present to varying degrees in all three other blocks. For example, block 4 deals with knowledge of environmental regulations; knowledge is also required to successfully solve problems in block 2 and block 3. In fact, knowledge is the foundation for all blocks.

For example, task No. 1 and task No. 2 (taken from the collection of “Environmental tasks” for grades 10-11) involve testing students’ knowledge and belong to block 1.

Task 1: “The oxalis plant on our windowsill folds its leaves in the evening, and straightens them in the morning. What will happen to this plant if we put it in the basement, where there is no change in lighting and it is always dark? Explain the mechanism of what is happening.

Task 2: Part of the poplars froze out on the boulevards of the city during the harsh winter. Those trees that grew near street lamps suffered the most. Why are they so unlucky?

The next task (task No. 3) is aimed at developing mental abilities and belongs to the second block.

Task number 3: When falling into hibernation in one hedgehog population, the density of individuals was 180 individuals / ha, 90 individuals survived. In the neighboring population of the hedgehog, the density of individuals is 80 individuals/ha, 76 individuals survived. Calculate the mortality during hibernation in two neighboring populations. Determine in which area the mortality is higher and how this can be explained, provided that the supply of fodder per 1 ha was the same in both areas [11].

Task number 4 is of a mixed nature: it tests both the level of knowledge of students and their thinking abilities.

Task number 4: Give a description of the graph of changes in the number of common dandelion depending on the illumination from the position of the law of optimum (define the zone of optimum and pessimum, the minimum and maximum points, the zone of tolerance, determine eury- or stenobiontism). Which ecological group does this species belong to: heliophytes, sciophytes and facultative heliophytes? [11].

The given cases demonstrate the interdependence of blocks, their intersection.

However, Mair Makhaev notes that 4 factors act as delimiting properties between the blocks: the basis, the subject composition, the task, the end result for society.

The basis of block 1 is knowledge. Accordingly, block 1 has a high proportion of knowledge. The task of this block is to transmit true knowledge, and the end result is to equip the student with knowledge.

Block 2 is based on thinking, imagination (in other words, the cognitive functions of the psyche). Its task is to instill in a person mental abilities, to develop the power of imagination in him. The end result is to give society an out-of-the-box thinking person.

4 Conclusions

Thus, in accordance with the comprehensive concept of education, the goal of environmental education is to reveal the personal potential of the student, and the ultimate goal is to harmonize the relationship between man and nature.

The complex concept offers a new version of the schedule of classes in ecology, taking into account the distribution of all subjects into 4 blocks in accordance with the tasks of each of them.

Block 1 will include theoretical subjects, from which students will learn about basic environmental concepts.

Block 2 will consist of subjects that develop logic and imagination.

In the lessons of block 3, students will solve environmental problems, and in the lessons of block 4, they will develop an ecological worldview.

Only such an integrated approach will raise the quality of environmental education to a high level.

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