Features of the development of ecological education and upbringing in the Republic of Armenia

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Abstract. Ecological education is a continuous, multifaceted and mandatory process of education, upbringing and development of an individual, aimed at the acquisition of theoretical and practical knowledge, skills, abilities about the environment, as well as the orientation of the value system and behavior and the formation of an ecological culture.

Ecological education, apart from theoretical knowledge and scientific-practical abilities, is first and foremost an approach, philosophy and tool to perceive, understand, interpret the relationship between man and nature, and based on all this to develop new models of behavior of individuals, groups of people and the whole society towards the environment.

Ecological culture is the inherited experience of human life activity with the environment, which contributes to a healthy lifestyle, sustainable socio-economic development of the country, improvement of the quality of life and ecological safety. Formation of ecological culture of the society is one of the priority directions of the state.

Keywords: ecological issues, ecological knowledge, ecological culture, ecological and sustainable development education, natural resource management, environmental information.

1 Introduction

The Republic of Armenia, as a full-fledged subject of international relations, has ratified a number of international environmental agreements (conventions and their protocols), by which environmental education and upbringing are given great importance within the framework of international obligations and laws adopted by the National Assembly of the Republic of Armenia.

Education as a social institution is a relatively stable form of social educational practice, through which social life is organized, connection between society and individual, past and present is provided. Education is the acquisition of knowledge, skills, values, traditions, habits.

The transformation of the market and the formation of market relations also includes the sphere of education. In the new economic system, the education sector has clearly become a...
separate independent branch of the economy, which reflects a whole range of relations related to the production and delivery of educational services.

In the context of globalization, the problem of access to education takes on a supranational character. This happens for two reasons. First, the solution of this problem in one country inevitably affects the state of the higher education system of other countries. Second, it is much easier to find a comprehensive solution to educational problems with the joint efforts of several states.

The rise and spread of education is closely related to the growing need for a literate and disciplined workforce. In the 21st century report of the UNESCO International Committee on Education, it is stated that education is the set of abilities "learning to know, learning to do, learning to live together, learning to live".

According to Lev, Boris and Leonova, two fundamentally different points of view can be distinguished regarding the issue of access to education. The authors call the first ideological without putting any negative meaning in this definition; it is formed by representatives of the social elite. The second point of view is the definition of the value and the problem from the point of view of the masses or those groups for whom the inequality in the educational system is a topical problem.

A number of countries have built their education systems with a focus on solving domestic problems; providing homogeneous conditions for a high quality of life of the population (Germany), reducing the level of illiteracy and the level of social support for certain groups of the population, which was reflected in the typology of educational institutions (India, Brazil). The focus on universities as an element of the national innovation system (USA) has influenced the development of the field of research universities, increased its status and the profitability potential of graduates, but at the same time increased the inequality of quality access.

While the education about the environment becomes more important in the changing world, as its natural consequence, environmental education gets higher attention in the educational curriculum of the countries.

2 Materials and Methods

Analytical, methodological, graphic, historical, logical, administrative, comparative methods were used during the research. Historical methodology gives us the opportunity to study the role of environmental programs and environmental measures implemented in the Republic of Armenia, as well as the relevance of environmental protection in the Republic of Armenia. While performing the analysis, we used literary articles, as well as books and materials. The information basis of the research was the RA law on environmental education, the RA strategy for the development of ecological education and upbringing, as well as the results of scientific studies and expert evaluations of international periodicals, other modern scientific and methodological materials and researches of leading organizations in the field.

3 Results and Discussion

ecological education is a continuous process aimed at teaching the person and the population ecological knowledge, ecological upbringing, instilling ecological culture, their correct and reasonable orientation in the field of environmental protection and natural use, the manifestation of abilities and the formation of behavior;
ecological upbringing is the basis and integral part of ecological culture, a continuous, systematic process aimed at raising the level of ethical attitude towards the environment, which enables citizens to acquire knowledge and abilities, develop skills and discover abilities, demonstrate moral standards and behavior in interaction with nature.

ecological knowledge is the field of social knowledge aimed at prudent use of nature and provision of a safe natural environment for human health.

ecological culture is the domestic and global experience of the harmonious interaction of man and nature, which contributes to a healthy lifestyle, sustainable socio-economic development, ecological security of the country and every person.

Fig. 1. The main elements of the ecological environment. Source: Compiled by the authors.

Prevention of environmental pollution and preservation of flora and fauna are among the primary ecological problems in Armenia and the world. Each country has its own ecological problems, the solution of which largely depends on man and his activities. Of course, in order to solve any problem, it is necessary to address the cause of its occurrence, but if timely attention is not paid to this or that problem, at least systematic actions should be taken to prevent the possible deterioration of the situation. Environmental security is the state of ensuring human vital interests, which is possible in the case of ensuring the balance of the environment and human economic activity, when the impact on the natural environment does not exceed its self-recovery capabilities.
Today in RA, the protection of the environment and the quality of life, the creation of modern systems of ecological safety and management of environmental activities are most relevant. Accordingly, among the priorities of state policy are:

- increasing the level of environmental management culture,
- localization of leading international experience,
- improvement of the legislative, legal and normative-methodical field.

The need for state regulation of all these issues is emphasized in the system of ensuring ecological security of economic development, creating a prosperous and reliable future of the country. In this context, ecological safety is one of the important components of RA national security, a guarantee of overcoming the goals of stable and safe development of the country.

The transition to a market economy has led to a reduction in a number of types of environmental impact in some areas, and an increase in others. It is also known that the assessment of the impact of economic or other types of activities on the environment is one of the most effective forms of environmental management and control of the Republic of Armenia, oriented to the maintenance of the life-supporting quality of the environment, the sustainable development of the economy and the ecological safety of the population.

As shown by the data of the National Statistical Service of the Republic of Armenia, the satisfaction of the population with the state of the environment has the following picture.

Fig. 2. Satisfaction of the population of the Republic of Armenia with the state of the environment*, by years (%)

* Based on annual household surveys

Source: https://statbank.armstat.am/
In the Republic of Armenia, the purpose of the law of continuous environmental education is:

- to ensure the provision of continuous, complex, unified ecological knowledge of man and society;
- to contribute to the formation of ecological education and culture, the harmonization of interactions between man, society and the surrounding natural environment, the formation of a comprehensively developed person.

The problems of the law are:

- ensuring and protecting the right to communicate ecological knowledge;
- ensuring legal, socio-economic, organizational, psychological and other guarantees of ecological education, upbringing and ecological culture formation and development of the population;
- provision of the mechanisms of implementation of the problems presented in the system of existing information and educational structures.

The main principles of the state policy of continuous environmental education are:

- a) provision of the state guarantee of obtaining the necessary minimum ecological knowledge of the citizen;
- b) the obligation of environmental education at all levels of the educational system, its continuity and complex nature;
- c) the inclusion of ecological education issues in all state ecological target and branch programs;
- d) the orientation of ecological education during the solution of environmental protection problems;
- e) implementation of state policy in environmental education issues.
As we can see from the chart, the indicated sign shows an increase in 2014, after which it shows a continuous decline. In the context of overcoming the mentioned problems, the role and importance of ecological education is even more important. Continuous ecological and sustainable development education is an integral part of the educational system of the Republic of Armenia. According to the Law of the Republic of Armenia “On Ecological Education and Upbringing”, ecological education and upbringing is mandatory at all levels of the educational system.

Ecological continuous education includes the following levels:

- a) preschool ecological education and upbringing (ecological education in the family and preschool institutions);
- b) secondary ecological education;
- c) secondary professional ecological education;
- d) higher professional ecological education;
- e) postgraduate ecological education;
- f) environmental education and upbringing of the general public, including the armed forces.

In all links of the education system, the teaching of ecologically oriented subjects is carried out in accordance with the state educational standards.

Fig. 3. Aggregated index of environmental quality of life* and by year. Source: https://statbank.armstat.am/
In the field of preschool education, the problems of recognizing and perceiving the environment are planned in the educational programs that have been in circulation in recent years, which are aimed at providing support to preschool education specialists. They include both educational materials and methodical advice on creating an environment conducive to environmental education and methods of conducting classes.

Within the framework of the secondary school component of the curriculum of the public school, a number of optional courses on ecological education are presented (“Ecology”, “Environmental protection”, “Energy and resource use”, “Farm work”, “Life skills”, “Nature use and environmental protection”, “Ecology and fundamentals of sustainable development”), which are guaranteed by the Ministry of Education, Science, Culture and Sports of the Republic of Armenia and can be implemented by the choice of schools in order to implement ecological education.

The basis for the implementation of secondary and primary vocational education is the Law of the Republic of Armenia “On Primary and Secondary Vocational Education”. Secondary vocational education is provided in 68 state colleges and primary vocational education in 25 state vocational schools. Each professional state education standard includes the subject “Fundamentals of Landscape Science and Ecology”, which is taught through a 36-hour course. Curricula for the subject “Basics of landscape science and ecology” are developed by educational institutions, but they do not meet current requirements. The study on environmental education programs showed that the existing ecologically oriented topics are not enough presented in the curricula, which are important and mandatory for completing the student’s professional education. In the Republic of Armenia, teachers teaching environmental education in secondary and primary vocational education institutions need preschool ecological education and upbringing.
There are almost no Armenian language educational manuals for professors, and educational literature for students. At the higher educational and postgraduate education level, in universities, the state of environmental education is related to the activities, capabilities, needs, professional literature, cooperation with relevant ministries in the field of environmental education. In the higher and postgraduate education system, environmental education is essentially identified with natural resource management and is carried out mainly at the undergraduate level. According to the results of the expert analysis, the level of implementation of ecological education in the universities of the Republic of Armenia is sufficient, the key environmental issues are included in the curricula. In total, 178 subjects related to environmental protection, ecology and sustainable development are taught, but they are taught not in the context of comprehensive ecological education, but according to the types of economic activities that have a significant impact on the environment and, according to the actual and potential existing in the country, on environmental issues.

Environmental education does not have one simple definition. Environmental education consists of a plethora of activities to raise awareness of environmental issues, encourage positive attitudes towards nature, increase knowledge both of and about the environment, and highlight key problem solving skills to allow identification of solutions to environmental problems.

However, due to its many favorable benefits, environmental education can often be thought of as an all-round general solution to many different environmental problems, without clearly defining goals or critically assessing the activities undertaken.

Environmental education is a dynamic, interdisciplinary field based on principles of informed decision-making and action at the individual and collective scales.

Currently, humanity faces changes that appear to be irreversible. These changes are the result of bad actions and social development, with little or no environmental responsibility, establishing a series of global challenges such as climate change and the degradation of natural resources.

Education for sustainable development is defined as “the process of equipping students with the knowledge, understanding, skills and necessary attributes to work and live in a way that safeguards environmental, social, and economic well-being, both in the present and for future generations.”

Education for sustainability addressed to citizens or specific groups is neither an easy process nor an outcome of exclusive information provision through environmental education programs. It has previously been assumed that knowledge drives behavior and acts as its precursor, but subsequently this notion has attracted strong criticism. In other words, although it cannot be denied that knowledge is an important aspect of efforts to raise environmental awareness, it does not always translate into environmentally responsible behaviors.

Besides its narrow focus on environmental problems and its failure to spur behavioral change, much of Environmental education is anthropocentric in nature and reflects the human exemptionalist paradigm. The human exemptionalist paradigm perpetuates a dualistic understanding of humans and the environment, and by maintaining this false dichotomy, it limits the ability of policy and curricular reforms to address the causes of environmental health issues. Given the metatheoretical assumptions of human exemptionalist paradigm reflected in environmental education, educators are unable to accomplish Environmental education’s objective of preparing people to resolve environmental problems.
Action competencies that enable people to become agents of change in relation to sustainability issues are central ideas in the conceptualization of environmental citizenship [1]. Alternative teaching and learning strategies have emerged in the field of science education in general, and Environmental Education in particular, as a reaction to conventional methods and in line with constructivist principles [15].

In recent years, various didactic and methodological strategies have been used in Environmental Education, such as service learning, problem-based learning, project-oriented learning, simulation games and case studies [16].

In any case, the challenges are also numerous, with the feeling that we are always trailing behind issues that surpass the objectives and possibilities of environmental education. Some of these challenges are as follows:

- The paradox that even though we have more environmental information available, especially through the media, it has not resulted in a social transformation towards more sustainable lifestyles. These lifestyles often clash with immediate beliefs and interests that encourage consumerism and tend to overlook individual responsibility in the global situation.

- Formal environmental education is practically anecdotal despite recognizing certain advances in curriculum designs and materials. However, the conditions of the teaching staff also do not contribute to greater involvement.

- Pure activism, or in other words, taking pro-environmental actions without undertaking appropriate reflection on what we do, why we do it, and for what purpose, prevents us from interpreting what is happening and being able to undertake future actions based on well-founded reasons [17].

The basis of state policy organization in the field of ecological education is the comprehensive state program of ecological education. Ecological education in the Republic of Armenia is carried out by unified state programs. They are developed by authorized bodies of state administration, as well as non-governmental organizations. The competences of public organizations are defined by the legislation of the Republic of Armenia. Programs are developed in accordance with the requirements of state standards.

The ecological continuous education system is a component of the unified education system of the Republic of Armenia. It is an interconnected set of state educational standards, educational programs of different levels and orientations, courses, educational institutions and educational management bodies that ensure the educational sequence.

4 Conclusion

Non-governmental organizations and citizens have rights in the field of environmental education to prepare recommendations regarding the improvement and implementation of state policy in the field of ecological education, to participate in the competitions for the
development of republican projects of ecological education, to participate in the preparation of international cooperation programs in the field of ecological education. Non-governmental organizations and citizens carry out ecological education activities with a state license, which they receive in accordance with the procedure established by the legislation of the Republic of Armenia, in accordance with the state standards of ecological education. Organizations and citizens carrying out environmental education activities have the right to submit an application and receive reliable ecological information, which is necessary to carry out the educational process. Every citizen has the right to receive ecological education. Parents and their substitutes are obliged to educate children in a caring and responsible attitude towards nature.

Although there has been an increase in the level of awareness of environmental issues in the Republic of Armenia in recent years, it is not sufficient, which is due to the insufficient level of public environmental education and the lack of environmental culture, as a result of which, compared to socio-economic topics, the demand for environmental information is low, there are insufficient environmental mass media's interest in issues and professional knowledge of journalists, communication means are used passively and ineffectively by state bodies and entrepreneurs, there is distrust among the public towards state bodies and businessmen, legal mechanisms ensuring the most transparent activity of entrepreneurs are insufficient.

The reason for the low demand for environmental information among the public is the insufficient level of awareness about the importance of environmental problems and the danger of their consequences. Research shows that the residents of the Republic of Armenia are interested in environmental issues only when it turns into a social issue or is directly related to their daily life activities. One of the reasons for the low awareness of the population about the environment is the imperfection of the legislation regulating the process of proactive information dissemination by the state, regional administration and local self-government bodies that manage the relevant information, business entities operating in the field, and the lack of control mechanisms for the implementation of the established provisions. The media publishes materials on environmental topics, especially when there is a news opportunity (emergency situations, protest raised by non-governmental organizations against mining projects, official information). Moreover, in the presence of emergency situations (for example, a forest fire, an explosion in a chemical plant), the emphasis is on operative news, and the coverage of the environmental consequences of the incident is much less, mostly not in-depth, based on the statements and official comments of environmental activists. Without investigative mechanisms, it is one-off and not consistent.

Many scientific studies prove that simply imparting knowledge is not effective because it does not lead to behavior and attitude change, because environmental education without practical, participatory, civic components is not effective. There is a weak connection between people's work activities and ecological challenges, the role of ecological education in workplaces is neglected, there are no mechanisms to encourage ecological literacy, the degree of their ecological education is not taken into consideration when hiring and encouraging employees. The Internet and online platforms are not sufficiently used to carry out environmental education. There are no Armenian language e-courses, educational resources for the general public. Informal platforms for cooperation between all levels of education are missing, which limits the opportunity to learn from each other and share best practices at different levels of education.
Environmental education is neglected in many families, yards, communities. Meanwhile, members of society spend most of their time in the family. In the context of the poor state of parenting education, the implementation of ecological education in the family is greatly affected. Yards and communities are considered the primary environment of informal education, where ecological issues are also neglected. There are no encouraging mechanisms for ecological education in families, yards, communities.

The principles of developing a unified and complete methodology of ecological education, educational programs and standards that correspond to the goals, principles and standards of sustainable development should be:

- environmental protection,
- reasonable use of natural resources,
- conservation of biological and landscape diversity,
- the human right to live in a healthy environment,
- poverty reduction and sustainable development.

**Fig. 5.** The principles of developing a unified and complete methodology of ecological education. Source: Compiled by the authors.
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