

Experience and Problems of Environmental Education, Education and Upbringing

Malika Aliskhanova^{1,*}, *Zulai Khasbulatova*², and *Ramzan Khadzhiev*³

¹Kadyrov Chechen State University, Sheripova Street, 32, 364024, Grozny, Russia

²Chechen State Pedagogical University, Subra Kishieva str., 33, 364068, Grozny, Russia

³Argun State Historical-Architectural and Natural Museum-Reserve, Delovaya str., 19, 364061, Grozny, Russia

Abstract. The relevance of the formation of environmental literacy and environmentally responsible behavior is due, on the one hand, to the growing environmental problems under the influence of various factors caused, including by human activities (extinction of animal species, climate change, lack of natural resources, air and water pollution, etc.) . On the other hand, a positive agenda for socio-economic changes in society based on the ideas of “sustainable development”. The inclusion of issues of environmental literacy and environmentally responsible behavior in the content of general and additional education is a global trend, determined by the growing role of education for sustainable development. Environmental literacy is a logical component of education for sustainable development, the associated attention to the various interactions of various elements of the environment, includes human activities that are essential to achieve a self-sustaining community that preserves resources for future generations. The proposed recommendations use the following concept of “environmental literacy”: the ability to understand the systems and processes of nature and the environment that allow the creation and functioning of sustainable communities.

1 Introduction

At the call of D.I. Likhachev “only platonic love for one’s country is not enough, love must be effective”, environmental education in preschool institutions of the Russian Federation is carried out within the framework of the Federal State Educational Standard for Preschool Education (FSES DO), which aims to form the beginnings of ecological culture and develop the ecological culture of adults, their educators.

The concept of “environmentally responsible behavior” describes the formed knowledge and skills of responsible behavior in the context of nature management, environmental protection and commitment to sustainable development goals. Environmentally responsible behavior involves the ability to: act in a certain way (and achieve a certain result) to help maintain the desired state of the environment, predict the development of events directly or indirectly related to the state of the environment;

* Corresponding author: msh.alishanova@mail.ru

understand the consequences of individual and collective actions in the plane “man – nature”, including taking into account the specifics of the socio-economic development of the region and the planet as a whole; make effective decisions (including making a choice from possible options) and implement them [1]. This means that environmentally responsible behavior involves the components of three universal competencies: - thinking, - interacting with people and the environment, - interacting with oneself. Environmentally responsible behavior is the highest expression of environmental literacy. It describes the point at which competencies, knowledge and attitudes are brought into play in a particular context [2]. Environmentally responsible behavior is formed on the basis of universal competencies of knowledge and ideas about the world and the principles of its existence. The spectrum of such knowledge unfolds in the plane of relations “man – nature”: how these relations were built in the past and, especially, how they are built in the present and future. Such knowledge and ideas are not limited to the natural sciences, equally reaching the plane of the social and human sciences [3]. Therefore, environmental literacy involves knowledge of both natural and social, cultural and political systems. In order to meet the challenges of our time, to solve actual problems, environmental education a person needs to go beyond theory, and become more flexible and open to innovation. With regard to the additional education of children, the formation of environmentally responsible behavior cannot be limited to natural science associations, it must penetrate into the content of the programs and practices of associations of all directions, using both universal methods and teaching aids, and specific to each of them.

The concepts of environmental literacy and environmentally responsible behavior arise in the process of evolution of approaches to environmental education, primarily as a result of criticism of the traditional model of passive transfer of knowledge about the severity of technogenic problems [4]. It is recognized that the traditional model has failed to develop social perspectives related to questions about the root causes of problems and the opportunities for action that are open to society and the individual [5]. A new approach associated with constructivist learning theories emphasizes more active learning strategies focused on regional experience and student involvement, the connection of acquired knowledge and real problems. It focuses on building the capacity to “act” to expand the ability to control and influence the living conditions of students, both in the local community and in society as a whole. In this context, environmentally responsible behavior involves active participation aimed at solving problems through selected lifestyle activities, including environmentally friendly consumer purchases, based on the principles of responsible resource use; assistance in enforcing environmental regulations; using personal and interpersonal means to encourage environmentally responsible behavior and practices; support for legislative initiatives aimed at protecting the environment. Environmental literacy in the modern world is becoming the attributes of an educated person, becoming a necessary element of civic literacy in advanced countries and communities, a condition for successful employment in various sectors of the economy that implement the principles of environmental responsibility [6]. The formation of environmental literacy and environmentally responsible behavior is considered as a necessary part of lifelong education (lifelong learning) of a person, ensuring the readiness of society to effectively respond to the fundamental challenges of changing the environmental situation. Environmentally responsible behavior is becoming an important way of self-realization of a person in the modern world.

2 Research Methodology

The study of Russian and international experience in organizing environmental education allows us to identify the following most effective approaches, technologies and methods for

the formation and development of environmental literacy and environmentally responsible behavior that implement the above conceptual provisions [7]. Particularly valuable for the formation of practical knowledge and skills, awareness, consolidation of behavioral attitudes for the formation of environmentally responsible behavior are the methods of research and use of the project approach. "Learning through research" focuses primarily on the active involvement of learners. Its main principle is to stimulate and satisfy the cognitive interest of the student. It is usually organized as a cycle or spiral: the formulation of the question, the study of the situation, the search for a solution, comprehension and discussion of the results [8]. The initial question that is used in the training must meet the following criteria:

- makes sense to the learners;
- poorly structured;
- requires reflection from different points of view. Most environmental issues meet these criteria.

Ecological monitoring is an effective way to organize mass research activities. Monitoring tasks may include assessment of ecosystem and habitat parameters: qualitative and quantitative, development of skills for qualitative assessment and measurements using various tools. Monitoring programs should be flexible enough and meet the following conditions:

- expediency in specific natural and socio-cultural conditions (compliance with the characteristics and needs of a particular region);
- compliance with the tasks and available monitoring tools (special equipment and other means - computers, smartphones, software, etc.);
- compliance of monitoring tasks with the number, age and basic level of training (tasks and results should be available for understanding by specific monitoring participants, but require certain efforts from the student);
- availability of performance by each student of his task within the framework of monitoring;
- motivating tasks, including providing access to the results after the completion of all work and the possibility of analyzing previous data and conclusions obtained by predecessors in the framework of similar monitoring. Experiments can be considered as a separate format for organizing the research activities of students for the formation of environmental literacy.

3 Results and Discussions

In the Chechen Republic, much attention is paid to the popularization of environmental volunteerism, the involvement of the younger generation in volunteer work. Students of the Chechen State University named after A.A. Kadyrov. The development of the volunteer movement is of particular importance in the framework of the work carried out in the region on the spiritual, moral and patriotic education of the younger generation, and also gives a new impetus to the formation of the tourist attractiveness of the Chechen Republic.

The quality and effectiveness of programs for the formation of environmental literacy and environmentally responsible behavior is largely determined by the ability to combine the resources of educational organizations of various types and non-educational organizations (museums, parks, scientific organizations, enterprises and non-profit organizations operating in the field of environmental protection) [9]. To realize these opportunities, forms of joint activity, which is often called "networking", are used. A significant sign of network interaction is joint activity, characterized by active interaction with the distribution of functions and contribution to the overall result. Two or more organizations can participate in a network interaction. Network interaction in the

framework of the implementation of the task of developing environmental literacy is built using a combination of two key components: content and resource provision. Network interaction in terms of content involves the development of a network educational program, within which partners - educational organizations implement parts of this program - individual courses, modules, practices, etc [10]. A network educational program may include parts provided for by educational programs of various types, levels and (or) directions. The implementation of the network form of educational programs is regulated by 273-FZ and Order No. 882/391. Solving the problem of attracting resources to ensure a new quality of programs for the formation of environmental literacy, it is advisable to carry out joint activities with organizations that have resources, as a rule, do not have a license for educational activities - parks and protected areas, forestries, museums, scientific organizations, enterprises, etc. d. Such joint activities can be carried out both through the above network form of implementation of an additional general developmental program, and within the framework of civil law relations (outsourcing, a service or work agreement, a joint activity / cooperation agreement without financial obligations, a lease or gratuitous use agreement) [11]. The composition of resources for the implementation of networking in the field of environmental direction in additional education can be varied: material and technical resources - teaching aids and premises or territories for organizing classes, human resources - specialized specialists and mentors from the manufacturing sector. The use of property of state and municipal organizations in the network form of implementation of additional general developmental programs is carried out, as a rule, free of charge. The use of human and intellectual resources, as well as forms of network interaction is carried out within the framework of civil law relations of partners by agreement of the parties. Network interaction is especially important for the implementation of territorial projects for the formation and development of environmental awareness and environmentally responsible behavior, taking into account the specifics of the environmental issues of the city, district. The legislation provides an opportunity for the individualization of environmental education of modern students through the use of a mechanism for offsetting the educational results of additional general educational programs in the field of environmental direction for intermediate certification in a general educational organization according to the work programs of basic general education in the natural sciences and social sciences subject areas through the procedures of comparison and evaluation [12]. When crediting educational results, an individual curriculum is developed for the student. The offset procedure is determined by the order of the Ministry of Science and Higher Education of the Russian Federation and the Ministry of Education of the Russian Federation dated June 30, 2020 No. 845/369 "On approval of the offset procedure by an organization engaged in educational activities, the results of students mastering academic subjects, courses, disciplines (modules), practice, additional educational programs in other organizations engaged in educational activities.

Specialists implementing the programs must have general pedagogical skills and abilities, a high level of environmental literacy and environmentally responsible behavior. If for the organization the additional general education program being implemented on the subject and direction is not the main one, then it is recommended, depending on the needs of the organization, to have on the staff a coordinator of environmental programs with relevant education, as well as additional training in basic pedagogical technologies (as part of advanced training programs and vocational training) [13]. At the municipal or regional level, coordinators of the environmental direction can be allocated (appointed). In the case of expanding the powers of existing specialists of educational authorities, it is recommended that they undergo additional training on environmental literacy. The procedure for financial support should take into account such parameters as: the implementation of programs in a network form, programs using distance technologies, the

organization of trips for students, the development and publication of educational and methodological products, the purchase of laboratory equipment, computer equipment, holding competitive events (including funds for mobility, awarding winners) and events. Successful implementation of programs is possible if the principle of responsible resource planning is observed [14]. Financial stability is ensured, in particular, due to the high level of trust of participants in the educational process and other stakeholders in the course of implementing the content and management of the program (organization). The creation of representative bodies with public participation - Boards of Trustees of programs and projects, the use of accountability tools - information on websites, public reports, publications in the media will contribute to an increase in the level of responsibility and efficient use of resources.

4 Conclusions

The development of the volunteer movement is of particular importance in the framework of the work carried out in the region on the spiritual, moral and patriotic education of the younger generation, and also gives a new impetus to the formation of the tourist attractiveness of the Chechen Republic.

The volume of information presented in the information field on environmental issues, especially climate change, is increasing every year. But the abundance of information also creates difficulties in its selection. Therefore, in education, the task of developing information media literacy, the ability to understand and evaluate, create and produce various media products, is more important. Media literacy today has actually become an element of environmental literacy, allowing one to distinguish between reliable sources of information, determine the role of the media in understanding the solution of environmental problems, and be responsible for one's understanding of the influence of mass media on one's own behavior and the behavior of others. Currently, such a direction as eco-media literacy is being formed - a new area of media literacy, the subject of which is the integrated relationship between media and living systems (Antonio López, 2019). It includes a critical analysis of the impact of mass media and communication technologies on the physical environment, and explores the various ways in which media systems disseminate ideas about the relationship between people and the living systems that support them. It also explores the influence of the media (hereinafter referred to as the media) on how people understand their relationship with the ecosystems that support them. It recognizes the positive contribution of the media to the solution of the environmental crisis and supports youth media, civic participation, alternative media in their activities to promote sustainable development. For children's (teenager) environmental associations, a promising task is to establish links with local media, both to cover their activities (projects, individual events) in order to attract new participants (including through the presentation of work results), and to attract attention local community and decision-makers in the environmental problems of the territory. It will be useful for the participants of associations to master the skills of preparing press releases and materials for the media illustrating the event.

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