

REVIEW

## Environmental Education and Social Sciences, the only effective tool to preserve the planet

### La Educación ambiental y las Ciencias Sociales, única herramienta eficaz para preservar el planeta

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#### ABSTRACT

**Introduction:** environmental education is the programmatic training of individuals who are aware of and responsible for their ecological environment, equipped with the knowledge, skills, and attitudes necessary to understand and resolve the environmental problems of their community.

**Objective:** to explain the importance of providing adequate environmental education that contributes to raising the population's awareness in this regard.

**Method:** a bibliographic review was conducted between April and May 2023. To conduct this work, articles published in journals, books, and websites were consulted, with a total of 19 bibliographies.

**Development:** environmental education is based on the idea of incorporating content relevant to environmental preservation and responsible consumption into programs within these curricular frameworks and according to the profiles of the professional model.

**Conclusions:** environmental education and social sciences are the only truly effective tool for preserving the planet from the consequences of human activity. No other measure will be as fundamental as training future generations in these types of values and responsibilities.

**Keywords:** Education; Culture; Awareness; Environmental.

#### RESUMEN

**Introducción:** educación ambiental es la formación programática de individuos conscientes y responsables de su entorno ecológico, dotados de los conocimientos, capacidades y actitudes necesarios para entender y resolver las problemáticas ambientales de su comunidad.

**Objetivo:** explicar la importancia de brindar una educación ambiental adecuada, que contribuya a elevar la cultura de la población en este sentido.

**Método:** se realizó una revisión bibliográfica, en el período comprendido entre abril y mayo de 2023. Para la realización del trabajo se consultaron artículos publicados en revistas, libros y sitios de Internet con un total de 19 bibliografías.

**Desarrollo:** la educación ambiental parte de la idea de incorporar a los programas en estos marcos curriculares y según perfiles del modelo del profesional un contenido pertinente a la preservación medioambiental y al consumo responsable.

**Conclusiones:** la educación ambiental y las ciencias sociales es la única herramienta realmente eficaz para preservar el planeta de las consecuencias de la actividad humana. Ninguna otra medida será tan fundamental como la formación en este tipo de valores y responsabilidades de las generaciones venideras.

**Palabras clave:** Educación; Cultura; Conciencia; Ambiental.

## INTRODUCTION

The environment is the space in which the lives of living beings develop and allow their interaction. It is the set of physical, chemical, and biological components of people or society as a whole. It comprises the set of natural, social, and cultural values that exist in a given place and at a given time, which influence the lives of human beings and future generations. In other words, it is not only about the space in which life takes place, but also includes living beings.<sup>(1)</sup>

living beings, objects, water, soil, air, and the relationships between them. Therefore, the environment is the conditioned area for the lives of different living beings, where natural and social elements are combined, as well as natural components such as soil, water, and air, located in a specific place and at a particular time. Environmental education is the programmatic formation of individuals who are aware of and responsible for their ecological surroundings, equipped with the knowledge, abilities, and attitudes necessary to understand and address the environmental problems of their community. It is the primary mechanism available in society to train generations that are more respectful of the planet's enormous natural heritage, i.e., its biological diversity, and more efficient in their consumption patterns. It arose from the environmental and sustainability warnings that have emerged from different perspectives and communities.<sup>(2,3,4)</sup> The idea of integrating school and life, of making the environment known, and utilizing it as an educational tool is an ancient concept. The beginnings of the study of the environment can be traced back to the Intuitive Pedagogy, which developed from the 15th century onwards. The birth of environmental pedagogy can be traced back to the 1960s, when a growing awareness of the need to protect the environment emerged. This was due to the waste of natural resources and other observed damages caused by a development model that showed no limits to its growth. Until then, the only concern was to dominate nature in the service of economic development. In the 1960s, this changed: schools began to be called upon to provide education "about the environment" to raise awareness of the dangers threatening our environment and to encourage the development of protective measures.<sup>(5,6,7)</sup> Today, we can speak of more than just environmental problems; we are facing a genuine ecological crisis, and the severity of this crisis is evident in its global scope. However, we cannot limit ourselves to perceiving this crisis; we have before us the challenge of finding in the crisis an opportunity to creatively "reinvent" our way of understanding and relating to the world. In this context, education and environmental culture play a crucial role in meeting this challenge, promoting "innovative learning" characterized by anticipation and participation that allows us not only to understand but also to become involved in what we want to understand. In recent years, the Earth's environmental problems have intensified due to a lack of ecological awareness, attitudes, and knowledge regarding human activities.<sup>(1)</sup>

## Objective

To explain the importance of providing adequate environmental education, which contributes to raising the culture of the population and communities in this regard.

## METHOD

A bibliographic review was conducted from April to May 2023, employing the materialist-dialectical method. At the theoretical level, methods such as analysis-synthesis, induction-deduction, and historical-logical were used. At the empirical level, a documentary analysis of 19 bibliographic articles related to the environment, education, and environmental culture, as well as their importance, was conducted. These articles were published in magazines, books, and Online sites.

## DEVELOPMENT

The environment is a system formed by natural and artificial elements that are interrelated and modified by human action. It is the environment that conditions society's way of life, encompassing natural, social, and cultural values that exist in a given place and time. As part of Social Responsibility, the environment has other closely related concepts, such as sustainability, to ensure our future.<sup>(1)</sup>

The concept of environment has evolved from considering mainly its physical and biological elements to a broader conception in which the interactions between its different aspects are highlighted, emphasizing the economic and socio-cultural aspects. Therefore, nowadays, not only the classic problems related to pollution, waste, etc., but also others linked to social, cultural, and economic issues, related in short to the development model, are identified as environmental.<sup>(1)</sup>

Given the deterioration and degradation of the environment, all of humanity must seek to change its destructive behaviors and habits toward the environment. This lack of environmental awareness has led to the destruction of all natural resources, ecosystems, and the elements that make life on planet Earth possible. The current ecological crisis is mainly due to the lack of knowledge of the environment, the failure to promote the formation of values, strategies, habits, attitudes, behaviors, and actions that allow us to take care of the environment from an early age. Societies, governments, parents, teachers, families, companies,

organizations, and all humanity share the responsibility of encouraging and promoting an environmental culture through education, thereby achieving sustainable development for present and future generations. To train and educate children through values and sound environmental practices, thereby constructing a culture that fosters the protection, conservation, and maintenance of the environment. The planet urgently needs citizens with environmental education. In turn, a culture of generations for the preservation of resources, sustainable use of water, air, soil, flora and fauna, through the formation of ecological habits and attitudes that allow to stop the current socio-environmental problems that man himself has generated by his unsustainable activities with his natural environment.<sup>(8)</sup>

The environmental challenge is a challenge to the values of contemporary society, since these values, which underpin human decisions, are at the root of the environmental crisis. In this context, environmental education and culture have an essential role to play in facing this challenge, promoting “innovative learning” characterized by anticipation and participation that allows not only understanding, but also involvement in what we want to understand.<sup>(1)</sup>

It is necessary to reverse this situation, to carry out conferences, workshops, exhibitions, courses for environmental trainers, contests, to coordinate and promote the participation of the public, social and private sectors in tasks of prevention, conservation, protection and restoration of the environment, to encourage habits that will translate into a new environmental culture, and to promote actions to strengthen environmental education, and thus be able to reverse the habits that have caused damage, to date, to our planet. It is necessary to recognize that, with the passage of time and the continued practice of harmful behaviors towards the environment, we are losing the opportunity to have a better quality of life, as we are deteriorating our planet and the beings that inhabit it. Environmental education is based on the idea of incorporating content relevant to environmental preservation and responsible consumption into formal and official educational programs. Additionally, training schemes can be offered to enhance ecological awareness. Environmental education has a unique and key function: to sensitize the population to the necessary environmental awareness. By passing on ecological knowledge and perspectives to future generations, a sustainable outlook can be ensured. An ecologically respectful perspective can be ensured in their worldviews. Ultimately, the purpose of this education is to preserve our planet and its delicate biotic balances, thus guaranteeing us as much as possible the only home of life as we know it.<sup>(2)</sup>

Environmental education does not advocate particular opinions or procedures. Instead, it teaches individuals to weigh different sides of an issue through critical thinking and stimulates their own problem-solving and decision-making skills. Environmental education increases citizens’ awareness and knowledge of environmental issues or problems. In doing so, it provides the public with the tools necessary to make informed decisions and take responsible action.<sup>(1)</sup>

Environmental education is key to understanding the relationships between natural and social systems, as well as to gaining a clearer perception of the importance of socio-cultural factors in the genesis of environmental problems. It must be an educational practice open to social life, so that members of society participate, according to their abilities, in the complex and collaborative task of improving relations between humanity and its environment. Environmental education fosters ecologically responsible attitudes. The objectives of environmental education are to help individuals and social groups to acquire greater sensitivity and awareness of the environment in general and of related problems; to gain a basic understanding of the environment as a whole, of associated problems, and of the presence and role of humankind in it, which implies critical responsibility; to acquire social values and a deep interest in the environment that will lead them to participate actively in its protection and improvement; To adopt the skills necessary to solve environmental problems; to evaluate environmental education measures and programs in terms of ecological, political, economic, social, aesthetic and educational factors; and to develop a sense of responsibility and an awareness of the urgent need to pay attention to environmental problems to ensure that appropriate action is taken.<sup>(1)</sup>

To make the population more sensitive and aware of environmental care; to deepen social and ecological values; to help produce the necessary responses to solve environmental dilemmas; to encourage ecologically responsible attitudes and active and urgent participation in the environmental debate; to induce responsible consumption and the adoption of environmentally friendly habits; to distinguish and recognize the causes of the world’s major ecological problems; and finally to recognize the importance of the environment for the development of the world’s environment and finally, to recognize the importance of the impact of the different human economic models on nature.<sup>(2)</sup>

It has a strategic character in the process of sustainable development. However, educational action alone is not sufficient to meet the environmental challenge. To contribute effectively to environmental improvement, educational action must be linked to the legislation, policies, control measures, and decisions that governments adopt regarding the human environment. Education is both a social product and an instrument of social transformation in the society in which it is embedded. Therefore, education systems are both an agent and a result of the social change processes. However, the rest of the social agents do not act in a direction that

promotes change. In that case, it is doubtful that the education system will transform the complex framework on which the socioeconomic structures, production and exchange relations, consumption patterns, and, in short, the established development model are based. This implies the need to incorporate environmental education programs into planning and general policies, which can be effectively developed through social participation. Environmental education should be integrated with management, rather than being used as a justification for potential deficiencies in the latter. The challenge we face today is to facilitate the transition towards sustainability and equity, recognizing that this transition necessitates profound economic, technological, social, political, and educational changes. Thus, while recognizing the enormous potential of environmental education, we cannot turn it into a false salvation plank.<sup>(1)</sup>

Environmental education is, in the long run, the only truly effective tool for preserving the planet from the consequences of human activity. No other measure will be as fundamental as the training in these values and responsibilities of future generations, who will be in charge of decision-making in due course. It is arguably the most solid bet on the ecological future of our species and our planet.<sup>(2)</sup>

The concept of environmental culture is closely linked to that of ecological education. Unlike other traditional forms of education, ecological culture is a holistic process (it considers environmental culture as a whole) and lifelong learning. It aims to create responsible individuals who explore and identify environmental problems. Environmental culture is related to the educational process aimed at awakening in human beings an awareness of the environment. This process seeks to promote a shift in the relationship between humans and the natural environment, ensuring the sustainability and quality of the environment for both current and future generations. As a movement, environmental culture has its justification in the evident accelerated imbalance of nature resulting from human power to transform the environment. As a result of these modifications, living species have often been exposed to dangers that may be irreversible. Environmental culture does not merely involve the defense of the environment or the publication of environmental information. On the contrary, it remains neutral by teaching individuals critical thinking for problem-solving. Its guiding principles are awareness, knowledge, attitudes, skills, and participation.<sup>(9,10)</sup>

The main objectives of environmental culture are to achieve in society a balance with nature; ecological awareness; rational management and use of natural resources; environmental conservation habits; environmental values; appreciation and respect for the diversity of life on the planet; responsible consumption; generations accountable for the care of the environment; resolution of environmental situations; participation, knowledge, information, research, education, training and environmental evaluation; and improved quality of life. The environmental culture should foster and develop behaviors that prioritize caring for the environment and conserving nature's resources. In itself, it aims to educate individuals in environmental values and attitudes that promote a better quality of life for society. It is to achieve knowledge of the environment for a balance between man and nature.<sup>(8)</sup>

The authors state that it is essential to build a society with an environmental culture to form citizens who are committed to and respectful of the environment, sensitive to the environmental situation, knowledgeable about the fundamental aspects of their surroundings, an example to others with good environmental habits, and a protagonist in solving environmental problems. Environmental culture programs stimulate the creation of regulations to ensure the purity of the air and the establishment of parks that help meet the quality standards required to maintain clean air. In doing so, they make a significant contribution to improving the quality of life as well. It raises awareness about climate change. Improving water quality is another objective pursued by environmental culture programs. The preservation of open land and the creation of parks preserves natural infiltration processes and limits impermeability. This ensures that rainfall is directed immediately to the aquifer centers, minimizing surface runoff as much as possible. Contact with surface pollutant sources is kept at a low proportion.<sup>(11)</sup>

Environmental education should sensitize, raise awareness and motivate individuals, entities, organizations and society in general about the need to not only take care of the environment, to live in harmony with it, but also to encourage them to take action: to create the necessary environmental awareness.<sup>(11)</sup> Environmental awareness is a philosophy of life that is concerned with the environment and seeks to protect, conserve, and ensure its present and future balance.<sup>(12)</sup> The lack of environmental awareness, attitudes, and knowledge regarding human activities has exacerbated the Earth's environmental problems, which is why national and international governments have classified this issue as one of the most significant challenges facing society. Making the existence of a participatory process necessary that seeks to integrate and raise awareness of humanity about the damage that can be done to our planet, it must recognize that attacking the environment endangers the survival of the species, in a natural sense. In the social aspect, the degeneration of coexistence patterns, the struggle for power, material, and territorial possession, turns the social environment into a real battlefield that destroys the expectations of living with quality, developing community awareness, and the values and attitudes it entails.<sup>(13,14)</sup> As for environmental education, various training strategies are developed based on prevention, cultural intervention, and communication, incorporating both theoretical and methodological tools



indispensable for anticipating the negative impacts on the environment within a community. Moreover, the strategies involve all the social entities that cohabit the environment to be transformed, which corroborates principle 10 of the 1992 Rio de Janeiro Declaration, which states: “The best way to deal with environmental issues is to ensure the participation of all citizens involved.”<sup>(15)</sup> Environmental education has numerous tools and strategies, of which the educator himself is the most important. Their commitment to the moral, intellectual, and emotional formation of students accompanies the environmental content: they will be the leading integrators between the learner’s behavior and the known environmental problems. Similarly, today’s multimedia is an indispensable resource in this type of training. Movies tend to have a significant impact on the sensitivity of young people, as do music, advertising, and field trip activities.<sup>(2)</sup>

In recent years, there has been a proliferation of participatory communication strategies aimed at promoting dialogue between environmental educators and the communities they address about the primary environmental challenges. These strategies are based on knowledge of the community, as characterized by its social, cultural, environmental, and economic aspects. Environmental education strategies and development policies incorporate local spaces with greater relevance, serving as a starting point to understand the repercussions of daily actions, their effects on the planet’s health, and engaging individuals to find viable solutions for a better future. The approach to incorporating the environmental dimension into community projects is based on a systemic conception, with an interdisciplinary perspective in the implementation process, which requires the harmonious, coherent, innovative, and committed participation of all community actors and leaders.<sup>(16)</sup>

Among the educational strategies to promote environmental culture, the inclusion of the environmental dimension in curricula is particularly noteworthy. It has become a trend and a necessity for every institution to address environmental issues, promoting the development of an environmental culture. It is essential for teachers to actively incorporate environmental education into the learning schemes of children and young people, thereby strengthening this area and developing the ability to act responsibly and in favor of the environment. For this reason, educational institutions develop learning that contributes to Environmental Culture and all that this implies in this sense, highlighting the enormous commitment of the academic sector to offer quality education, capable of preparing competitive and productive citizens, but at the same time committed to the environment and sustainable development, with environmental culture, promoting development and wealth without undermining the current ecological conditions, to ensure them for generations to come.<sup>(17)</sup>

The system of influences for the integral formation of health professionals encompasses several dimensions: curricular, extensional, and socio-political. The curricular dimension encompasses educational work through the transmission and development of knowledge, as well as the creation of professional skills. The peculiarity of academic work, and especially the political-ideological aspect from a curricular perspective, rests on the scientific foundations underlying the design of the disciplines that comprise the study plan. It represents the ideological output of knowledge expressed in the language of teaching. Incorporating the environmental dimension in the training process should foster the development of habits and skills that translate into competencies in individuals. The incorporation of the environmental dimension in the educational process should promote the development of habits and abilities that translate into competencies in individuals and social groups that allow them to participate effectively in economic, political, social and cultural processes based on an environmental management that contributes to sustainable development from different positions as citizens, members of a family, of a community and especially as professionals, independent of their profile, or as leaders of any sector and level.<sup>(16)</sup>

The realization of cultural activities related to the subject constitutes an effective strategy for environmental education, one that is interpreted and understood by the entire population. Among the most popular activities are dances, plays, including puppet shows, rural songs alluding to environmental themes, and music. Noteworthy is the growing prominence of environmental themes in the works of our artists, who, in various regions of the country, form groups where artistic creation is linked to environmental education, rehabilitation, or sanitation efforts.<sup>(15)</sup>

The environmental problems of industrialized countries, such as pollution and the destruction of habitats and species, demand greater attention. The strategy of this paradigm was the institutionalization of environmental impact studies as a legal means of evaluating the costs and benefits of environmental pollution. Among these strategies, environmental management stands out as a key perspective for modern organizations, which involves governments creating environmental protection agencies responsible for establishing limits and implementing correction mechanisms when these are exceeded, complemented by command and control instruments. Acceptable pollution limits were determined by the acceptance and short-term economic viability of the companies, which made them arbitrary for most of them. It was justified because the ecologically correct levels were not yet known. In industry, environmental management was primarily aimed at damage control, with limits concentrating predominantly on end-of-pipe measures rather than plant-wide treatment.<sup>(12)</sup>

Based on these strategies, various programs are being carried out worldwide with the fundamental objective of promoting environmental awareness among individuals. Examples of these include the Hino Motors

Environmental Education Program, a program developed by Hino Motors in Japan. It promotes educational and awareness-raising activities related to the environment, aiming to enhance employees' environmental awareness and responsibility. According to its executives, the company is convinced that ecological activities extend beyond the corporate sector. They also recognize the vital role that each employee plays both in the workplace and at home. Therefore, as part of the program, individual responsibilities are emphasized. To date, Hino Motors management has continued to incorporate environmental education into its training programs for managers and new employees. Its management assures that the company will continue its efforts to implement more systematic ecological education, aiming to raise environmental awareness in Japan constantly.<sup>(10)</sup>

Awakening the Dreamer Symposium is a symposium created by the Pachamama Alliance organization. Specifically, the seminar aims to demonstrate that environmental destruction is a consequence of a flawed belief system in the modern world. A lack of consequences for destructive actions characterizes this flawed system. In that sense, the symposium highlights the fact that the environment is in a critical condition. Therefore, while there is still hope to change our course, time is of the essence. During the symposium, the desire and urgency to become an environmental steward are inspired. Appropriately, they call this desire "finding oneself in a state of blessed restlessness." The organization Alianza Pachamama was founded in 1995 in the depths of the Amazon rainforest between the borders of Peru and Ecuador. The indigenous Achuar tribe supports its founders. They are the ones who provide the philosophical basis for the movement.<sup>(10)</sup>

The project Educate with Environmental Responsibility and the Certification of Healthy and Sustainable Schools. In February 2013, the program "Educate with Environmental Responsibility" began in Chiapas. This program's mission is to "establish a new environmentally responsible culture throughout the Chiapas education system, through healthy and sustainable practices and policies". Some of its strategies are the development of educational materials, teacher professionalization, dissemination, and the Certification of Healthy and Sustainable Schools program. The program focuses on recognizing the actions of schools that promote healthy and sustainable values, attitudes, and practices that have an impact on the immediate environment, as well as the work, experience, and joint efforts in carrying out projects. The following were established as priority axes: development of competencies, a healthy environment, ecological footprint, responsible and healthy consumption, and community participation.<sup>(18)</sup>

In this scenario, the formation and development of an environmental culture is a crucial way to achieve transformations oriented towards a system of more harmonious relations between man, society and nature, which will allow the transition towards sustainable development and promote a better quality of life for society, whose perception has changed in recent years, conceiving the environment as a diverse, complex and totalizing system, which has allowed the emergence of a new vision of the environmental issue, as it is a matter of thinking globally and acting locally. In Cuban communities there are transformations in their processes that focus their attention on the application of strategies and programs that contribute to participation, commitment, motivation and creativity in the search for methods and work styles for the development of sustainability actions carried out by society, however, in the research process carried out and by personal experience of the author, there are insufficiencies that limit the conscious participation of local actors in sustainable transformations, concretized in: a restricted conception of environment and sustainable development; not taking into account the socio-cultural relations that characterize ecosystems; limited capacities in decision-making to face and transform environmental problems; as well as insufficient integrated treatment in the selection, application and evaluation of alternatives that include ecological impact criteria and lead to local sustainable development. This requires preparing them for the transition towards sustainable development, with knowledge of environmental problems at all levels and the ability to interpret the environment in its diversity and complexity, in dialectical unity with development. It also entails developing skills to intervene and transform ecosystems, as well as values to act in response to the demands imposed by contemporary society.<sup>(19)</sup>

## CONCLUSIONS

Environmental education and social sciences are the only truly effective tools to preserve the planet from the consequences of human activity. No other measure will be as fundamental as training future generations in these values and responsibilities. Currently, various training strategies are being developed, ranging from prevention to cultural intervention and communication, which are essential for anticipating the negative impacts on the environment.

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