

## Environmental education in the school context: Practices and projects in focus



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### ABSTRACT

The present work addresses didactic aspects of environmental education in schools through bibliographical research. It aims to investigate the theme of environmental education in the environmental context reflecting on their practices and interdisciplinary projects such as school gardens. The importance of the participation of the school community in the teaching of environmental education is perceived as much as the concern with environmental issues. It begins by rescuing the history of environmental education in Brazil, followed by a brief report of possible practices in the school context. Then, the environmental education projects in schools are analyzed, specifically exemplifying school gardens. Research shows that the school faces a great challenge to adapt innovative pedagogical proposals on environmental education in an interdisciplinary perspective in traditional curricular models centered on hierarchies. Even so, studies on environmental education are growing every year in schools, showing the great interest in changing habits and behaviors. In this way, it is credited with improvements in the personal and collective well-being of individuals, and for a better quality of life. The work contributes with motivating information for the implementation of pedagogical projects in environmental education.

**Keywords:** Environmental education, Pedagogical projects, School gardens.



## 1 INTRODUCTION

The current scenario about the environment does not have a positive aspect due to several factors: degradation, deforestation, fires, excessive pollution, among others. Therefore, it is essential to include in the curricula of educational institutions, practices and concepts on environmental education to minimize existing environmental problems through education.

Talking about environmental issues in schools is not just teaching about not throwing garbage on the floor or separating it for selective collection. It is necessary to work on raising awareness about how unthoughtful human actions impact the lives of individuals, bringing social, financial, cultural, political and environmental losses.

The environmental changes observed throughout the globe over the years, whether natural or caused by predatory human action, have raised discussions and debates in academia and the public sphere about the relationship between human beings and the environment. In this scenario, the theme of environmental education becomes especially relevant.

For this, it is necessary to understand the performance of themes related to environmental education in schools that act in pedagogical activities. It is demonstrated that when a way of life close to nature is adopted, not only the environment is preserved, but personal and collective well-being is built.

This work conducted a literature review through the qualitative research method in relation to environmental education with a focus on school.

## 2 ENVIRONMENTAL EDUCATION IN THE SCHOOL CONTEXT

Environmental education is able to promote changes in human behavior by helping to build new habits in order to ensure a sustainable future, promising a better quality of life and aiming at the survival of biodiversity as a whole.

Every day that passes the environmental issue has been considered as a fact that needs to be worked with the whole society and especially in schools, because children well informed about environmental problems will be adults more concerned about the environment, in addition to what they will be transmitters of the knowledge they obtained at school on environmental issues in their home, family and neighborhood. (Medeiros, 2011, p. 2)

In Brazil, from 1999, the National Environmental Education Policy came into force, regulated through Law No. 9795, published on April 27, 1999, with the aim of relating educational practices to environmental conservation. In 2012, the National Curriculum Guidelines were created through Resolution No. 02, with the main objective of working on the theme in all segments of education, from early childhood education to higher education institutions. (Brazil, 2012)

Environmental issues encompass serious consequences and among them are the increase in the consumption of natural resources due to uncontrolled population growth. Excessive consumption



contributes to water pollution in the Brazilian territory, generating a greater amount of garbage, large emission of polluting gases, among others. As a result, disasters and imbalances in the environmental area have intensified, with humans being one of the main causes of this transformation (Assis, 2022).

In the same way that the individual contributes negatively to environmental disasters, new strategies for the recovery of spaces can be developed through work in schools. The role of the educator and others involved in the teaching and learning process comes into play.

They will develop, in and out of school, with the support of families and other social actors and organizations, educational strategies that contribute to the formation of values, with special attention to the incorporation of democratic principles; human rights; gender issues; peace; tolerant coexistence; respect for the environment and natural resources. (Summit of the Americas, 1998).

The theme can be worked on in an interdisciplinary way, developing critical thinking in students, broadening their view of the environment and its influence on society, bringing up the feeling of belonging and accountability in the face of the environmental situation.

Environmental education based on sound principles enables students to apply learning in their daily lives, allowing them to become responsible and proactive in the various communities to which they belong. Changing behaviors and attitudes towards the environment will possibly allow students to become critical, reflective and informed citizens. This will lead them to value the place where they live and to build the necessary skills for problem solving, communication of ideas and decisions about processes, events and various important issues about the environment.

In this perspective, it is important that educators are fully aware of their role in the instruction of students from the beginning of their training process as emphasized by the National Curriculum Guidelines for Environmental Education (Brazil, 2012):

Art. 11 The socio-environmental dimension should be included in the curricula of initial and continuing training of education professionals, considering awareness and respect for the country's multi-ethnic and multicultural diversity.

Sole paragraph. Teachers in activity should receive additional training in their areas of expertise, in order to meet in a manner relevant to the fulfillment of the principles and objectives of Environmental Education. (Brazil, 2012, p.3)

The teacher can be the link between the school community and educational practices focused on environmental issues. Their performance may be the beginning of awakening the interest of students in the search for alternatives and strategies in favor of the environment. Together with the various resources at their fingertips, the educator will be able to make their students disseminate all the content covered in school institutions, bringing benefits to all those involved with the learning process, as well as to the environment around them.

It is considered essential to encourage practical environmental education, based on principles such as awareness, information sharing and commitment to improving environmental processes. The



school is one of the promising environments for the formation of citizens aware of their actions and co-responsible for the preservation of the environment.

### 3 ENVIRONMENTAL EDUCATION PRACTICES IN SCHOOLS.

Grun (1996, p. 21) states that "Environmental education has emerged as an almost unquestionable necessity for the simple reason that there is no environment in modern education. Everything happens as if we were educated and educated outside the environment." Thus, citizens must be educated to live in the environment and it is essential to encourage them to make rational use of the resources offered by the planet.

In view of this situation, it is necessary to invest in public policies and in raising awareness and mobilizing the population. According to Currie (2006, p.186):

Formal and non-formal education should consolidate knowledge about environmental issues through a continuous educational practice, starting from a local reality to achieve planetary awareness, ensuring an integrative relationship between man and nature, stimulating solidarity, equality, and respect for human rights (Currie, 2006, p.186).

The Brazilian legal system provides for the regulation of Environmental Education, especially in the provisions contained in Law No. 9,795 of 1999, which also establishes the National Environmental Education Policy. The first article of the law delimits the concept of Environmental Education:

Environmental education is understood as the processes through which the individual and the community build social values, knowledge, skills, attitudes and competencies aimed at the conservation of the environment, a good of common use of the people, essential to a healthy quality of life and its sustainability (Brazil, 1999).

It is hoped that humanity will understand the importance of being part of efforts to reduce environmental impact, which will enable the preservation of the environment. The sooner we are aware of the importance of the environmental system of the entire world population and that how much we are responsible to live in harmony with an ecosystem in balance,.

Environmental education in schools is one of the possibilities to promote pro-environmental activities, making students aware of the importance of environmental preservation and encouraging them to adopt responsible attitudes towards the environment. According to Berne (2004, p.30),

Without this reality, environmental education would have no reason to exist. However, more important than mastering information about a river or ecosystem in the region is to use the local environment as a motivator (Berne, 2004, p.30).

It is expected that when teachers provide students with contact with the reality of their own community and show the breadth of all human actions, they will possibly understand about the balance



with the environment. This attitude will contribute to reflections and actions on the importance of preserving the environment and will stimulate their active participation in the search for solutions to environmental problems.

By teaching environmental education practices, schools help pupils develop sustainable attitudes, such as reducing consumption of natural resources, recycling and the conscious use of water and energy. They also provide knowledge about the importance of preserving biodiversity and teach pupils about the richness of ecosystems and the need to protect endangered species.

In preservation actions, the teacher can give students the opportunity to connect with nature, whether through outdoor activities, visits to nature reserves or school gardens, which contributes to their emotional and mental well-being. There is also the possibility to encourage students to get involved in community projects and actions related to the environment, promoting civic participation and a sense of belonging to the community.

In addition, environmental education can also be carried out in various ways, such as selective waste collection and recycling, lectures and debates on relevant environmental topics, research projects on the environment, among others. These activities can help students better understand the concepts of sustainability and environmental preservation and also encourage the development of socio-emotional skills such as cooperation, responsibility and respect for others.

Through various activities, approaches, methods, projects and actions, the teacher can provide students with the need for global interdependence. In this way, students can understand that individual and collective actions have a global impact, enabling students to develop a sense of responsibility towards other countries, cultures and ecosystems. As Morin (2000, p. 166) says, "[...] it is a matter of always seeking the relationship of inseparability and inter-retro-action between the phenomenon and its context, and of every context with the planetary context [...]",

It is essential to emphasize that environmental education should not be conceived as an isolated subject in the school curriculum, but rather as a cross-cutting integration of all subjects. This will allow students to understand that environmental preservation is a theme that permeates all areas of knowledge. The statement is in line with one of the fundamental principles of environmental education (Brazil, 1999), which emphasizes the humanistic, holistic, democratic and participatory approach.

Another aspect to address is the training of education professionals in environmental education, as it is perceived as important to continue to disseminate knowledge and help students develop skills that make them more aware of the world in which they live. Continuous training also enables professionals to seek alternatives to solve environmental problems and contribute to improvements in this area.

All actions aimed at environmental education are of paramount importance, as they can provide students with: awareness of the importance of the environment, development of sustainable attitudes,



promotion of responsible citizenship, preservation of biodiversity, connection with nature, reduction of environmental impact, health education, stimulation of innovation in order to seek sustainable solutions to environmental challenges, such as the development of clean technologies and the creation of sustainability projects.

#### 4 ENVIRONMENTAL EDUCATION PROJECTS AT SCHOOL

According to Minc (1985), the post-war world left humanity with the idea that progress in the economy would be paramount even at the cost of a considerable impact on the environment, with an idea that natural resources were infinite.

According to Carvalho (2008), to compensate for the situation of devastation in the environment that unfolds in the world, Environmental Education (EA) arises to awaken in people the environmental impact. This fact occurred because of the incessant search for wealth and excessive consumption of the population.

According to Rempel et.al. (2011), in view of all the problems faced by the planet with the tireless exploitation of mineral resources, scholars (Neto; Sena; Saraiva, 2020) realized the need to develop awareness work for the preservation of the environment in the school space. The school locus is a place where opinions are formed to form critical beings capable of changing unfavorable situations for humanity.

Environmental education as a right of all in the country, should be implemented in all public and private educational institutions and developed in interdisciplinary, helping students to dedicate themselves to help preserve the environment.

According to Oliveira (2009), the problem of the environment must be faced together with several areas of knowledge so that it creates the necessary strength to solve problems, and involves students in the awareness of promoting sustainability in nature. From this, it is necessary the emergence of educational actions in schools as educational projects.

Dialoguing with Sorrentino and Nascimento (2009), the authors mention that articulations are necessary to develop actions in environmental education based on the concepts of ethics, sustainability, diversity, social mobilization and interdisciplinary practices. It is suggested that these actions be performed within the school environment that has an important role in protecting against unbridled economic growth, as well as deforestation, water contamination, desertification, extinction of fauna and flora loss of biodiversity, social exploitation, among other global problems. It is perceived that all negative situations lead to the annihilation of cultures in view of the globalization process.

Environmental education needs to be developed in the midst of a task force and in a space that involves society in a critical stance. This promotes that individuals become aware that sustainability depends on a collective effort, with an increasing approximation of human care with the world:



Because of its breadth and because it requires in-depth changes, the educational project of environmental education is certainly difficult to realize. It requires the involvement of the entire educational society: schools, museums, parks, municipalities, community organizations, companies, etc. It is up to each actor to define their educational "niche" in environmental education, depending on the particular context of their intervention, the target group they are addressing and the resources available to them: it is a question of choosing objectives and strategies in a timely and realistic manner, without forgetting, however, the range of other possible objectives and strategies (Sauvé, 2005, p.319).

Inserting environmental education in the school's political-pedagogical project tends to be an impactful way to create a culture of bringing the world closer to environmental care (Brasil, 2012). It is a way to involve as many people as possible with the environmental issue and present projects that can serve as positive actions for sustainability. Today, environmental education as interdisciplinary projects at school is seen as necessary knowledge for global survival.

According to Pott and Estrela (2017) the implementation of projects is the main means of developing environmental education in the school environment. It brings the possibility of the student developing critical sense and environmental awareness to help directly in combating erroneous attitudes taken in the past and that have repercussions in the present. With this, solutions are sought that reduce environmental impacts to prevent future damage to the environment.

The first National Conference on the Environment (CNMA) (Brazil, 2003) with the theme "Let's take care of Brazil", sought to involve children, teachers and the school community in a discussion with global and local socio-environmental issues with the themes of care for water, living beings, food and school. This initiative praised the environment, as it integrated a large number of schools in this involvement in the search for sustainability.

## **5 SCHOOL GARDEN AS A PRACTICE IN ENVIRONMENTAL EDUCATION**

In Brazil, the inclusion of environmental issues in education took place only in 1999 when Law No. 9,795 on Environmental Education (EA) was enacted. This law establishes the obligation of Environmental Education at all levels and modalities of education that has as its duty the construction of social values, knowledge and skills aimed at the conservation of the environment (Brazil, 1999).

By virtue of Law No. 9.795/1999, environmental education in school builds within the official, educational parameters and in its reality, school gardens.

According to Evangelista and Soares (2011), it is common to observe students of various levels of schooling, demonstrate problems in learning and discussing about environmental education issues, since they do not understand the reason for its realization.

With this, it is recurrent for schools to have their spaces filled with gardens, where human beings learn the correlation of the product of the market or the fair, with the one that every day is on the family table, with the practice of cultivation and management in their learning.



Nowadays, when asking a child where the fruits, vegetables and in general our food comes from, the answer will certainly be from the supermarket. This is due to the lack of relationship between our well-being and nature, as people currently live in a mechanized way (Bezerra, 2007).

The gardens created in school environments promote an advance in the integration of the school community, where teachers and students work in a dynamic of research and execution of practices and experiences. In addition, the kitchen staff helps to include these products in the daily snack. Still, some children use these products at home with their families.

According to Morgado and Santos (2008), the garden inserted in the school environment can contribute significantly to the integral formation of the student. It encompasses different areas of knowledge throughout the teaching-learning process, through vast pedagogical applications with real situations, involving environmental and food education.

The school garden is a reality where everyone learns and contributes in the dynamics of preservation and cultivation of food, its use and especially in the preservation of spaces and healthy eating. In the literature, "the school garden is a pedagogical instrument that enables active, integrated learning and allows the rescue of ethical, social, cultural and environmental values, enabling sustainable practices" (Cavallero, 2020, p. 299).

It is perceived that the vegetable garden at school enables the integration of students in social life, as well as in strengthening family life and in the domain of preserving the space in which they live. The values are thought in the collective and the result comes from the common good.

The idea that the garden is a space for exchanges can point to the possibility of building a learning environment for the school community as a whole, in which skills and abilities, values and attitudes can be worked on, under the most diverse aspects of knowledge, which in fact is a role that the school can fulfill (Libâneo, 2007).

According to Cribb (2007), the garden promotes values, good attitudes, helps collective work, transforms thoughts, develops creativity, alerts to care and responsibility with others.

It is noted that the creation of the school garden represents for the school community a rich open-air research bed, where research and practice are consolidated in the acquisition of knowledge in several areas.

A school garden promotes the rescue of land cultivation, reflection on the importance of organic food consumption, environmental preservation, interaction between school communities and interdisciplinarity (Santos et al, 2012).

It is observed that the apprentice when touching the earth creates a bond of belonging, which acquires maturity and responsibility with the environment assuming a commitment to take care of the common home, that is, the planet earth. In this context, it develops the skills of integration and debate, where it creates with the other an appropriation of this theme.





It is important to emphasize that actions within school spaces, based on environmental education, enable a new food culture, making them aware of the importance of food, the hygiene of these foods, the nutritional value. Above all, it awakens in the school community a critical analysis of advertisements for poorly nutritious food products, leading them to consume healthier ones (Pimenta; Rodrigues, 2011).

Nourishing themselves by discovering the possibility of a nutrient-rich diet, learners and researchers take possession of the power to reject what no longer makes sense in food. They appropriate correct ways of sanitizing, reusing food as a whole.

To the same extent, the activities developed in this space promote the insertion of Environmental Education through the recognition of the importance of caring for the environment by carrying out activities that promote reuse, recycling, and sustainable management that, when added together, can lead to a healthier quality of life (Santos, A.; Santos, R., 2014).

With actions in environmental education the school has shown good results with school garden projects when they are worked on from the early grades.

Krasilchik (2000) states that practical classes in teaching serve different functions for different conceptions of the role of the school and the form of learning. These issues are consonant with the role of the school, or in rescuing the role of the school as a producer of knowledge, in the development of skills and abilities, which also value the environmental dimension (Libâneo, 2007).

Madeiros et al. (2011, p. 15) cite that "A place where all individuals care about cleanliness, disposing of garbage in the correct container for reuse of the same for the world". Becoming aware of this reality, the students take home the value and importance of separating the garbage in their respective places and even those parts of the food that would go to waste now have a new destination, that is to use in daily food or as compost, creating habits of reuse.

As the garden is a place of research, integration and coexistence, it is perceived that it is fundamental as a resource for the development of skills where all participants have the opportunity to expose their knowledge in the construction of projects and in the production of personal and collective sustainability to rescue values and create bonds.

## 6 CONSIDERATIONS

Environmental education topics have become an integral part of the curriculum in many schools around the world. The need to create school environments that motivate students to become aware and informed about environmental education has become more frequent. However, its realization becomes complex for several reasons such as political issues.

The work sought to reflect on the need for practices in environmental education such as the cultivation of school gardens that bring young students closer to nature.



In this context, the school faces a great challenge to adapt the curricular models centered on hierarchies that permeate the pedagogical proposals in an interdisciplinary perspective.

However, it should be noted that studies on environmental education are growing every year, showing the great interest in changing habits and behaviors. In this way, it is credited with improvements in the personal and collective well-being of individuals, and for a better quality of life.



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