

**ENVIRONMENTAL SCIENCES THEMATIC ROOM: ECOPEPAGOGICAL
STRATEGIES APPLIED TO ENVIRONMENTAL EDUCATION**

**SALA TEMÁTICA DE CIÊNCIAS AMBIENTAIS: ESTRATÉGIAS
ECOPEPAGÓGICAS APLICADAS AO ENSINO SOCIOAMBIENTAL**

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ABSTRACT

Environmental education is often neglected, being mostly aimed at children. In this way, the Museu de Ciências Ambientais Mundo Livre aims to disseminate environmental education beyond the classroom, through the items present in its composition providing children and young people with an interactive experience with the proposed environmental and cultural aspects.

Keywords: Environmental Education; Museum; Environmental Sciences

RESUMO

A educação ambiental é, por muitas vezes negligenciada, sendo voltada em sua maior parte para crianças. Dessa forma, o Museu de Ciências Ambientais Mundo Livre visa disseminar a educação ambiental de um modo além da sala de aula, através dos itens presentes na sua composição proporcionam para crianças e jovens uma experiência interativa com os aspectos ambientais e culturais propostos.

Palavras-chave: Educação ambiental; Museu; Ciências Ambientais

INTRODUCTION

The work aims to emphasize the importance of socio-environmental education in various spheres of society. Although Environmental Education (EE) is not widely spread among the massive population, it has been and continues to be a relevant agenda, especially given the impacts that climate change has been having in the current context.

The teaching of EE also contributes to positioning and creating awareness of the environment in which one lives. There are factors that influence how individuals act as consumers and even in the posture and political decisions that will be made, contributing to the development of citizenship.

MATERIALS AND METHODS

It is important to highlight the concept of Environmental Education (EE), according to the Intergovernmental Conference of Tbilisi, 1977:

Environmental education is a process of recognizing values and classifications of concepts, aiming at the development of skills and modifying attitudes towards the environment, in order to understand and appreciate the interrelationships between humans, their cultures, and their biophysical environments.

Environmental education is also related to the practice of decision-making and ethics that lead to an improvement in the quality of life.
(INTERGOVERNMENTAL CONFERENCE OF TBILISI, 1977.)

Following the concept of EE presented earlier, we can say that it encompasses all information that influences an individual's way of life, ranging from simple rules, such as not littering and not wasting water, to more in-depth information such as how a landfill operates. Both examples positively influence an individual's relationship with the environment they live in. However, EE is not always well-directed. In general, EE is applied to children, usually in early childhood, and as the individual grows, this agenda ceases to be presented. Actions directed towards teenagers and adults become rare, which is a problem since they are the biggest influencers of the environment in which they live. The lack of EE for people who truly impact the environment may be one of the causes of the environmental imbalance seen in recent decades. Individual actions pale in comparison to the interference of industries and agribusiness. Teaching EE to young and adult audiences can generate greater awareness of climate change and the environmental imbalance that the current system is causing, and thus demand coherent stances from

governments regarding the urgency of the current climate situation. Initiatives like the Mundo Livre Environmental Sciences Museum become essential for disseminating EE to this audience.

According to the PUCRS website (2023), "For the United Nations Secretary-General (UN), António Guterres, these heatwaves indicate that the planet has already moved past the 'warming' phase and that we are now entering the era of global boiling." In this critical moment for humanity in the face of climate change, the role of EE becomes even more imperative. According to Isadora Colling, it is about "empowering a new generation aware of the ecological needs that our society requires."

The Mundo Livre Environmental Sciences Museum contributes to the teaching and dissemination of knowledge about environmental issues and problems, considered an eco-pedagogical strategy, bringing an EE bias to the university triad (research, extension, and teaching), to classrooms in elementary and high schools, and having a notable influence in various EE spheres. It facilitates the application of various knowledge acquired by students during their insertion in the geographical space. At the university, it brings students closer to current issues that are not always perceptible because there is a lack of critical thinking on the part of students. The importance of the museum as an eco-pedagogical strategy is developed through its experiences, with activities that have the ability to promote critical thinking in students, often directing them to their daily lives. Observation and data collection are carried out within the laboratory, through files available in the collection and image bank, and outside the laboratory, through articles and documents produced by researchers from the Department of Geography at UFC.

RESULTS AND DISCUSSION

The different thematic sections of the museum are presented to the public in a didactic manner, providing the opportunity for contact, often the first contact, of the public with the theme. Among the existing themes, the following stand out:

- **Mangrove Ecosystem**

The section on the mangrove ecosystems of Ceará aims to introduce visitors to the tropical coastal ecological system that occurs between the transition of terrestrial and marine

environments. Through photos and books, various aspects of the presented system can be elucidated, such as the substrate, usually composed of mud and silt, the vegetation, which typically features exposed roots, and the fauna present in the area. It is important to highlight to the public the significance of mangroves for coastal regions, as they are essential for the stability and continuity of ecological balance and are indispensable for the reproduction of a variety of marine animals.

Figure 01 - Example of mangrove fauna



Source: Arquivo pessoal

• **Rocks and Minerals**

The Rocks and Minerals section aims to exhibit cataloged and collected samples to visitors. Textbooks are available to facilitate understanding of the composition of rocks and minerals, as well as to provide an understanding of the dynamics of rock alteration through examples of metamorphic, sedimentary, and igneous rocks.

• **African Culture**

The African Culture section seeks to convey to visitors the culture of the indigenous peoples of the African continent. Items acquired during trips to Africa are displayed, contributing to the transmission of a culture that has undergone repeated and continued attempts at erasure. It contributes to the preservation of the intangible heritage of the

African people, with customs and practices exemplified by the pieces presented by the museum. It also contributes to the discussion on environmental racism, contributing to EE in the social and racial context.

• Indigenous Peoples of Brazil

The Indigenous Peoples of Brazil section presents visitors with a glimpse of the different cultures of the indigenous peoples of Brazil, demonstrating that it is not a single homogeneous culture as it is often portrayed. Pieces such as baskets, hunting and fishing materials, utensils used in food preparation, among others, direct visitors to have a more comprehensive view of the cultures and customs of the original peoples. Environmental Education within this theme is approached through hunting, fishing, and farming artifacts, presenting a way of life that goes against the culture of material accumulation. The respect and awareness of interdependence with nature present in indigenous peoples show a path for the teaching and dissemination of EE from the perspective of the original occupants of Brazilian territory.

Figure 02 - Representation of indigenous peoples' culture



Source: authors

CONCLUSIONS

The presentations developed within the Mundo Livre Environmental Sciences Museum Project bring about the valorization of EE in the school environment, occurring through the visibility of the problems and solutions that permeate the environment. Mini-courses and activities are offered that present physical artifacts to aid EE. The benefits of implementing the activities developed in the museum for public and private schools are seen throughout the students' learning process, where critical thinking is developed, and new concepts that address environmental issues are discussed.

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