

Exploring non-formal educational spaces: a practical approach from the perspective of Célestin Freinet and Paulo Freire

Summary

This article was created within the scope of the Rio Doce Escolar Project of the Instituto Federal do Espírito Santo, entitled “Exploring non-formal educational spaces: a practical approach from the perspective of Célestin Freinet and Paulo Freire”, which aims to convert the Santa Fé Municipal Garden into a space where critical Environmental Education (EE) can be thought about and practiced. By proposing the transformation of the garden, the aim is to give this space the conditions to exercise its educational potential, which has not yet been explored by educational institutions and/or by the people of Colatina. By seeking to combine theory and practice, through field trip classes, the aim is to apply what Freinet postulates, when he advocates an association between everyday life and the experience at school. To this end, the following steps were followed: planning and preparation, transformation and revitalization, reflection and learning, communication and community engagement. After the first field trips, it was already clear that it would be necessary to make the space at least a little welcoming, to attract the attention of the Colatina community, to establish partnerships so that the space could be adequately prepared to conduct research and to involve other areas of knowledge in the implementation of the Applied Pedagogical Proposal (PPA) presented here. In the future, it is proposed to promote urban circuits to the garden, a bicycle circuit and a joint effort to clean the spaces that can already be used. Such actions, in the eyes of those involved, can bring the visibility we want and, thus, attract more partners.

Keywords: PPA, Non-formal educational spaces, Santa Fé municipal garden, Environmental educators, Teaching/learning

“Education is a social process, it is development. It is not preparation for life, it is life itself.”

John Dewey

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Introduction

Contemporary education has progressed beyond the conventional confines of traditional classrooms, expanding into diverse informal contexts that challenge the usual approaches to teaching and learning. Within this environment, education scholars such as Célestin Freinet, Paulo Freire and Maria da Glória Gohn play a crucial role in clarifying the relevance and opportunities for teaching/learning offered by non-formal educational environments. The theories they developed have served as inspiration for educators and researchers, encouraging the exploration of educational alternatives that foster active participation, autonomy and critical reflection on the part of students.

It is in this environment of “thinking-doing” education that the desire of a group of teachers from the Ifes campus in Colatina to be part of the Rio Doce Escolar Project was born, carried out with the financial contribution of the Renova Foundation, based on an agreement between Ifes, Facto and the Renova Foundation (Ifes Process No. 23187.004561/2022-66,) in partnership with the State Department of Education of Espírito Santo and the Department of Education of the Municipality of Colatina. This project is based on training environmental educators for the municipality and, thus, through the proposals to be developed by the participants, mitigating the problems caused to the Rio Doce Basin by the Mariana disaster.

The project mentioned above foresees the formation of Working Groups (WGs) and the subsequent elaboration of Applied Pedagogical Proposals (PPAs) to be developed by the participants, leading to a rethinking of environmental education and the relationship between education and the environment. Environmental awareness plays a fundamental role in the construction of sustainable societies and it was in this context that the problem related to the Santa Fé Municipal Garden arose.

Researching this space, it was discovered that it had been used for community visits, trails, and for the distribution of seedlings. However, today it is abandoned and only serves to provide seedlings for some projects of the city’s residents. In view of this, the Santa Fé Municipal Garden has emerged as the object of study of the School Environmental Education Project (PEAE), “Colatina’s Nature Factory”, whose PPAs aim to transform it into an institutionalized educational environment, where Environmental Education (EE) can be collectively thought about. Once the revitalization/transformation stages have been completed, the aim is for this garden, like the Regência Ecological Center located in Linhares and the Comboios Biological Reserve (ReBio) in Linhares and Aracruz, to become a center for the application of critical awareness in EE, contextualizing and politicizing the environmental debate, and problematizing the contradictions of development and society models.

This critical EA vision, as opposed to a passive approach, encourages deep reflection on environmental issues, promoting informed and conscious actions and decisions. This article presents a comprehensive vision of the PPAs aimed at transforming the Santa Fé Municipal Garden into an environment conducive to the development of a broader environmental awareness and a responsible attitude towards the environment throughout the planet.

This article explores the main pillars of this proposal, which include the restructuring of the Santa Fé Municipal Garden, the integration of these PPAs into the school curriculum, the active involvement of Colatina schools, and the participation of civil society. In addition, the expected benefits of this initiative are analyzed, which range from strengthening ties between the community and the environment to the formation of citizens who are more aware and committed to environmental preservation.

The pedagogical proposals presented here not only highlight the importance of environmental education, but also demonstrate how a natural space such as the Santa Fé Municipal Garden can become a learning center, promoting connection with nature and building a more sustainable future for Colatina and its future generations. The revitalization of the garden as a space for critical environmental education is a journey that deserves to be taken, as it will provide the formation of citizens who can act and positively interfere in the recovery of the springs and waters of the Doce River.

In summary, what has already been developed and achieved through the application of the PPAs that are now presented is presented here. The revitalization of the Santa Fé Municipal Garden can serve as a powerful example of how a natural space can be transformed into an effective educational tool. This is relevant not only for Colatina, but also for other communities that seek to promote environmental awareness and critical education. This initiative also contributes to scientific research, after all, it offers the opportunity for extensive data collection and academic research. This can contribute to better practices in education.

The science, technology, society and environment (CTSA) approach and the active Problem-Based Learning (PBL) methodology involved

The initiative presented here is the result of collaboration between students from the Ifes campus in Colatina, professors and researchers, public schools and various sectors of society, both public and private. By joining forces, the aim is to revitalize/transform the garden into a space where Environmental Education transcends traditional limits, being constructed in a holistic manner and integrated into the educational fabric of the region. Inspired by active methodologies and innovative pedagogies proposed by renowned educators such as Célestin Freinet,¹ Paulo Freire² and Maria da Glória Gohn³ the aim is to create an educational environment that flourishes with creativity, dialogue and critical awareness.

Freinet¹ in his educational philosophy, emphasizes practical learning and connection with real life. And this is what we propose with these PPAs, because, often

There was a total, and inevitable, divorce between life and school. The work that we were thus forced to do lost all the benefits of living work, becoming a tedious task without any objective. (Freinet, 1976, p. 24)

The CTSA approach, which refers to the interaction between Science, Technology, Society and Environment, plays a fundamental role in the design and execution of projects such as the PPAs presented here. Thus, it can be stated that the revitalization of the forest garden and the reforestation of the banks of the Doce River, as well as the recovery of its waters, affected by pollution and the release of metal waste resulting from the Mariana/MG disaster, should remove countless fruits of this approach, as, in the specific context of PPAs, it offers a comprehensive framework to propose and create sustainable solutions, interrelating with the practice proposals of Freinet, Freire and Gohn.

It cannot be denied that Science and Technology have a direct impact on society and the environment, and vice versa, since the scientific understanding of forest ecosystems, regional biodiversity, river hydrology and reforestation techniques, worked on in these proposals, they point directly to the CTSA relationship. By applying this approach to the revitalization of the Santa Fé Municipal Garden and the recovery of water and reforestation of the banks of the Rio Doce, the PPAs are linked to the PEA and the Rio Doce Escolar Project, which aims to train environmental educators in Espírito Santo.

Another way to successfully implement the practical proposals presented is to use the active Problem-Based Learning (PBL) methodology, since its application is certainly extremely relevant and promising for the revitalization project of the forest garden and for the production of studies on the biodiversity of the Rio Doce Basin, as well as for the reforestation of its banks and recovery of springs. PBL is an educational approach that places students at the center of the learning process, challenging them to solve real-world problems through investigation, collaboration and practical application of knowledge.

In this context, PBL can be used in several stages of the process, from data collection to strategic decision-making. After all, the stages of application of this methodology foresee the definition of the problems, that is, the state of abandonment in which the Santa Fé Municipal Nursery is found. Next, research and analysis of the observed problems are proposed. This will be done through field classes, using the pedagogy proposed by Freinet, Freire and Gohn, aimed at observation, data and material collection and preparation of an initial report on what was experienced.

Next, solutions to the problems encountered must be proposed. Thus, debates, discussions, and the preparation of reports and communication of the observations to society will be promoted. Based on the reports and results, decision-making will be carried out in which groups of students and researchers will be challenged to make decisions regarding the revitalization of the Santa Fé Municipal Garden and its role in the recovery of the springs and waters of the Rio Doce Basin, considering the different scientific, technological, social, and environmental aspects involved. The aim is to stimulate critical thinking, negotiation, and the ability to consider different points of view.

Moving on to the presentation and evaluation stage, proposed by the ABP and the theoreticians listed here, each group will present their solutions, sharing their analyses and justifications. This will allow for the exchange of knowledge and the improvement of communication and presentation skills.

As a final step, an assessment is proposed. However, it cannot be carried out in isolation, since it must be continuous and take place throughout the entire process. Thus, the students' progress, intrinsically

linked to the progress of the proposed work, can be assessed based on their ability to deal with complex information, formulate viable solutions, work as a team and achieve the proposed objectives. The assessment will always focus on the learning process carried out during all stages of the garden's revitalization/transformation, encouraging reflection and adaptation.

Applying PBL to the forestry revitalization project will allow students to engage in a practical and meaningful way with real and urgent issues. In addition to promoting the acquisition of technical knowledge, this methodology develops problem-solving, collaboration, communication and critical thinking skills - essential skills for tackling complex challenges in any field.

Scope of application of PPAs

The Santa Fé Municipal Garden, located in the heart of Colatina, emerges as a space of immense potential. In the current context of growing environmental concern, we are faced with a unique opportunity to transform this space into a center for critical environmental education, which not only connects the local community to nature, but also catalyzes a deep reflection on the environmental issues we face.

This article seeks to present an overview of the stages of work carried out and to be carried out with the implementation of the pedagogical proposals of the GT of Ifes Colatina. To this end, the following objectives are present, which signal the path to be followed until the culmination of the proposal. Structuring the forest garden as an educational space with the reorganization of the garden, implementing infrastructures and educational trails that facilitate its exploration by students and visitors. In this way, we can transform it into a place that invites discovery and learning.

We also propose integration with the school curriculum, seeking to establish partnerships with schools in the municipality of Colatina to incorporate the Santa Fé Municipal Garden into the municipal educational curriculum. We intend to develop educational programs that align the garden's activities with the schools' educational objectives, offering practical learning opportunities about ecology, conservation, and sustainability. Thus, the garden is configured as a favorable environment for educational activities, such as outdoor classes, scientific research, and conservation projects.

The participation of the people of Colatina will be extremely important in the revitalization of the garden. To this end, we will seek to promote events open to the public, educational workshops and volunteer programs that allow citizens to contribute to the preservation and development of the forest garden.

The implementation of PPAs is, in fact, a commitment to continuous evaluation of results: This approach includes constant monitoring of the results of the initiative. Through research, evaluations and community feedback, the aim is to ensure that the Santa Fé Municipal Garden evolves as an outstanding educational space.

This article serves as a roadmap for transforming the Santa Fé Municipal Garden into a space for critical environmental education, fostering a deeper and more conscious relationship between the Colatina community and its surrounding environment. The revitalization of the garden is a journey that will involve schools, citizens, and nature itself, and it is our hope that the resulting benefits will extend not only to Colatina, but also to the broader understanding of how environmental education can shape our future.

An approach and application of active methodology: CTSA and ABP

Using a CTSA approach, already described, and the active ABP methodology, we began to apply the first stage of the PPAs. First, an action plan was drawn up, outlined in Figure 1, for the execution of the project stages.

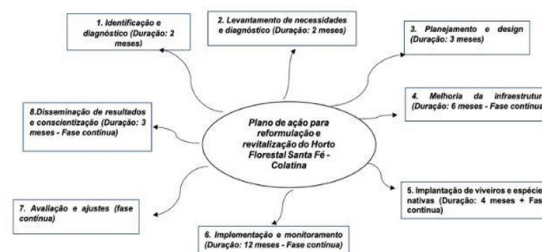


Figure 1 Mapa conceitual do plano de ação.

Source the authors

Continuing with the determined steps, the first field class was held with 39 students from the Technical Course in Administration Integrated with High School at Ifes campus Colatina who, accompanied by teacher-researchers, spent the entire morning observing, collecting data related to the conservation of the space, soil and water quality, among others. Interviews were conducted with two employees of the Municipal Government of Colatina (PMC) who provide services in that space. The visit recorded in Figure 2 took place on August 14, 2023, and with it one can experience the territory lived in.



Figure 2 Images of the 1st visit to the Santa Fé Municipal Garden by the work team.

Source the authors

The concept of "vivid territory" was developed by Brazilian geographer Milton Santos (2014), and refers to the way people experience, perceive and interact with the geographic space around them. It encompasses not only the physical dimensions of space, such as landscapes and places, but also the emotional, cultural and social dimensions of people's experiences in a given territory.

Milton Santos argues that the vivid territory is a fundamental part of the construction of the identity of people and communities. He highlights the importance of understanding how people relate to space, how they attribute meanings to it and how this influences their actions and decisions.

In short, Milton Santos' vivid territory is an approach that recognizes the importance of human experiences and social relations in understanding and using geographic space. Thus, it is clear that people not only occupy space, but also transform it and construct meanings from it. This means that people's perceptions, memories, identities and practices are an integral part of understanding geographic space and how it is used and felt by different communities and social groups.

It is also from this perspective that we propose field classes so that the relationship of belonging of students and researchers can be built.

Stages of knowledge construction via PPAs

The first phase of the PPAs' PBA involved defining the Santa Fé Municipal Garden as the object and *locus* of our intervention and study. We asked ourselves why this space has been relegated to insignificance and abandonment, when it has great potential for transforming society. In this context, the 39 students and the professor-researchers were able to reflect and interact with this environment and experience this territory to gather their first impressions. Then, the students, divided into groups and instructed to conduct research on the biodiversity found, identify problems to be solved, interview the garden's caretakers, investigate the best reforestation practices, identify the most specific native species and evaluate the environmental benefits that we could propose, spent a morning at the site.

Upon returning to campus, reports of glimpses of actions to be implemented, partnerships that could be achieved and successful, frustrations, as well as a more welcoming view of the space lived in could already be heard. In the classroom, moments were provided to present the observations made, to judge what needed to be done most urgently and who could help, and which partnerships to seek. Two classes were used for further discussions and the preparation of a written report.

In the computer lab, students, under the guidance of researchers, were able to write their communication reports on what they experienced at the Santa Fé Municipal Garden and propose solutions based on the information collected. The groups of students and teachers/researchers are encouraged to propose innovative solutions for the revitalization of the forest garden and the consequent reforestation of the banks and springs of the Rio Doce. The solutions suggested so far include ecosystem management strategies, the search for partnerships with engineers, architects, city hall and parents of students, environmental education plans for the local community and approaches to stakeholder involvement.

Of the potentialities and difficulties raised

When we visited the Santa Fé Municipal Garden on 08/14, we found houses in poor condition, which reflect the degradation of the environment and visually and organically impact the space.

We believe that revitalizing the forest garden can contribute to improving the local environment, providing a healthy, attractive and safe space for the Colatina community.

There is still great potential for transformation in the proposed initiatives, given the opportunity to transform a deteriorated space into a vibrant and welcoming place. To this end, real and conceptual images are presented that illustrate the visual and functional potential of the revitalized Santa Fé Municipal Garden, highlighting how it can become a positive reference point in the region.

This project can greatly contribute to the environment by reintroducing native species, restoring habitats and promoting biodiversity, providing field classes for all schools in the municipality, and developing research that can help restore the Rio Doce, reforesting it and restoring its waters. All of this impacts the ecological balance of the region.

The PPAs of the GT of Ifes Colatina want to involve the Colatina community, providing spaces for educational activities, cultural events and leisure. It is believed that the active participation of the

community in the revitalization will strengthen social ties and promote school/community integration for EA.

Regarding the cost-benefit issue, it can be stated that investments in the revitalization of the forest garden, through partnerships, can result in savings in the long term, either by reducing maintenance costs or by promoting tourism and the well-being of the community.

Below is a first sequence of images (Figure 3) that portray the current situation of the municipal garden, and a second sequence (Figure 4), which indicates a perspective of transformation and revitalization of the space, making it an environment for learning and critical reflection on environmental issues.



Figure 3 Before the Intervention.

Source the authors



Figure 4 Projection of transformation of the municipal garden space after the implementation of the actions planned by the GT.

Source Public domain images

The images reveal the Santa Fé Municipal Nursery, a forgotten space, showing signs of neglect and abandonment. The degraded facilities and disorderly vegetation did not reflect its true potential as a place for environmental education. Also noteworthy is the underutilization of the seedling beds, which are currently not being used for distribution and planting in green areas of the city, due to the lack of adequate structure and labor.^{4,5}

Final consideration

Arriving at the first stage of decision-making for the application of PPAs, the student groups were challenged to make decisions based on the information they collected, considering the different scientific, technological, social and environmental aspects involved. The aim was to stimulate critical thinking, negotiation and the ability to express and support points of view. At this stage, there was much discussion about the next actions and it was proposed that, after seeking support from the PMC, we could propose an ecological walk, a circuit from Ifes to the garden, during the 10th Week of Art and Culture, whose theme is sustainability; in order to give visibility to the project, also counting on coverage from the local press. It was also found that a lot needs to be done: making the space minimally welcoming, to attract the eyes of the Colatiense community, establishing partnerships so that we can adequately prepare the space to carry out research. We

will also need labor to renovate the spaces and, thus, make it possible to promote urban circuits from the Center to the garden, promote a bicycle circuit to the garden and, who knows, carry out, from there, a joint effort to clean the spaces that can already be used. Such actions, from the perspective of those involved, can bring the visibility we want and, thus, obtain more partners.

Acknowledgments

None.

Conflicts of interest

The author declares there is no conflict of interest.

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