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ENVIRONMENTAL SMOKE

ANALYSIS OF ENVIRONMENTAL EDUCATION IN AN INTEGRAL TECHNICAL CITIZENSHIP SCHOOL (ECIT) FROM JOÃO PESSOA, NORTHEAST BRAZIL

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Abstract

This work sought to present how Environmental Education is presented in the didactic pedagogical activities of ECIT João Roberto Borges de Souza, according to the Resolution CNE/CP nº. 2/2012 that establishes National Curriculum Guidelines for Environmental Education. It is important to highlight that the insertion of the environmental issue in the curricula of basic education schools has been recommended by several factors that contributed to public policies in Brazil, among them the National Policy for the Environment (PNMA), the Law of Directives and Bases of National Education (LDBEN), the National Curricular Parameters (PCN), and also the National Policy for Environmental Education (PNEA). Through exploratory research of qualitative nature with descriptive and explanatory analysis, it was possible to observe from the document analysis that the school partially complies with the resolution. Based on the institutional documents analyzed, only two subjects presented contents that meet the National Policy for Environmental Education. As for the Political Pedagogical Project (PPP), the school makes no mention in this document of activities, projects, practices and actions with environmental issues. Therefore, it is necessary to build informal and formal educational processes, using dynamic and relevant tools and materials, with the ability to enable an Environmental Education process that enables changes in habits and customs compatible with the needs of communities, as recommended by the World Conferences on Environment.

Keywords: Environmental Education. Technical Comprehensive Citizen School. Environmental Practices. PNEA.

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1 Introduction

Modernity has brought with it a new lifestyle and new forms of social organization, which have become worldwide trends, modifying the traditional social lifestyle in a profound and unprecedented way, changes that have altered the characteristics of human existence, establishing forms of social interconnection across the globe. However, the modernization process has unleashed destructive forces, to the extent that the human imagination is disconcerted by them, leading to the risk society, characterized by the threats produced by industrial society, which has resulted in the crises that plague humanity.

Environmental degradation, ecological collapse, increasing inequality and poverty are warning signs of the crisis in the globalized or post-modern world. The irrational way in which man uses natural resources leads too many consequences, especially for the environment, causing the depletion of its resources, considered, a priori, as inexhaustible. The ever more urgent need to preserve natural resources in order to guarantee life, the survival of mankind, and the continuity of socioeconomic development on planet Earth is today, without a doubt, the greatest challenge facing humanity. Overcoming this challenge requires changes that imply rethinking the model of actions practiced by society, especially the current patterns of production and consumption.

Environmental Education (EE) can be understood as a branch of education whose goal is to teach about the environment, aiming to contribute to its preservation and sustainable use of its resources (SILVA-CESAR et. al, 2022). In this sense, it becomes a recurring theme in the contemporary debate in the most distinct spheres of society both in the national and global context, which gradually over time has been inserted into the reflections of educational public policies such as school curricula that currently require an interdisciplinary and cross-cutting approach in educational and environmental praxis in all educational modalities. Effeting (2007) conceptualizes Environmental Education, saying that it is the learning of how to manage and improve the relationships between human society and the environment, in an integrated and sustainable way.

Schools, in this context, have an important role in the formation and construction of a human being who knows and modifies reality, based on the principles of sustainability and Environmental Education, becoming an environmental educator capable of thinking and acting on his own reality. The construction of sustainable development strategies with the capacity to modify habits and attitudes towards nature is necessary. Such strategies include, for example, the Environmental Education Policy and the "new" didactic and pedagogical instruments used by schools to achieve their goals. In this vein, as a teacher in the State of Paraíba, in the professional technical course offered in schools of the ECIT model, it was possible to observe the little discussion of the environmental theme and how environmental issues are treated, being reduced to science fairs, projects on allusive dates or recycling activities.

This finding is confirmed in the research of Ferreira, Cesar, Abreu (2016), which points out that Environmental Education has not been contemplated in the curriculum of Basic Education (EB) and, in institutions of integral education, especially the Integral Technical Citizenship School (ECIT) there is a lack of studies that address the environmental theme in this school model implemented by the Government of the State of Paraíba, Northeast Brazil. In institutions of comprehensive education, especially the Comprehensive Citizen Technical School, object of this study, the production of knowledge must contemplate to meet the labor market and the National Policy of Environmental Education, Federal Law 9.795 of April 27, 1999.

In this perspective, it will be observed the conceptions of curriculum, environment, perception and environmental education existing in the formulation, implementation and evaluation of institutional and pedagogical projects of this educational institution, so that these instruments have the function to stimulate the participation of the school community in the formulation of new knowledge to build an Environmental Education with citizen responsibility. In view of the strong link between the Environment and quality of life and people's health, I think that the relationship between technological innovations and environmental issues should be included in the scope of the new model of Integral Technical Citizenship School and that this discussion should not pass over the training of professionals in the technological area.

Thus, this work seeks to establish a reflection on the environmental dimension in the new school model implemented by the State Government of Paraíba and its relationship with Environmental Education, in search of alternatives to promote changes in values, attitudes and behavior, including in the academic daily life in relation to the environment with practices and values capable of responding to the principles advocated by the Law of Guidelines and Bases of National Education (LDBEN) 9.394 of 1996 and Resolution CNE/CP nº. 2/2012, which establishes National Curriculum Guidelines for Environmental Education.

With this, the research aims to analyze how Environmental Education is presented in the didactic-pedagogical activities of the Integral Technical Citizenship School João Roberto Borges de Souza, in João Pessoa municipality, Paraíba, Brazil.

2 The Importance of Environmental Education

It is in the context of the "environmental crisis" that Environmental Education emerged, in a perspective of establishing mechanisms to address the serious environmental problems that were marked by the risk society. That is, the serious threats of environmental problems experienced today were produced by society itself, where Morin (2005) will say that these "are linked to the blind and uncontrolled progress of knowledge (thermonuclear weapons, manipulations of all kinds, ecological derangement, etc.).

The expression "Environmental Education" appeared in the mid-1970s, when the concern with environmental problems arose, in an attempt to find an effective instrument to face the serious problems that beset humanity. This term was used for the first time in England, but became known worldwide after the World Conferences on Environment and Development. In 1977, in Tbilisi, several countries met to discuss the global problematic, highlighting Environmental Education as an alternative for man's empowerment in defense of the environment, although it should be remembered that man has often seen himself as distant from the natural environment.

Held in Rio de Janeiro, the 1992 Rio-92 Conference developed Agenda 21, that is, an action plan for the 21st century, aimed at the sustainability of life on earth (Dias, 2004). Law 9.795 of April 27, 1999, which provides for Environmental Education, establishing the National Policy for Environmental Education in Brazil, in its articles 1 and 2, states that a:

> Environmental Education is the process by which the individual and the community build social values, knowledge, skills, attitudes, and competencies aimed at the conservation of the environment, an asset for common use by the people, essential to a healthy quality of life and its sustainability (BRASIL, 1999, arts. 1-2).

According to Dias (2004), Environmental Education is a set of environmental contents and practices, oriented towards the resolution of concrete environmental problems, in an interdisciplinary manner and an active and responsible participation of each individual in the community. This educational modality can also be understood as a branch of education whose goal is the dissemination of knowledge about the environment in order to contribute to the process of preservation and sustainable use of its natural resources.

It is an analysis methodology that arises from the growing interest of man in issues such as the environment due to the major natural disasters that have plagued the world in recent decades (GUIMARÃES, 2004).

Thus, it is observed that the effective, practical actions of Environmental Education in Brazil only began in the late 1980s, with the First Brazilian Congress on Environmental Education in Rio Grande do Sul held in 1988. Even though it was highlighted in the 1988 constitution, through article 225, Environmental Education was presented in a punctual way, and became effective through its own legislation in 1999, with the National Policy for Environmental Education. Thus, the law is now considered an important instrument to implement the environmental policy in Brazil. Finally, it is also important to highlight that Environmental Education "is a set of environmental contents and practices, oriented towards the resolution of concrete problems of the environment, in an interdisciplinary way and an active and responsible participation of each individual in the community" (FERREIRA; ARAÚJO; CESAR, 2018, p. 89).

However, Environmental Education, since the 70's, has been inserted in the agendas of reflections of public educational policies such as school curricula that currently require an interdisciplinary and cross-cutting approach in educational and environmental praxis in all forms of education, in other words, teaching cannot be inert to this new way of conceiving science. Once, it is observed that Environmental Education has not been contemplated in the curricula of Basic Education schools, especially in institutions of technical integral education, especially the Integral Technical Citizen Schools (ECIT), object of this study, where the production of knowledge should contemplate to meet the labor market and the National Policy on Environmental Education (PNEA), Federal Law 9.795 of April 27, 1999 (BRASIL, 1999).

On the other hand, according to Ferreira; Araújo; Cesar (2018), the approach on environmental issues is not always understood in a plausible way by students and disseminated satisfactorily by teachers, because the human being still, most of the time, sees himself disassociated from the natural environment. In view of this fact, it is evident that the information about the knowledge of environmental dynamics that is established by law for basic education is not contemplated and schools do not seem to know the means necessary for its implementation at all levels and modalities, making it increasingly difficult to carry out the process of environmental education due to the lack of inclusion of the environmental dimension in an integrated, cross-cutting, inter and transdisciplinary way in school curricula.

In an environmental perspective, it is not appropriate to close our eyes and believe that the educational process is only the responsibility of schools, but also to believe in a process of non-formal education, i.e., one focused on behavior, habits, practices, and social values that are not institutionalized. Paulo Freire (1996) points to education as being a communion between man and the world, from the perspective that man educates himself through the world. Thus, it should be noted according to the author, that educating is a political act, since according to the resolution of the National Education Council (CNE) nº. 2 of 2012, environmental education can be understood as a form of education for citizenship, where in its political dimension emphasizes the care for the local, regional and global environment, (BRASIL, 2012).

Given the scenario of nature contaminated by human actions, it becomes necessary to build informal and formal educational processes that use dynamic and relevant tools and materials, with the ability to enable a process of Environmental Education that enables changes in habits and customs compatible with the needs of communities, as recommended by the World Conferences on the Environment. Finally, it should be noted that Environmental Education can be seen as an instrument capable of empowering and sensitizing society about emerging environmental problems.

3 The School and the Implementation of Environmental Education

Environmental Education is currently a theme that has been occupying a prominent place in the global and local scenario, including in educational spaces, due to its relevance to the development of human beings and social groups, with new knowledge, skills and abilities, values, attitudes aimed at a quality environment and life for present and future generations. Thus, environmental education is a relevant political instrument that contributes to the emancipation of the social subject in the search for the establishment of new relationships between man and nature, which include the importance of outlining a sustainable development model contextualized with reality and social demands.

Silva (1998, p. 106) conceptualizes Environmental Education as:

> A process of knowledge construction, based on affectivity and solidarity, and that the preservation of nature is the result of a cultural identity with the land we choose to live on. And that this identity is knowledge to be built (SILVA, 1998, p. 106).

For Guimarães (2004, p. 46) "this environmental education under construction in a counter-hegemonic movement, is critical to the scientific-mechanistic paradigm that informs the modern urban-industrial society". That is, it criticizes its development model as to its mode of production, since the limits of nature's reproduction were not respected. For the author, its critical character aims to show the power and domination relations that permeate society, so that, in the understanding/political action of the construction of a socio-environmental reality, the pedagogical practice intended for Environmental Education can be established. Thus, teaching requires criticality.

Although there is no consensus for the term Environmental Education, it is important to emphasize that its purpose would be learning about the environment to help preserve it, as well as contribute to a change of attitude, as human beings, facing environmental issues. A successful Environmental Education process can Foster initiatives that transcend the school environment, reaching both the neighborhood in which the school is inserted, as well as more distant communities in which students, teachers and employees live, potential multipliers of information and activities related to Environmental Education. However, not rarely, the school acts as a maintainer and reproducer of a culture that is predatory to the environment, promoting at the same time, activities that refer to sustainability and others incompatible with an environmentally healthy society (CHAPANI, 2001).

Paulo Freire (1996) goes on to say that we cannot reduce ourselves to the planes of ideas, but rather become social practice. It is necessary to have ideas, feelings and practices so that it is not Just something singular. Moreover, it is important to remember that when we talk about the teaching of Environmental Education in schools, it occurs in a punctual way, summarizing itself in science fairs, Earth Day, Water Day. The environmental problem goes beyond this. Therefore, Freire (1996) points out that to educate is to think and to teach. And that learning to think requires critical action in the sense of questioning the knowledge brought from the reality where one is inserted.

In the case of the ECIT model, the object of this discussion, this knowledge should not be overlooked in student education, since the school model works to build a citizen conscience. For EE to have the desired success, the school community needs to develop a sense of participation and ownership of the changes and their results, so it should be under the responsibility of all, including students. Thus, according to Floriani (2009) production and Access to knowledge cannot be disconnected from the means of intervention: "do know and know how to do" and with regard to environmental issues this knowledge:

> [...] must know how to integrate the foundations of a philosophy of knowledge, culturally conditioned and historically established, that takes into account the constitutive trajectories of a history of science, but also of knowledge culturally rooted and reinvented by the diversity of living thought and embodied in practices, critical knowledge and technologies invented by human ingenuity, in tense, contradictory, creative and critical dialogue about the processes of interaction between societies and nature, FLORIANI (2009, p. 9).

This brings us to what Paulo Freire (1979) points out of the committed human being. "As we approach the nature of the being Who is capable of commitment, we Will be approaching the essence of the committed act. For this, it is necessary to be able to act and reflect. Would man or society be able to assume such a posture, of a committed being? Perhaps the answer to this question is conditioned to the understanding of being in the world. Thus, Freire (1979, p. 7) says that: "It is necessary to be able to, being in the world, know oneself in it. To know that if the way in which he is in the world conditions his consciousness of this being in the world, he is capable, no doubt, of being conscious of this conditioned consciousness.

In this perspective, based on Law 9.975/99, Environmental Education in schools must be promoted under the basic principles of:

> I - the humanistic, holistic, democratic, and participatory approach; II - the conception of the environment in its entirety, considering the interdependence among the natural, the socioeconomic, and the cultural environments, under the focus of sustainability; III - pluralism of ideas and pedagogical conceptions, from the perspective of inter, multi, and transdisciplinarity; IV - the link between ethics, education, work, and social practices; V - the guarantee of continuity and permanence of the educational process; VI - permanent critical evaluation of the educational process; VII - the articulated approach to local, regional, national, and global environmental issues; VIII - the recognition and respect for plurality and individual and cultural diversity (BRASIL, 1999).

On the other hand, EE requires an interdisciplinary approach, must be integrated and continuous and not have the character of a discipline. PNEA (1999) states that: “Environmental Education should not be implanted as a discipline in the teaching curriculum”. However, in an Environmental Education process it is important to bring students closer to environmental issues.

In this sense, as far as the “Escola Cidadã Integral Técnica” (ECIT) is concerned, where the school model starts to offer a professionalizing technical course, students can develop skills and competences so that when they leave they are able to develop solutions and propose innovative suggestions, which enable a better management of natural resources, minimizing the environmental impacts resulting from anthropic activities in the community and the region where they live.

In this way, the PNEA (1999) mentions that human resources training should focus on:

> I - the incorporation of the environmental dimension in the training, specialization, and updating of educators at all educational levels and modalities; II - the incorporation of the environmental dimension in the training, specialization, and updating of professionals in all areas; III - the preparation of professionals oriented to environmental management activities; IV - the formation, specialization, and updating of professionals in the environmental area; V - meeting the demands of the various segments of society with regard to environmental issues (BRASIL, 1999).

The PNEA brings in its 9th and 10th articles that: "environmental education in school education shall be developed within the curricula of public and private educational institutions", in their different levels and modalities of education; as, also, "will be developed as an integrated, continuous and permanent educational practice at all levels and modalities of formal education", contemplating, therefore, the model of education, object of this study, Professional education integrated to high school (BRASIL, 1999).

4 Methods

This study is exploratory research of qualitative nature with descriptive and explanatory analysis, which had as general objective to analyze how Environmental Education is presented in didactic and pedagogical activities of the “Escola Cidadã Integral Técnica João Roberto Borges de Souza”, in João Pessoa municipality, State of Paraíba, Northeast Brazil. The choice of this school occurred from the experience of researchers in the development of activities aimed at the study of Environmental Education and for one of the researchers, be a teacher at the institution, as well as the pedagogy offered in the school researched.

To reach the objectives established in this research, the study was organized as shown in the following structure:

The first stage of this research consisted of a literature review, about the proposed theme corroborating with the bibliography available in the discipline and discussing with authors from other disciplines of the program as Fundamentals of Regional Development, which contributed to the review and construction of the discussion. According to Gil (2010), the literature review: "is developed from material already prepared, consisting mainly of books and scientific articles" (GIL; 2010, p. 50). Since this is an exploratory research, the second step consisted in identifying the actions in Environmental Education, promoted by ECIT João Roberto Borges de Souza, as it is a different model of school, with a different pedagogy in its teaching offer, we tried to observe how environmental issues are dealt with in this model of institution, since it acts for the full and autonomous development of students and with the awareness of citizenship.

Aligned to the exploratory research, a documentary analysis was performed, where the menus of the subjects were observed, learning guide, course educational plan, political pedagogical Project of the school and the actions promoted by the school to analyze the existing environmental dynamics in each subject and in other didactic and pedagogical activities promoted in this school model. The choice of this school model is, also, given the relevance of these educational spaces and because they are privileged spaces for the implementation of educational practices related to Environmental Education, as well as its importance for human formation.

Since the Escola Cidadã Integral Técnica João Roberto Borges de Souza has undergone a major change in its pedagogy, where the school has also undergone changes in the way it offers knowledge to the community, leaving regular education for full technical education, where students now have nine classes a Day with teachers in full-time dedication, we used the resolution CNE/CP nº. 2/2012 which establishes the National Curriculum Guidelines for and Environmental Education in its different levels and modes of education, to assess whether the Environmental Education actions practiced by the school are in line with the provisions of the legislation.

5 Results and Discussion

ECIT João Roberto Borges de Souza offers the Technical Course in Commerce integrated to high school with subjects applied every semester. The school, in turn, has its schedule of subjects divided by areas of knowledge, such as Language Area that encompasses the disciplines (Portuguese, Art, Physical Education, English and Spanish), Humanities Area that covers the disciplines (History, Geography, Sociology and Philosophy), Exact Area with the disciplines of (Mathematics, Chemistry, Physics and Biology) and the Technical Area - the latter related to the technical course that contemplates the disciplines inserted in the area of management and business, which constitute the technical part of the professional training of the individual with the objective of forming qualified professionals who are able to positively influence the labor market.

The Learning Guide is a resource that is intended to guide planning processes and pedagogical monitoring in an objective manner in three distinct areas and should be done bimonthly with the teacher, with the student and with the families and serve to articulate the planning and communication, monitoring and compliance of the curriculum, fundamental dimensions in the mechanisms for continuous improvement of the educational processes of the institution. Law nº. 9.795 of 1999 establishing the National Policy for Environmental Education, regulated by Decree nº. 4.281 of 2002, specifies that Environmental Education: "[...] is an essential and permanent component of national education, and must be present, in articulated form, at all levels and modalities of the educational process," (MINISTRY OF EDUCATION, 2012).

Based on the provisions of the law, when observed the Learning Guides of this institution, of the 115 guides of the three series of high school, only two presented content that directly and indirectly advocate environmental issues in their programmed content, where these guides are the first series of high school, with content in the first and second bimester of the subjects Law and Business Legislation and Biology. In an Environmental Education process, it is important to bring students closer to environmental issues. In this sense, the PNEA (1999), will say that the training of human resources will focus on:

> I - the incorporation of the environmental dimension in the training, specialization, and updating of educators at all educational levels and modalities; II - the incorporation of the environmental dimension in the training, specialization, and updating of professionals in all areas; III - the preparation of professionals oriented to environmental management activities; IV - the formation, specialization, and updating of professionals in the environmental area; V - meeting the demands of the various segments of society with regard to environmental issues, (BRASIL, 1999).

Law nº 6938, of August 31, 1981, which provides for the National Environmental Policy, in subsection X of Article 2, already established that environmental education should be taught at all levels of education, aiming to enable it to participate actively in defense of the environment.

Thus, the interdisciplinary practice of environmental education in school teaching ends up being incipient. In other words, it is observed that teachers have difficulty in articulating and working together in a planned way. In comparison to the study of (FERREIRA, CESAR, ABREU, 2016), conducted in the current ECIT Daura Santiago Rangel, with regard to the practice of environmental education, the authors point out that:

> [...] teachers, for the most part, have knowledge of the subject, but do not know how to apply it in the classroom. Teachers do not receive stimuli and the school community does not give the support it should, so that leaves a large gap of knowledge for students becoming only listeners and not practitioners, (FERREIRA, CESAR, ABREU, 2016, p. 57).

It is important to highlight that in the case of a vocational technical high school, the future professional may be able not only to know, apply and develop technologies, but also to assess their impacts on the environment, considering purposes such as promoting the production, development and transfer of social technologies, notably those aimed at preserving the environment. Thus, Guimarães (2008), reveals that the school must adopt effective means for students to understand natural phenomena, human actions and the consequences for themselves, and that this environmental education must transcend the school walls, covering the local community where it is inserted.

Based on the analysis of institutional documents (Syllabus of the subjects, Learning Guide, Pedagogical Course Plan – PPC, Political Pedagogical Project) it was observed that the environmental issue in school teaching is not preponderant and thus, the National Policy on Environmental Education (PNEA) ends up not having its effectiveness. Thus, the theme should be present in school through the school curriculum. For this to happen satisfactorily, it is necessary to include the environmental dimension in the PPP, as emphasized by the Law of Directives and Bases for Education, the National Curriculum Guidelines, and as recommended by the National Curriculum Parameters. Thus, from the insertion of environmental issues in an articulated manner, the school can contribute to the generation of values and a more critical view of environmental issues.

Since among the disciplines offered in the technical course, only one contemplates the researched theme, the institution at the time of collection of documents for analysis did not have its (PPC) elaborated, since this instrument guides the practice of the course and serves as a potential tool for guidance and collection for introduction of the environmental theme in an interdisciplinary and transversal way in the other disciplines.

Based on (FERREIRA, CESAR, ABREU, 2016, p.58), in the investigation of ECIT Daura Santiago Rangel, the authors highlight the need for "continuing education for teachers and other agents involved in the training of students through courses directed to critical-reflective Environmental Education, investigating and problematizing local socio-environmental issues that directly affect the population".

In the case of ECIT João Roberto Borges de Souza, the emphasis of this discussion was not mentioned in the investigated documents, nor was it revealed by the institution's professors.

Moreover, the environmental issue goes beyond this. It is necessary that the educator, supposed, be an expert on the human being himself, since material, financial, and technological resources are not enough without the qualification of the teachers, since they are the basis for the quality of teaching and of the school in general.

Therefore, Freire (1996) points out that educating is thinking and teaching. And that learning to think requires critical action in the sense of questioning the knowledge brought from the reality where one is inserted. However, we must think globally and act locally, in the sense of taking the environmental problem to oneself and seeing in oneself the resolution of such problems.

Ferreira, Cesar, Abreu (2016) point out that Environmental Education should have an interdisciplinary character, having an integrated and continuous approach in the curricula of the subjects. And as described in the law 9.975/99: "Environmental Education should not be implemented as a discipline in the teaching curriculum".

The Political Pedagogical Project (PPP) aims to present the history of the teaching unit, in addition to containing the social function of the school, with its objectives, actions and goals to minimize the problems and educational challenges. When analyzing this important instrument, the school makes no mention of activities, projects, practices and actions with the environmental theme. Thus, based on the school's PPP, its social function is:

> Promote to the students access to systematized knowledge and from this, the production of new knowledge, promoting the formation of a conscious and participatory citizen in the society in which it is inserted. As well as, offer an education based on ethical, moral, political and social values, thus forming citizens aware of their rights and duties, able to improve and transform education contributing to a quality of life in our society (PPP ECIT JRBS, 2019).

That is, it is observed that the care with the environment end up not being a priority of the teaching unit in question, since the Political Pedagogical Project is an instrument that can be updated annually and modified completely every four years in the change of school management. It is worth remembering that Environmental Education should be based on building a reflective being with knowledge and skills, attitudes and skills aimed at environmental conservation as described in law 9.795/99. Thus, Dias (2004) defines that the school has essential tools for interdisciplinary articulation with the environmental theme.

The analysis of the pedagogical actions promoted by the teaching unit allowed observing that the presence of Environmental Education linked to the cross-cutting themes sustainability, environment and solid waste were very frequent in activities such as: science fair, elective subjects and activities related to research. In Article 9 of the resolution of the National Education Council CNE/CP nº 2/2012, which establishes the guidelines for the application of environmental education, including for vocational education, the type of education applied in this school:

> In the courses of initial training and technical and professional specialization, at all levels and modalities, content that addresses the Socioenvironmental Ethics of professional activities should be incorporated (MINISTRY OF EDUCATION, 2012).

Based on the provisions of the aforementioned article, this description was observed in the theme chosen by the students to be worked on at the school's Science Fair. Gardens and Gardens was the theme selected by the second year students, but it was the only work and only class that chose the theme that advocates environmental issues in aspects of soil maintenance, plant care process in general and reuse of recyclable materials. Still based on the resolution CNE/CP nº 2/2012, in its article 4 defines: "that Environmental Education is built with citizen responsibility, in the reciprocity of the relations of human beings among themselves and with nature". Based on this article it was found the potential interest of students with respect to care for environmental issues and this was possible to prove in the actions taken by students responsible for maintaining the open spaces of the institution, where they planted tree seedlings.

For the student to understand and contextualize the teaching of environmental education, it is essential first that the educator provides an approximation of the student with environmental issues, that it is not limited only in theory. In the second plan, after this approach, practical actions are initiated to improve the environment, encouraging them to seek possible solutions in order to minimize environmental problems.

Thus, we highlight the elective subject entitled "Looking for you, from School to the World" taught by the geography teacher of the institution who worked on Geoprocessing and Geographic Information System, which directly and indirectly works on environmental issues linked to the treatment of images with the production of maps. It is worth pointing out that this is not a fixed subject in the institution's curriculum, and that the elective subjects change every semester, being elaborated according to the teacher's knowledge. Thus, it can be said that the school partially complies with the legislation.

However, Floriani (2009, p. 9) reveals that this change in behavior "forces us to build the senses of life and the world by education (or re-education) of the senses. It is worth noting that Environmental Education can be seen as a tool capable of empowering and sensitizing society about emerging environmental problems and that it has led to the awareness of the need for (re) behavioral orientation of mankind towards environmental issues. However, in order to have the intended success with Environmental Education: "the school community needs to develop a sense of participation and ownership of the changes and their results and, therefore, should be under the responsibility of all, including students" (FERREIRA, ARAÚJO, CESAR, 2018, p. 89).

6 Conclusions

This research had as general objective to analyze how Environmental Education is presented in didactic-pedagogical activities of the Escola Cidadã Integral Técnica Estadual João Roberto Borges de Souza, in João Pessoa - PB. As mentioned in the literature, the teaching and/or discussion of themes related to environmental sciences is still incipient in this model of education. The school in question partially meets the provisions of resolution CNE/CP nº. 2/2012, which establishes the Curriculum Guidelines for Environmental Education, where in its Article 1 item II that deals with the objectives of the law will say that the school must "Stimulate the critical and propositional reflection of the insertion of environmental education in the formulation, implementation and validation of institutional and educational projects of educational institutions, so that the conception of environmental education as part of the curriculum exceeds the mere distribution of the theme by the other components" (MINISTRY OF EDUCATION, 2012).

Thus, we understand the importance of education for life, for the strengthening of human relations in order to modify real situations found in the various layers of society. In view of this, the development of a transforming and emancipatory education is sought to that aimed at the exercise of citizenship through Environmental Education.

Thus, it is observed that with regard to the teaching of ECIT João Roberto Borges de Souza, only two subjects presented content that meet the National Policy of Environmental Education, which advocates that environmental education is fundamental to an awareness of people in relation to the world in which they live in order to have, increasingly, quality of life without disrespecting the environment.

Brazilian education requires, first of all, changes in conceptions and curricular practices and requires recognition of environmental education as a pertinent and permanent component in school curricula, through an integrated, transversal, and interdisciplinary curricular approach.

Environmental Education, according to Law 9.795/99, is understood to be the process by which the individual and the community build social values, knowledge, skills, attitudes, and competencies towards the conservation of the environment, an asset for common use by the people, essential to a healthy quality of life and its sustainability.

Thus, Environmental Education is an essential and permanent component of national education, and it is the responsibility of educational institutions to promote environmental education in an integrated manner to the educational activities they develop. And that these should not be reduced to science fairs or other specific activities in educational institutions. It is necessary to understand environmental education in its entirety, since the practice and actions in environmental education, as pointed out by Guimarães (2008), must GO beyond the school walls, establishing links, as well as integrating the school and the community around the school.

It is in this perspective that the Law of Directives and Bases of National Education (LDBEN) determines that education should not only contemplate the acquisition of knowledge, but that it should seek to develop in the student the formation of citizenship, so that he or she develops in work and studies.

That is, according to the legislation, this education should cover the formative processes that take place in family life, in human coexistence, at work, in educational and research institutions, in social movements and civil society organizations, and in cultural manifestations (BRASIL, 1996), which allows us to understand that national education is not limited to the assimilation of contents, but also to the development of values, which we believe is essential for the discussion on the process of environmental education in the model of the Citizen Comprehensive Technical School, object of this discussion.

From the understanding of the importance and insertion of Environmental Education in school curricula as an educational Project and with the possibility of extending citizenship and individual and collective rights and socio-environmental training, this work sought to contribute to the construction of knowledge, perception and environmental citizenship of students, teachers and community of the teaching unit involved in the research.

We conclude by highlighting the success of the data obtained, since the school studied does not present with predominance in teaching, but the linking of the environmental dimension in the other didactic and pedagogical activities is quite casual. It is also emphasized that it is the school's duty to awaken in the students a conscious concern about the environment and the problems that surround it, transforming citizens and society.

CREDIT AUTHORSHIP CONTRIBUTION STATEMENT

A.G.S.C. contributed at all stages of the manuscript, from conceptualization, writing, and revision. F.T. participated in the construction and formation of this study, where your contribution was with the analysis and discussion of the investigated material, as well as E.P. contributed in the corrections of the work before going through the translation.

DECLARATION OF INTEREST

The authors disclose that they have no known competing financial interests or personal relationships that could have appeared to influence the study reported in this manuscript.

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REFERENCES

BRASIL. Ministry of Education. **National Council of Education**. National Curriculum Guidelines for Environmental Education. Resolution No. 2, From June 15, 2012. Available from: http://portal.mec.gov.br/expansao-da-rede-federal/323-secretarias-112877938/orgaos-vinculados-82187207/18695-educacao-ambiental. Accessed on: 1 feb. 2023.

BRASIL. **National Policy for Environmental Education**. Law 9.795 of April 27, 1999. Brasília, 1999. Available from: https://www.icmbio.gov.br/educacaoambiental/politicas/pnea.html. Accessed on: 1 feb. 2023.

CHAPANI, Daisi Teresinha. **Educação ambiental:** ação-reflexão-ação no cotidiano de uma escola pública [*Environmental education: action-reflection-action in the daily life of a public school*]. 2001. 212 f. MSc Thesis (Master in *Educação para a Ciência*) — Universidade Estadual Paulista Júlio de Mesquita Filho, São Paulo, 2001. Available from: https://repositorio.unesp.br/. Accessed on: 1 fev. 2023.

DIAS, Genebaldo Freire. **Educação ambiental:** princípios e práticas [*Environmental education: principles and practices*]. 9th ed. São Paulo: Gaia, 2004. Available from: https://www.lexml.gov.br/urn/urn:lex:br:rede.virtual.bibliotecas:livro:2004;000746103. Accessed on: 1 feb. 2023.

EFFTING, Tânia Regina. **Educação ambiental nas escolas públicas:** realidade e desafio [*Environmental education in the public schools: reality and challenges*]. 2007. 90 f. Monograph (Specialization in *Planejamento para o Desenvolvimento sustentável*) — Universidade Estadual do Oeste do Paraná (UNIOESTE), Campus de Marechal Cândido Rondon, 2007. Available from: https://www.terrabrasilis.org.br/ecotecadigital/index.php/estantes/educacao-ambiental/178-educacao-ambiental-nas-escolas-publicas-realidade-e-desafios. Accessed on: 1 feb. 2023.

FERREIRA, Catyelle Maria de Arruda; ARAÚJO, Sérgio Murilo Santos; CESAR, Ary Gustavo da Silva. Análise da Educação Ambiental na Universidade Federal de Campina Grande (UFCG) nos anos de 2002 a 2017: disciplinas e projetos [*Analysis of Environmental Education at the Federal University of Campina Grande (UFCG) in the years 2002 to 2017: disciplines and projects*]. **Revista Brasileira de Educação Ambiental (RevBEA)**, v. 13, n. 1, p. 87-107. 2018. Available from: https://doi.org/10.34024/revbea.2018.v13.2563.

FERREIRA, Catyelle Maria de Arruda; CESAR, Ary Gustavo da Silva; ABREU, Bruno Soares. Organizational learning: a study of environmental education in schools on the public system of education. **Revista InterScientia**, v. 4, n. 1, p. 53-58, 2016. Available from: https://periodicos.unipe.br/index.php/interscientia/article/view/510. Accessed on: 1 feb. 2023.

FLORIANI, Dimas. Por uma epistemologia da diversidade. In: NAVAL, Liliana Pena; PARENTE, Temis Gomes (Ed.). **Impactos socioambientais:** o desafio da construção de hidrelétricas. Goiânia: Canone Editorial, 2009. Available from: https://www.researchgate.net/publication/235956317_Por_uma_Epistemologia_da_Diversidade. Accessed on: 1 feb. 2023.

FREIRE, Paulo. **Educação e mudança** [*Education and change*]. 12 ed. São Paulo: Paz e Terra. 1979. Available from: https://edisciplinas.usp.br/mod/resource/view.php?id=260222&forceview=1. Accessed on: 1 feb. 2023.

FREIRE, Paulo. **Pedagogia do oprimido** [*Pedagogy of the oppressed*], v. 43, 1996. Available from: https://scholar.google.pt/scholar?start=10&q=paulo+freire+1996+pedagogia+do+oprimido&hl=pt-PT&as_sdt=0,5. Accessed on: 1 feb. 2023.

GIL, Antônio Carlos. Métodos e técnicas de pesquisa social [*Social research methods and techniques*]. 6 ed. São Paulo: Atlas, 2010. Available from: https://scholar.google.com.br/citations?view_op=view_citation&hl=pt-BR&user=lRPe4Y4AAAAJ&citation_for_view=lRPe4Y4AAAAJ:1qzjygNMrQYC. Accessed on: 1 feb. 2023.

GUIMARÃES, Juliana; PEREIRA, Laudemiria Antunes; BRANCO, Romilda de Fátima; ALVES, Roseli Terezinha. Environmental education and the education of young adults (EJA). **Synergismus scyentifica UTFPR**, Pato Branco, v. 3, n. 2-3, 5 p., 2008. Available from: http://revistas.utfpr.edu.br/pb/index.php/SysScy/article/view/413. Accessed on: 1 feb. 2023.

GUIMARÃES, Mauro. Educação ambiental crítica [*Critical Environmental Education*]. In: LAYRARGUES, Philippe Pomier (Org.). **Identidades da educação ambiental brasileira** [*Identities of Brazilian environmental education*]. Brasília: Brazilian Ministry of Environment. Executive Secretary. Directorate of Environmental Education, 2004, p. 25-34. Available from: http://www.bibliotecaflorestal.ufv.br/handle/123456789/3507. Accessed on: 1 feb. 2023.

MORIN, Edgar. **O método 1:** a natureza da natureza [*Method 1: the nature of nature*]. Porto Alegre: Sulina, 2005. Available from: https://www.editorasulina.com.br/detalhes.php?id=185. Accessed on: 1 feb. 2023.

SILVA, Daniel José da. **Uma abordagem cognitiva ao planejamento estratégico do desenvolvimento sustentável** [*A cognitive approach to strategic planning for sustainable development*]. 1998. 250 f. PhD Thesis (Doctorate in Production Engineering) — Universidade Federal de Santa Catarina, Florianópolis, 1998. Available from: https://repositorio.ufsc.br/xmlui/handle/123456789/77530. Accessed on: 1 feb. 2023.

SILVA-CESAR, Ary Gustavo; DAMBROSKI, Marilis; DO AMARAL ANTONIAK, Joana. Contributions of environmental education in sustainable regional development: analysis of higher education in the region of Vale do Mamanguape – PB. **Revista Contexto Geográfico**, v. 7, n. 15, p. 117-133, 2022. Available from: https://www.seer.ufal.br/index.php/contextogeografico/article/view/14700. Accessed on: 1 feb. 2023.