

Environmental Education: aspects that hinder teacher engagement in public schools in the Federal District¹

Educação Ambiental: aspectos que dificultam o engajamento docente em escolas públicas do Distrito Federal

Valdivan Ferreira de Lima*
Claudia Pato*

ABSTRACT

This study aimed to understand aspects that hinder the engagement of teachers in proposals for Environmental Education (EE) from the perspective of these participants. Seventeen public school teachers from the Federal District (11 women), with mean age of 34.6 years, and mean time of 15.2 years of experience in elementary education in the public school system participated as volunteers. Among the participants, three held management positions, three were proponents of EE projects and eleven were not directly involved in environmental-themed projects. Individual and collective interviews (focus groups and conversation circles) were conducted with each of the categories of participants. Qualitative analysis based on sensitive listening indicated the following aspects unfavorable to engagement: the cross-cutting curricular prerogative given to EE, power and conflict relationships in schools, difficulties faced in the school routine, values, and teacher training. Personal values and specific training in EE, with a critical and human perspective, emerged as possibilities for overcoming the problem. These results are congruent with studies on the theme and point out important contributions for fostering teacher engagement in EE projects in schools.

Keywords: Environmental education. Public school. Engagement. Teacher training. Values.

¹ Translated by David Ian Harrad. E-mail: davidharrad@hotmail.com

* Universidade de Brasília. Brasília, Distrito Federal, Brazil. E-mail: valdivanferreira@gmail.com - <https://orcid.org/0000-0002-8116-9590> E-mail: claudiap@unb.br - <https://orcid.org/0000-0003-0324-2075>

RESUMO

Este estudo teve por objetivo compreender aspectos que dificultam o engajamento de professores nas propostas de Educação Ambiental (EA) a partir da percepção desses sujeitos. Participaram 17 professores de escolas públicas do Distrito Federal (11 mulheres), com média de idade de 34,6 anos, com tempo médio de 15,2 anos de atuação na educação básica da rede pública de ensino. Dentre os participantes, três exerciam o cargo de gestão, três eram propositores de projetos de EA e onze não estavam envolvidos diretamente em projetos de temática ambiental. Foram realizadas entrevistas individuais e coletivas (grupo focal e roda de conversa) com cada uma das categorias de participantes. As análises qualitativas baseadas na escuta sensível indicaram os seguintes aspectos desfavoráveis ao engajamento: a prerrogativa curricular transversal da EA, as relações de poder e conflito nas escolas, as dificuldades enfrentadas no cotidiano escolar, os valores e a formação docente. Os valores pessoais e a formação específica em EA, com perspectiva crítica e humana, surgiram como possibilidades de reversão do problema. Esses resultados são congruentes com estudos sobre a temática e apontam contribuições importantes para fomentar o engajamento docente em projetos de EA nas escolas.

Palavras-chave: Educação Ambiental. Escola pública. Engajamento. Formação docente. Valores.

Introduction

Environmental Education is considered strategic for conserving the environment and building sustainability of life in its multiple manifestations. Formal and non-formal educational processes intend, in essence, to transform people's relationships with the environment and contribute to the mitigation and adaptation of environmental issues. In formal school education it is expected to be an integrated, continuous and non-disciplinary practice (BRASIL, 1999).

There is evidence, however, that environmental education projects or activities in public schools cannot achieve their objectives because they are not included in a debate that is present in the key spaces of school organization and planning. This is an impediment to actions that affect the transformation and learning of the individual, the group and the institutional structure. Studies conducted in Brazil have pointed out the lack of involvement of teachers in environmental education projects in schools, as well as the finding that activities of an environmental nature often happen in isolation, in particular on

commemorative dates (OLIVEIRA, 2016; SANTOS, 2016; SOUTO, 2018). Therefore, there is a lack of engagement of those who, a priori, would have the role of including the theme of the environment in a cross-cutting way, mediating and building, along with the other segments of the institution, knowledge capable of promoting critical thinking and transforming the socio-environmental reality of the school community.

This perspective of environmental education has not found this space, in view of the adoption of more naturalistic or conservationist/recursive approaches, in which concerns are more focused on aspects of the relationship with nature and environmental management. Commonly, activities focus on planting vegetable gardens, selective waste collection, and reducing water and energy consumption. Undeniably, these actions contribute significantly to the inclusion of the theme of the environment in the school community and produce important results. However, in this isolated and one-off manner, the limitation of the debate can compromise deeper socio-environmental transformations, especially in more central aspects, which involve the system of values and beliefs of social actors. Guimarães (2013) questions the homogenized and superficial approaches of environmental discourse, which as well as losing a critical perspective also contains bias toward hegemonic education, referring to what he calls the conservative current of environmental education. For him, the critical current is the one that brings to the surface aspects that deal with power relations in society, in addition to the politicization of human actions related to the environment. For Jacobi, Tristão & Franco (2009), there is also the need for a complex and politicized understanding of the theme of the environment. The authors consider participation as the guiding axis of environmental education practices, with articulation of knowledge and actions. These practices should be based on a contextualizing and problematizing attitude toward reality, which implies, therefore, the need to stimulate dialogue and more active participation of society (JACOBI; TOLEDO; GRANDISOLI, 2016).

Engaging in environmental education projects or activities from a critical perspective, approaching the theme of the environment in a cross-cutting way in their pedagogical practice, may seem obvious to teachers. However, reality has shown that it is neither so obvious nor so easy to accomplish this conception, as expected. If there is evidence that it has not fully happened in this perspective, and if there is the conviction that this is a complex issue, questions and different dimensions of the problem emerge: what hinders, as perceived by the teacher, his/her performance in environmental education projects in public schools, when a cross-cutting approach is a curricular prerogative? How does teacher (non)training in environmental education present itself in receptiveness to initiatives involving activities that deal with the environment? How does the

school contribute, as the context in which the teacher's pedagogical practice takes place, to aspects that hinder such activities? The objective of this study was therefore to understand aspects that hinder engagement of teachers in environmental education proposals in public schools in the Federal District, based on the perceptions of these subjects.

The cross-cutting approach: new possibilities for organizing knowledge

The cross-cutting nature of the theme of the environment is the fruit of an epistemological debate in which paradigmatic transformations are discussed. Morin (2007, p. 59, our translation) conceptualizes the *simplifying paradigm* as one that “puts order in the universe, expels disorder” and in which scientific knowledge has the mission of unveiling the “hidden simplicity” of phenomena. This simplification is sought based on disjunctive and reductionist thought, while *complex thought* has disjunction, conjunction, and implication as its principles. Fragmentation, rationalization, order and certainty as principles of modern science are questioned by the paradigm of complexity, for which the reconnection of knowledge is fundamental.

From this perspective, interdisciplinarity refers to a space of mediation between knowledge and articulation of knowledge,

[...] in which the disciplines are in a situation of mutual coordination and cooperation, building a common conceptual and methodological framework for the understanding of complex realities (CARVALHO, 2017, p. 96, our translation).

Transdisciplinarity comes as a proposal for articulation and exchange of disciplines, but, according to Basarab Nicolescu, it is not limited to this because “[...] it is at the same time between disciplines, *across* disciplines and *beyond* any given discipline. Its goal is the *understanding of the present world*, for which one of the imperatives is the unity of knowledge” (NICOLESCU, 1999, p. 53, author's emphasis, our translation). In view of the complexity of the issue, it is not by chance that we observe great difficulty in the inclusion of pedagogical proposals that intend some kind of articulation/integration of subjects in schools. Because it is something that goes beyond the traditional patterns of teaching, it

is viewed with mistrust by teachers. Environmental education, due to its cross-cutting curricular nature and, evidently, when approached critically, already faces this challenge in schools, given the difficulty in giving it a central space in teachers' pedagogical practice. Perhaps this is something that occurs precisely because of its renewing and multidimensional character, possibly clashing with the tradition of modern rationality that tends to be disciplinary and fragmented.

For a critical and human Environmental Education

One-off, decontextualized and superficial approaches, which serve the model in which consensus is sought as a premise for the continuity of the current social model, are a reflection of the lack of depth of the environmental debate. This is the model of environmental education that is commonly implemented in schools, without critical analysis capable of promoting structural changes in the relationship between human beings and nature (GUIMARÃES, 2013). The consensual character present in the discourse and actions of environmental education in schools does not take into account, from a critical perspective, how to address the current environmental crisis. And the *Base Nacional Comum Curricular* (BNCC) [Common National Curricular Base] seems to collaborate even more with this one-off, superficial, uncritical and shallow character of the socio-environmental debate, leading to the silencing of the field of environmental education in Brazil, as stated by Silva & Loureiro (2020). According to Layrargues (2018, p. 194, our translation), there has been a process of hegemonization of reproductivist environmental education so that one cannot find, in government and school programs, "any reflection that compromises the capitalist mode of production and the sociability of capital".

The socio-environmental perspective points to the need for a complex view of the environment, "in which nature is part of a network of relationships that are not only natural, but also social and cultural" (CARVALHO, 2017, p. 28, our translation). For her, the *ecological subject* is an ideal being that establishes itself in a full ecological existence, through ecologically oriented choices in daily life, and sustains utopia in values that support the struggle for a project of transformation of society. Thus, the reconnection of the human being with nature and the feeling of belonging, as a species and as a social being, are important assumptions in the conceptualization of Human Ecology, understood as the rooting of the human being with both its biological and its sociocultural basis. As such, the relationship between environmental education and human ecology allows the opening of a very broad epistemological field for research

on the knowledge, values and experiences that influence the construction of the ecological subject, environmental perception, crisis and sustainability, and about *school as a social and environmental space for building knowledge and producing meaning* (CATALÃO; MOURÃO; PATO, 2009, p. 30, our emphasis, our translation).

Addressing socio-environmental problems, such as inequality, social exclusion and environmental degradation, cannot be limited, therefore, to theorization of economic models, globalization processes or imperialist projects. The crisis must also be faced through daily actions, through awareness and sensitization of oneself and of others, as well as through incorporation and dissemination of ecological ideals. The transformations that arise from a critical and human approach to environmental issues are more solid and lasting if they are based on the assumptions of effective citizen participation. In this sense, it can be perceived that there is convergence between environmental education and the citizenship-based formation of individuals, an “ecocitizenship” in which our humanity is inscribed in the global web of life (SAUVÉ, 2017, p. 271).

From this perspective of environmental education, pedagogical practice at school is considered important, perceived from the perspective of teacher training, approached here in a more comprehensive way, not reduced to academic training, but considering the teacher’s entire life trajectory. It is about the formation of a personal and professional identity that provides a dialogue with the world of teachers’ lives. Understood as a space where there is an encounter between the individual and the social world, subjectivity results “[...] both in unique marks in the formation of the individual and in the construction of shared beliefs and values in the cultural dimension, which will build the historical and collective experience of groups and populations” (CARVALHO, 2017, p. 218, our translation). Thus, social processes are not considered external to the individual, but as processes implied within a complex system in which the individual is constitutive and, at the same time, constituted. We can think, therefore, that the teacher who participates effectively (or otherwise) in school environmental education activities is within a process of generating senses and meanings, both for that social space and for him/herself.

Understanding interactions between the school context and the teacher can be enlightening in relation to the teacher’s level of engagement in environmental education projects, which is crucial to the objectives of this study. It is about trying to perceive, in their discourse and in the way they act, levels of alienation or autonomy in face of the various aspects involved in their job, from working conditions themselves to the demands of the management team regarding

their performance and meeting the goals set by them or by the school system. Autonomy, understood as self-regulation or self-rule, does not mean, however, total elimination of the discourse of others, but rather an activity of constant movement of returning to the discourse of others without being dominated by it. The discussion of alienation revolves around how the subject takes the discourse of others (heteronomy) and applies it, this being a situation in which the “[...] subject does not say himself, but is said by someone else, existing therefore as part of someone else’s world” (CASTORIADIS, 1982, p. 124, our translation). For the author, alienation is also configured by concealment of the social and historical character of institutions, when, instead of serving society, they have society at their service.

However, power relations within the school institution go beyond the rules or regulations of the education system and materialize in everyday life. The school, an institution in which work is based on knowledge as the primary objective of its activity, is within a context in which power and knowledge appear explicitly in its everyday life, mutually and inseparably implied. However, considering the principles of complex thought, it is not prudent to analyze a specific context, in this case, the school context, without also making a connection with the macro context (State/World), because, possibly, this will find an echo in the minimum daily actions of individuals and vice-versa. Morin (2000, p. 67, our translation) calls this movement planetarization: “Each part of the world is, increasingly, part of the world and the world, as a whole, is increasingly present in each of its parts”.

Environmental education is also part of this power/conflict issue at school when it proposes transformative actions that lead to reflections and revisions of practices that worsen the socio-environmental crisis and serve to maintain the hegemonic socioeconomic model. It is not easy for the teacher to break away from some institutional ties and overcome the personal and professional limitations imposed on his or her job in their daily lives. However, it is necessary to believe in the utopia of a transformed and transforming society. In this sense, it is necessary to reflect on the role of the school in the face of new educational conceptions, considering that there is a transition underway between two perspectives: an oppressive one and a liberating one (FREIRE, 2005). As such, the school functions in the midst of a mismatch between discourses, which proclaim reflexive and critical education, and practice, which still has remnants of a traditional teaching structure.

And what about the teachers’ responsibility amidst this transition? Hannah Arendt (1972) discusses the responsibility of educators in relation to those who are newly born into the world, considering school as a transition to the real world in which the educator is a kind of representative. Yet there is a crisis in modern

education in which “[...] authority has been refused by adults, and this can only mean one thing: that adults refuse to take responsibility for the world into which they have brought children” (ARENDR, 1972, p. 240, our translation). Drawing a parallel with the theme of this research, one can perceive that engagement of teachers in environmental education projects would be one way, among others, of taking on their role as representatives of the world and with the respective authority. Hence the question: what’s stopping them?

Method

The Federal District Department of Education is comprised of 14 Regional Education Divisions, located in Brasilia and in other cities in the Federal District. The following aspects were considered in order to define the research participants: the diverse locations of the schools, the different areas of knowledge (Languages and Codes, Humanities, Natural Sciences and Mathematics), as well as the three stages of elementary education under the Brazilian system (Early Childhood Education, Primary/Middle School and High School Education). In order to identify the teachers who develop environmental education projects, we consulted the Environmental Educators Network Catalogue (DISTRITO FEDERAL, 2009) and the records of the Nature School, a school linked to the Department of Education, which works with continuing education and environmental education in schools (DISTRITO FEDERAL, 2015).

Participants

Seventeen teachers from public schools in the Federal District, located in eight different Regional Education Divisions, participated in the research. Eleven of them were women and six were men, with average age of 34.6 years and average time of 15.2 years in elementary education in the public school system. 64.7% had postgraduate specialization (*lato sensu*) qualifications. Among the participants, three held management positions, three were proponents of environmental education projects, and eleven were not directly involved in projects with environmental themes. Each participant worked in a different school, all took part voluntarily and were guaranteed anonymity and

confidentiality, as well as being informed of the possibility of withdrawal from the study at any time, with no detriment to them or their institution.

Data collection instruments and procedures

In order to take different perspectives into consideration, three data collection strategies and four different groups of participants were used. Thus, semi-structured individual interviews were administered with the three teachers holding management positions (*managers*) at schools where projects with environmental themes are developed and with the three teachers who implemented or coordinated environmental education projects (*proponents*). *Non-proponent* teachers working at Middle Schools and High Schools participated in focus groups (eight) and those working in Early Childhood Education and in Primary Schools took part in conversation circles (three).

The interview scripts were adapted to be suitable for each group of participants and covered the following topics: teachers' perception in relation to their institutions (school and environmental education); relationship between environment and education; environmental education and the cross-cutting teaching approach; teacher training in environmental education; difficulties in implementing environmental education projects and difficulties for teachers' engagement in environmental education projects and activities. After mapping the schools and defining a schedule, a systematic visit was made to about 40 schools in 11 Federal District cities, to present the research and invite voluntary participants. These procedures sought to encompass the diversity and amplitude of characteristics that involve the schools and the school community. The interviews were carried out in places that were convenient for the participants. We opted for audio recording, along with notes in a field diary.

Data analysis

Data analysis was performed qualitatively, through successive readings and re-readings of the material produced (ANDRÉ, 2008), involving triangulation with the literature reviewed and the theoretical framework, until the categories of analysis were reached. Thus, we took as our guide a posture of absolute attention to the assumptions of what Barbier (2007, p. 94, our translation) calls

“sensitive listening”, whereby one recognizes the unconditional acceptance of the other, without judgment, measurement or comparison. A form of listening that “understands without, however, adhering to the opinions of the other or identifying with them, with what is enunciated or practiced”. To do so, in an empathic attitude, the researcher needs to know how to feel the affective, imaginary and cognitive universe of the participant in order to “understand from inside” their attitudes and behaviors, their system of ideas, values, symbols and myths.

Results

Data analysis indicated the following categories related to aspects unfavorable to engagement: the cross-curricular prerogative of environmental education, power relations and conflict in schools, difficulties faced in daily school life, values, and teacher training. The testimonies of the *teacher/managers* (TM), *proponent teachers* (PT) and *non-proponent teachers* (NPT) confirm the existence of difficulties in teacher participation in the implementation of environmental education projects in public schools in the Federal District. They also verify aspects related to the superficiality of the approaches to the subject of the environment and to the discontinuity of projects and activities in schools. Highlighted below are some excerpts from the individual interviews (*i*), focus groups (*f*) and conversation circles (*c*), that illustrate these results.

NPTf2 – *At my school I'm not in any project in the area of environmental education, there's nothing there in that sense.*

NPTf4 – *At the school where I work there's no environmental project.*

NPTf7 – *In our case, we don't have a project there either, the school doesn't have a project.*

NPTf3 – *I've never worked on a specific project with my class, and neither has the school, you know? For as long as I've been there, the school hasn't worked on one.*

TMi3 – [...] *at the beginning the greatest resistance came from the teachers themselves.*

PTi1 – *I can tell you that the person who helped me with the project was the (teaching supervisor) [...]. On her own. Because the majority are very resistant.*

PTi1 – *Environment is not just about that. That's why I think that the environment isn't addressed. It focuses on some things, but doesn't approach it like it should. [...] It's not just: "don't throw litter on the ground."*

NPTf1 – [...], *it seems that it's rather circumspect, it's not really developed*

in depth. But there is something, they set up the vegetable garden and the like and everything, but the criticism as I see it, [...], is that when you get there and see it, there's selective waste collection, there's the part about, the vegetable garden and that's it, that's as far as it goes.

The study indicated that the *cross-curricular prerogative* attributed to environmental education has not been effectively put into practice in schools, considering that many teachers do not see concrete results from this perspective. This is especially due to the fact that it is not something experienced by teachers in their training environment and in the education system itself, since both are structured according to a disciplinary form of organization. The central debate, based on whether environmental education should be continuing or not, demonstrates the difficulty teachers have in breaking with the disciplinary tradition, still present throughout the teaching structure, from elementary education to university. Thus, environmental education is not taken up by the various areas of knowledge collectively, and is commonly lodged, in a fragmented way, in some specific disciplines. The following accounts illustrate these aspects.

PTi3 – *I think it's there, on paper, as a cross-cutting theme, all rather lovely, very poetic, but in life it's not there, it's not in the classroom, it's not in the school, it's only done by those who want to do it.*

PTi2 – *So, that's why there should really be a moment to stop and say: "Now we're going to have our Environmental Education lesson". [...] I think that it should be on the curriculum, you know?*

NPTi4 – *[...] as a cross-cutting theme it hasn't produced many results, has it?*

PTi1 – *Everything that requires effort faces resistance.*

TMi3 – *Concern about excess work, in other words, having more work to do than he already has in his part of the curriculum.*

Connections existing in *power and conflict relations* that are configured internally and externally to the school and that influence interpersonal relationships, institutional support and the ways of including the theme of the environment were made evident. There are other issues concerning power relations and conflict in schools, besides the war of egos, which are recurrent in the interviewees' statements. The *cascade effect* of the government's attitude towards the environment denotes discredit regarding educational projects related

to the culture of discontinuity as a result of changes in government, as can be seen in the accounts below.

NPTj5 – *Indeed a problem that exists in schools and which is notorious is the problem of egos, egoism is the big problem in our school.*

NPTj7 – *We're all sick and tired. [...] What was brought up here, egoism, wanting to be noticed, the person's name having to be seen.*

NPTj2 – *[...] every time the Education Secretary changes, everything changes [...]. Every year you're a guinea pig for a new project and everything else.*

PTi3 – *It's a cascade effect. [...]. It's like a network system [...]. That little ball that was let loose in the Education Department, sure is going to reach the students.*

TMi2 – *Is it from the top downwards? Yes it's from the top downwards. There's no longer time to discuss things, you know, round table, not any more. It's from the top downwards, do you understand?*

The teachers therefore showed that they were clear about the effects of governmental actions, on their various levels, on the actions carried out in the school environment. It is also a sign that there is an undeniable implication or connection of the exercise of power that occurs in all political spheres. Personal interests prevailing over the interests of education is a phenomenon also cited as something present in schools, a posture observed among peers themselves. It was also found that the work with environmental issues is limited due to the *difficulties faced by teachers in their daily school life*. What teachers face in their daily school routine is, according to their accounts, one of the most important unfavorable aspects for engagement in projects or activities, not only those that address environmental issues, but any other area as well. Among other difficulties, one in particular stood out: the excessive number of students the classroom, along with attending to students at social risk, with disabilities or specific functional disorders. According to the participants, such responsibilities have not been fully absorbed by the different levels of the educational systems and end up overloading teachers.

NPTc3 – *[...] "How can I develop this project with all these students, if I haven't got a monitor in my classroom?" [...], she said there's more than thirty students in her classroom, three hyperactive students and one with hearing disability that can't see clearly either.*

NPTc1 – *We talk so much and discuss so much, but our working conditions hinder us a lot [...], often we're not able to because there are these limitations, classroom brimming over, students who can't read, [...]. In teaching terms, what hampers any classroom activity nowadays is too many students in the classroom. [...] These are things that make it difficult, not just environmental education projects, but any project.*

NPTf3 – *[...] we get more concerned about the student's reality than about the contents [...] because at home they haven't got anything to eat, they go to school to avoid having to look after their younger brother at home, they go to school to get away from their father who's spanking them every day, at least he's at school and away from that. [...]. At times the contents of my lesson is impoverished because I have to concern myself about the student I know is being beaten, that girl I know is being abused, [...] so it's like this, our concerns at school have become other concerns, we have to be a psychologist, we have to be a doctor, we have to be a police officer, you know?*

Some aspects emerged as potential means of reversing this apparent vicious circle: a strong link between personal *values* and engagement in environmental education projects or seeking *training*.

PTi2 – *Those teachers that didn't have this as a value, as a principle, [...] thought it was a pain in the neck and couldn't wait for the course to end. [...] there will be some return, above all for those who are involved with this, for whom it is a value, that's been with them since they were children. If it isn't, nothing will change very much. I'm talking about what I see in practice. I saw teachers, who took the course, some loved it and others hated it, it was torture for them.*

NPTc3 – *So, we work with a project about values precisely because of those we provide a service to. [...] what our school really needs is this project about values, you know?*

TMi3 – *[...] I took a course at the Nature School, an enhancement course, and I thought it was quite productive, [...] afterwards we did some field work, to see things, and that is motivating, it's really very good, a lot different from just sitting there.*

PTi1 – *[...] fundamental, without a doubt! You begin analyzing things from another angle, you have, you start to, you change. [...] So I think that taking that course was fundamental for this change in me, for me to have another viewpoint and to put this over better to my students.*

Captured as a recursive synthesis, lack of training is put down to the reductionist view in relation to the environment and environmental education, in which the dichotomy between human beings and nature prevails, replicated by many teachers. On the contrary, the specific training of teachers is credited with broadening the viewpoint in relation to environmental issues and, consequently, the adoption of a more critical and engaged approach.

An interpretative possibility

Carvalho (2017) points out the challenge of environmental education in schools from the perspective of breaking with traditional teaching practices, based on the disciplinary and fragmentary model of knowledge. The interdisciplinary or transdisciplinary path, as the author ponders, requires a structural review of the school institution itself in its daily life. The National Policy for Environmental Education (BRASIL, 1999) suggests the incorporation of the environmental dimension in an interdisciplinary way at the different levels and in modalities of education. However, it can be seen that the curricular attempts to break with the fragmented view of knowledge unilaterally centralize the responsibilities for its application on the teacher. A cross-cutting approach is proposed that is not present in the structure of the educational system itself, nor is it effectively present in teacher training. This absence can be seen in the teachers' speech, who justify the lack of effective work on environmental issues because there is no *demand* for it. It can be seen that the great concern lies with teaching contents the teachers refer to as being mandatory, possibly because these are included in the education system evaluation instruments. In this sense, it is essential that the initial and continuing education of teachers strengthen the critical, human and cross-cutting vision of environmental education, as advocated by Tozoni-Reis & Campos (2014).

Another important aspect shown by the results concerns individual *vanities*, either those of the author of the project, who does not wish to share his or her protagonism, or those of colleagues, who do not wish to work if this means others will gain recognition for these initiatives. Aligned to this perspective, Rosalen (2019) points out that "ego squabbles" hinder the emergence of teacher leadership in environmental education. It is possible to infer, therefore, that environmental education projects are not built jointly and, especially, there is collective involvement to ensure that any attempt at individual bragging

is impossible. As reported, this is one of the variables that undermine good interpersonal relationships at school and make it difficult for teachers to engage in collective projects, as expected in those involving environmental education.

This discontent (external and internal) intensifies conflicts and makes it difficult to create a favorable environment for collective pedagogical practices. We must consider, however, that conflict is not a problem in itself, because it is at the base of all pedagogy. To be willing to engage in conflict, doing so outside the personal sphere of interests of course, is a posture proper to the educator in terms of his or her engagement, despite the risks and burdens of his or her involvement, as seen in the testimonies of some of the teachers. “The educator is one who does not remain indifferent, neutral, before reality. He seeks to intervene and learn from the reality that is taking place” (GADOTTI, 2001, p. 30-31, our translation). Conflict presents itself as an obstacle to environmental education projects when it is engendered by self-interest or abdication of dialogue. Important consequences of this lack of dialogue can be identified in this study through the revelation of two different forms of exercising power. One of them is imposition of authority, strongly present in some of the speeches of teachers in management positions. The justification for believing in the power of the State as an effective measure to force teachers to work on the environment is the difficulty in obtaining their voluntary involvement, and “the managers’ view that hierarchical leadership makes the difference” (ROSALEN, 2019, p. 105, our translation) prevails in a recurring manner. It can be seen, in this case, that these arguments in favor of imposing teacher participation are based on a correct interpretation of the necessary urgency of having the theme of the environment as a priority in pedagogical practices. However, this coercive strategy can trigger emphasis on traditional environmental education, without the critical/reflective character that comes from voluntary and engaged involvement.

Imposition of the *top-down* approach can certainly succeed in putting the environment issue on the pedagogical agenda of schools. However, it runs the risk of being limited to dissemination of mandatory tasks, without these becoming transformative actions in the school community. In this sense, the other form of exercising power, identified in the experiences reported, appears precisely as a maneuver of *resistance* to projects that are not of the teachers’ interest, usually arising from non-democratic processes. This aspect, present in several of the interviewees’ statements, is close to *negativity*, which Ardoino (1998) states is the ability of the subjects to abort, through their counter-strategies, the strategies to which they are submitted. Thus, there is a strong rejection of coercive forms of project implementation, which may have an opposite effect on the intentions to achieve project effectiveness. However, the teachers indicate that, despite not accepting any postures of imposition in relation to environmental

education projects, they expect initiative and guidance from their management teams. It can be seen that, at the same time that coercion is rejected, there is a call for leadership and monitoring of projects, since, as the teachers themselves stated, “*if left to itself, it won't be taught*”. School management has, therefore, a responsibility and a challenge that require preparation and skills, given this complex perspective of collective mobilization.

Apparently, conservative conceptions of education are currently outdated, something that can be perceived through the statements of the interviewed teachers themselves, who point to school as a place for learning and exchange of knowledge. It can also be noted that the documents that guide the Federal District public school system propose integral development, basic preparation for work and citizenship, and “[...] enhancement of the student as a human being, including ethical guidance and development of intellectual autonomy and critical thinking” (DISTRITO FEDERAL, 2015, p. 13, our translation). However, conservative conceptions are still present in the current education system, despite the fact that citizen education appears in discourse and official documents. When analyzing the guiding documents for basic education, Branco, Royer & Branco (2018, p. 200, our translation) show the prevalence of environmental education as a cross-cutting theme, the discourse of instigating new practices, the appreciation of the man/nature relationship, and the discussion of sustainability. However, they observe that “the presence of a practice that is still at odds with theory persists”.

There are remnants of an oppressive form of education, since teachers are not given the conditions to act according to the new needs and demands of their students, thus undermining their role as problematizing/liberating agents. In practice, the discourse is that of the school that educates to produce citizens, but a heavy burden of students' social problems is transferred to teachers, without the support or the necessary conditions for them to do their work. It can be seen that there is an array of new demands in relation to the role of the school in society, but we must question the extent to which these demands directed toward the teacher are absorbed. How can we think of a teacher working in an autonomous manner and that is coherent with these new liberating conceptions of education, if they are faced with crowded classrooms and lack the proper support for students with disabilities or who are in situations of vulnerability?

In turn, environmental education is not recognized as a possible mediator for transforming this reality, as it is not considered in its critical and human conception. The superficial vision of environmental education strengthens teachers seeing it as something unchangeable or incapable of minimizing their difficulties in the school's daily routine, and is thus another unfavorable aspect with regard to their engagement. These signs suggest that there is a school climate conducive to a state of alienation, in which the subject takes

on a discourse that is not his own, forming a ring-fenced construct, which assumes “the function of defining for the subject both reality and his desire” (CASTORIADIS, 1982, p. 124, our translation). The view that “*environmental education means more work*”, in a daily routine already overwhelmed by poor working conditions and by contents the teaching of which is mandatory, certainly does not favor its becoming a priority for teachers. And this scenario worsens when the space for environmental education is diluted and weakened, as is the case of the Common National Curricular Base (ANDRADE; PICCININI, 2017; MARQUES; RAIMUNDO; XAVIER, 2019). This situation leads to problems with receptiveness toward activities with environmental themes, reinforcing the secondary character of the theme in schools. In addition to the difficulties in engaging teachers in environmental education activities, there is also the lack of support for those who seek to develop something in this direction. The lack of institutional support reported by the proponents of environmental education projects is an important aspect that is unfavorable to the participation of teachers, especially with regard to the articulation of projects and the logistics of the activities. In view of the difficulties already mentioned, the statement by one of the participants that “we can’t leave everything to the teacher because he won’t be able to cope” seems pertinent. This is the mismatch, as already mentioned, in the absorption of the responsibilities that are being taken on by schools but which mainly fall to teachers.

However, two aspects emerged strongly in favor of engagement, despite the difficulties encountered. The first indicates that participation in environmental education projects is motivated by personal *values*, because they serve as criteria used by people to evaluate their actions (SCHWARTZ, 2017). Some studies corroborate this viewpoint, pointing out that values play a central role in predisposition and engagement in environmental actions (CHEN, 2015; VAN RIPER *et al.*, 2020). This emphasis on values was present in the study both as a justification for the engagement of *proponent teachers* and for possible prospects of student-directed projects. Personal values are also pointed out as decisive for teachers seeking *training* in environmental issues, another important aspect favoring engagement. Teachers who said they had undergone specific training on environmental issues, especially the training offered by the School of Nature, attributed significant importance to this training for greater implication with the theme. Some emphasized that this training had awakened their broader and more critical view. On the other hand, lack of training causes teachers to distance themselves from environmental education, contributing to the incidence of *superficial approaches* to the subject in schools and to *discontinuity* of projects. These results are similar to those found by Alkimin *et al.* (2019). Clearly, it is not wise to place all hopes for a solution to lack of

engagement in environmental education projects on teacher training, but rather to consider it as one of the central points of the problem, in addition to those already addressed in this study.

It is hoped that the aspects raised, and the reflections brought to light can contribute to the strengthening of debates involving school environmental education, especially in public schools. However, it is important to note the need to go into the theme in more depth at each stage of elementary education, as a way of covering its peculiarities, as well as in relation to each category of analysis, since they are complex and approached with a discussion that is still incipient. There is also an evident need to strengthen the educational spaces that address the environmental theme in a critical and human way, in which teachers perceive the possibilities of applying its concepts in their teaching practice. In this sense, recognizing oneself as a product and producer of the society in which one lives, in a recursive perspective (MORIN, 2007), may be something that makes the teacher believe in the minimization of internal and external problems that distress him/her through his/her engaged action at school, potentializing the triggering of a cascade effect in reverse.

REFERENCES

ALKIMIN, Gilberto Dias de *et al.* A Educação Ambiental escolar sob a perspectiva dos professores do Ensino Médio (Ilha Solteira, SP). *Revista Brasileira do Ensino Médio*, Itapojuca, v. 2, p. 68-83, 2019. Available at: <https://www.phprbraem.com.br/ojs/index.php/RBRAEM/article/view/18>. Accessed on: Mar. 15, 2020.

ANDRADE, Maria Carolina Pires de; PICCININI, Cláudia Lino. Educação Ambiental na Base Nacional Comum Curricular: Retrocessos e contradições e o apogamento do debate socioambiental. *In: ENCONTRO PESQUISA EM EDUCAÇÃO AMBIENTAL*, 9., 2017, Juiz de Fora – MG. *Anais [...]*. Juiz de Fora: EPEA, 2017. p. 1-13. Available at: http://epea.tmp.br/epea2017_anais/pdfs/plenary/0091.pdf. Accessed on: Apr. 5, 2021.

ANDRÉ, Marli Eliza Dalmazio Afonso de. *Estudo de caso em pesquisa e avaliação educacional*. 3. ed. Brasília: Liber Livro, 2008.

ARDOINO, Jacques. Abordagem multirreferencial (plural) das situações educativas e formativas. *In: BARBOSA, Joaquim Gonçalves (org.). Multirreferencialidade nas ciências e na educação*. São Carlos: Editora da UFSCar, 1998. p. 24-41.

ARENDT, Hannah. *Entre o passado e futuro*. São Paulo: Perspectiva, 1972.

BARBIER, René. *A pesquisa-ação*. Brasília: Liber Livro Editora, 2007.

BRANCO, Emerson Pereira; ROYER, Marcia Regina; BRANCO, Alessandra Batista de Godoi. A abordagem da Educação Ambiental nos PCNs, nas DCNs e na BNCC. *Nuances: estudos sobre Educação*, Presidente Prudente, v. 29, n. 1, p. 185-203, 2018.

BRASIL. Presidência da República. *Decreto-lei n. 9795, de 27 de abril de 1999*. Dispõe sobre a Educação Ambiental e institui a Política Nacional de Educação Ambiental e dá outras providências. Brasília, DF: Presidência da República, 27 abr. 1999. Available at: http://www.planalto.gov.br/ccivil_03/leis/19795.htm. Accessed on: Oct. 5, 2019.

CARVALHO, Isabel Cristina de Moura. *Educação Ambiental: a formação do sujeito ecológico*. São Paulo: Cortez, 2017. (Coleção docência em formação: saberes pedagógicos).

CASTORIADIS, Cornelius. *A instituição imaginária da sociedade*. Rio de Janeiro: Paz e Terra, 1982.

CATALÃO, Vera; MOURÃO, Laís; PATO, Claudia. Educação e Ecologia Humana: uma epistemologia para a Educação Ambiental. *Ambiente & Educação*, Rio Grande, v. 14, n. 2, p. 27-36, 2009.

CHEN, Mei Fang. An examination of the value-belief-norm theory model in predicting pro-environmental behaviour in Taiwan. *Asian Journal of Social Psychology*, [S. l.], v. 18, n. 2, p. 145-151, 2015. Available at: <https://doi.org/10.1111/ajsp.12096>. Accessed on: Mar. 25, 2018.

DISTRITO FEDERAL. *Catálogo da Rede de Educadores Ambientais do Distrito Federal – REA/DF*. Brasília, DF: Escola da Natureza/SEEDF, 2009.

DISTRITO FEDERAL. *Regimento Escolar da Rede Pública de Ensino do Distrito Federal*. 6. ed. Brasília, DF: SEEDF, 2015.

FREIRE. Paulo. *Pedagogia do oprimido*. 48. reimp. Rio de Janeiro: Paz e Terra, 2005.

GADOTTI, Moacir. *Pedagogia da práxis*. 3. ed. São Paulo: Cortez: Instituto Paulo Freire, 2001.

GUIMARÃES, Mauro. Por uma Educação Ambiental Crítica na sociedade atual. *Revista Margens Interdisciplinar*, Belém, v. 7, n. 9, p. 11-22, 2013. Available at: <http://dx.doi.org/10.18542/rmi.v7i9.2767>. Accessed on: Dec. 5, 2019.

JACOBI, Pedro Roberto; TOLEDO, Renata Ferraz de; GRANDISOLI, Edson. Education, sustainability and social learning. *Brazilian Journal of Science and Technology*, [S. l.], v. 3, n. 3, p. 1-8, 2016. Available at: <https://bjst-journal.springeropen.com/articles/10.1186/s40552-016-0019-2>. Accessed on: Jan. 25, 2020.

JACOBI, Pedro Roberto; TRISTÃO, Martha; FRANCO, Maria Isabel Gonçalves Correa. A função social da educação ambiental nas práticas colaborativas: participação e engajamento. *Cadernos CEDES*, Campinas, v. 29, n. 77, p. 63-79, 2009. Available at: <https://doi.org/10.1590/S0101-32622009000100005>. Accessed on: Oct. 10, 2019.

LAYRARGUES, Philippe Pomier. É só Reciclar? Reflexões para superar o conservadorismo pedagógico reprodutivista da educação ambiental e resíduos sólidos. In: RUSCHEINSK, Aloisio; CALGARO, Cleide; WEBER, Thadeu (org.). *Ética, Direito Socioambiental e Democracia*. Caxias do Sul: EDUCS, 2018. p. 194-211.

MARQUES, Ronualdo; RAIMUNDO, Jerry Adriano; XAVIER, Claudia Regina. Educação Ambiental: Retrocessos e contradições na Base Nacional Comum Curricular. *Interfaces Da Educação*, Paranaíba, v. 10, n. 29, p. 445-467, 2019. Available at: <https://doi.org/10.26514/inter.v10i29.3935>. Accessed on: Dec. 28, 2020.

MORIN, Edgar. *Os sete saberes necessários à educação do futuro*. São Paulo: Cortez; Brasília: UNESCO, 2000.

MORIN, Edgar. *Introdução ao pensamento complexo*. 3. ed. Porto Alegre: Sulina, 2007.

NICOLESCU, Basarab. *O manifesto da transdisciplinaridade*. São Paulo: TRIOM, 1999.

OLIVEIRA, Maristela Angra de. Educação ambiental na perspectiva da escola emancipatória e emancipadora. *Revista Com Censo: Estudos Educacionais do Distrito Federal*, Brasília, v. 3, n. 4, p. 29-39, 2016. Available at: <http://www.periodicos.se.df.gov.br/index.php/comcenso/article/view/113>. Accessed on: June 30, 2020.

ROSALEN, Stefania. *Os professores da escola pública como agentes de mudanças em educação ambiental*. 2019. 120 f. Dissertação (Mestrado em Ciências) – Universidade de São Paulo, Piracicaba, 2019.

SANTOS, Rose Cleide. Inserção da educação ambiental no ensino fundamental em Aracajú – Sergipe. *REMEA*, Rio Grande, Edição Especial, p. 41-65, jul./dez. 2016. (Edição especial: Educação Ambiental na experiência escolar). Available at: <https://periodicos.furg.br/remea/article/view/5051>. Accessed on: Mar. 3, 2020.

SAUVÉ, Lucie. Educación Ambiental y Ecociudadanía: un proyecto ontogénico y político. *REMEA*, Rio Grande, Edição Especial, p. 261-278, set. 2017. (Edição especial XVI Encontro Paranaense de Educação Ambiental). Available at: <https://seer.furg.br/remea/article/view/7306>. Accessed on: June 30, 2020.

SCHWARTZ, Shalom H. The Refined Theory of Basic Values. In: SAGIV, Lilach; ROCCAS, Sonia (org.). *Values and Behavior*. Taking a Cross Cultural Perspective. Cham, Switzerland: Springer International Publishing, 2017. p. 51-72. Available at: <https://doi.org/10.1177/0146167203254602>. Accessed on: Sept. 5, 2018.

SILVA, Silvana do Nascimento; LOUREIRO, Carlos Frederico Bernardo. As Vozes de Professores-Pesquisadores do Campo da Educação Ambiental sobre a Base Nacional Comum Curricular (BNCC): Educação Infantil ao Ensino Fundamental. *Ciência & Educação*, Bauru, v. 26, p. 1-15, 2020. Available at: <https://doi.org/10.1590/1516-731320200004>. Accessed on: Dec. 28, 2020.

SOUTO, Cristiane Félix da Silva. *Educação Ambiental em escola pública: reflexões a partir da abordagem de trabalhos por projetos no ensino de Ciências*. 2018. 128 f. Dissertação (Mestrado em Ciências e Matemática) – Universidade Federal de Pernambuco, Caruaru, 2018.

TOZONI-REIS, Marília Freitas de Campos; CAMPOS, Luciana Maria Lunardi. Educação ambiental escolar, formação humana e formação de professores: articulações necessárias. *Educar em Revista*, Curitiba, v. 30, n. Especial 3, p. 145-162, 2014. (Dossiê - Ensino Superior e Questões Ambientais: Mudanças Climáticas, Ambientalização Curricular e Formação de Professores). Available at: <https://doi.org/10.1590/0104-4060.38112>. Accessed on: Mar. 10, 2018.

VAN RIPER, Carena J. *et al.* Values, Motivations, and Intentions to Engage in Proenvironmental Behavior. *Environment and Behavior*, Washington, v. 52, n. 4, p. 437-462, 2020. Available at: <https://doi.org/10.1177/0013916518807963>. Accessed on: Dec. 20, 2020.

Text received on 12/04/2020.

Text approved on 05/03/2021.