

The Challenges and Difficulties of Teachers in the Insertion and Practice of Environmental Education in the School Curriculum

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Abstract: The objective of this research was to investigate the main difficulties encountered by teachers when working on environmental education in the various disciplines of the school curriculum. The qualitative methodology was used in the home study format. This study was carried out with teachers from three State Colleges of the Public Education Network in Curitiba, Paraná. An intercession was made with the teachers so that they could point out these difficulties in the insertion of environmental education and the results indicated some problems in the school environment. It was concluded from this study that it is necessary to rethink and plan to overcome challenges with regard to environmental education in the school.

Keywords: Environmental education, Curriculum, Formal education

Introduction

Although Environmental Education (EE) is recognized as important and a cross-cutting theme, its presence is still inexpressive in the curriculum. Guimarães (2007) discusses the insertion of the environmental theme in teaching practices, analyzing in terms of legislation, dealing with the insertion of environmental education in the initial teacher training, which is regulated by public policies, such as the National Policy for Environmental Education, and emphasizing that the environmental education should be a continuous process, of interdisciplinary character, emphasizing citizenship for sustainability. The awareness of the need to establish a healthier relationship between man and nature has also reached school, and many initiatives are being taken to provide students with the understanding that the future of humanity depends on this integrated action. Jacobi (2003) points out that Environmental Education longs for "a new way of looking at the relationship between man and nature, based on a new ethics, which presupposes other moral values and a different way of seeing the world and men".

Thus, the teacher in his praxis is responsible for the implementation of Environmental Education aimed at achieving critical awareness, which aims to achieve transformative actions, humanize and emancipate the individuals involved "and does so from their knowledge, representations and intentionality regarding education and socio-environmental issues" (Torales, 2013). Therefore, we have praxis as "concrete activity", through which the subject has its affirmation in the world, "modifying the objective reality and being modified, not in a spontaneous, mechanical and repetitive way, but reflective, by self-questioning, referring the theory to practice" (Loureiro, 2004). The need to understand Environmental Education as a broad and permanent educational process, necessary for the formation of the citizen, becomes an essential factor both for the quality of education and for the direction of the teacher's formation, because the disciplinary approach does not cover the complexity of the educational process. Education cannot be seen as a redemptive activity, nor can it be seen as a form of social ascension. Sacristán (2002) argues that education is a "reflectively directed project, as an instrument to build [...] pillars of humanization" (p.18).

This reflective project emerges from the experience and wisdom that permeate man-culture relations in order to build a subject/citizen, autonomous and independent, but at the same time, sociocultural and therefore interdependent. Therefore, the teacher is called to participate not only in a project permeated with the perception of facts, situations and postures, but, above all, to structure himself in the space of education in order to critically assume his reflective capacity and be able to identify the mechanisms of concealment and domination that guarantee the existence of the dominant and, consequently, the dominated. The debate about the environmental issue has been progressively expanding over the years from this reflective capacity in the

proportion in which more and more people and institutional bodies perceive the severity of the harmful consequences caused to the environment by the irresponsible action of man. The awareness of the need to establish a healthier relationship between man and nature has also reached school, and many initiatives are being taken to provide students with the understanding that the future of humanity depends on this integrated action.

The school is a privileged space for the construction of knowledge, culture and identity. Within it, one can find ways to understand natural phenomena in all their dimensions, as well as the consequences of human action for the environment, for other living beings and for man himself. Besides the acquisition of knowledge, the school can also provide the development of new attitudes and values that contribute to a more just and supportive society, after all, only together and thinking about the common good, it will be possible to build a healthy environment with quality of life.

The difficulties in working with environmental education in the school environment need to be faced, so that the students act as protagonists in the development of a sustainable planet and not as spectators of its destruction. Thus, it is urgent to work in the school both with the dissemination of knowledge and with perception, awareness and belonging, thinking about the challenges to be faced, while also thinking about ways to overcome them. The relevance of Environmental Education instigated the investigation of this research seeking to unveil "What are the difficulties encountered by teachers when working with Environmental Education in the various disciplines of the school curriculum?"

The Official Documents and the Legal Support of Environmental Education in Brazil

We began the research building our problems, from the historical data that subsidize the implementation of Public Policies on Environmental Education through official documents referring to the insertion of environmental education in Brazil (Brazil, 1981; 1988; 1998; 1999; 2002; 2012), which allowed us to better understand the trajectory and trends of research in Environmental Education in Brazil. We highlight some official documents promulgated in Brazil that deal with environmental education:

- a) Federal Law no. 6938 of 1981, which establishes the National Environmental Policy, in which Environmental Education is located as one of the components that contributes to the solution of environmental problems, being offered at all levels and modes of education;
- b) Promulgation of the Federal Constitution in 1988, that its Art. 225, § 1, item VI, determines that Environmental Education together with the promotion of social awareness for the defense of the environment is the duty of the Public Power, indicating that the class struggles were reflecting in the decisions of the Constituents;
- c) Approval of the Opinions n°. 04/98 and n°. 15/98 of the National Education Council, which in turn establish the National Curriculum Guidelines for Primary and Secondary Education;
- d) Law n°. 9795/99/DOU institutes the National Policy of Environmental Education and Decree n°. 4281/02 regulates the referred Law.
- e) Approval of Resolution no. 02 of June 15, 2012, which establishes the National Curriculum Guidelines for Environmental Education, recognizing the relevance and mandatory nature of Environmental Education in all levels and modes of education (Marques and Xavier, 2019, p. 29).

From this legal and theoretical framework established in the Brazilian educational policy, in which we are supported by the law, we are faced with the challenge of promoting in school curricula issues related to environmental issues and Environmental Education, in which the primary function is the training of critical and autonomous individuals, able to decide and act in socio-environmental reality. It is by this perspective that Environmental Education in school aims to establish relationships between the contents of different areas of knowledge with the sociocultural, political and environmental context, and this, therefore, is the main essence of "Environmental Education" (Souza, 2007). According to Torales (2013) one of the reasons for the insertion of Environmental Education in the curricula is due to the manifestations of an evident socio-environmental crisis, in addition to the actions of environmental movements and the initiative itself, individual of some schools, because the teaching of Environmental Education, in a way, rescues a new dimension to be incorporated by the educational process, bringing reflections on the consequences of environmental changes. According to Barra, (2005):

One of the objectives of Environmental Education is to help unveil the implicit or explicit reasons of our behaviors/actions in the environment and to seek new and adequate values, an education in environmental values is a permanent educational process through which individuals acquire knowledge, develop values, attitudes, skills and behaviors that allow them to take responsible decisions regarding their interaction in the environment, aiming at the maintenance of environmental quality and the development of sustainable societies (Barra, 2005, p. 1).

This statement is in line with the fact that more and more people are talking about the importance of the "formation of the critical and autonomous citizen" (Brazil, 1996), capable of understanding the world in which he lives and of being able to choose his own paths, sometimes adapting, sometimes transforming reality.

Method

The work aims to analyze from the perspective of dialectical materialism what is the space dedicated to Environmental Education - since it is required by law to be included in the curriculum transversally, at all levels of education, and in what way it has been crossing the counter-reforms of Brazilian education. We began the research building our problems, making an introduction on the importance of Environmental Education for Education in the current days, followed by the presentation of laws that subsidizes in a documentary way the latest legislative texts relating to the insertion of environmental education in basic education (Brazil, 1891; 1988; 1996; 1999; 2002; 2012), which allowed us to better understand the changes in concepts about their teaching and how, today, this insertion is presented by the legislative system and supports us for its applicability in schools.

In order to respond to the problem initially raised in this work, as well as to the objectives that were defined and in consideration of the fact that it is necessary to know the characteristics of the case studied, it is intended to use the methodology of qualitative nature (Gibbs, 2009), in the case study format (Yin, 2001). This study was carried out with teachers from the following schools: State high school Dr. Xavier da Silva, State high school Pedro Macedo, State high school Newton Ferreira da Costa in Curitiba (PR), in 2018. The qualitative research was conducted with an open-ended instrument, in which teachers, descriptively, could point out elements that hindered the insertion of environmental education related to their subject. The objective was to seek elements on the difficulties of teachers in working on environmental education in the various disciplines of the school curriculum.

Gibbs (2009) assumes that this type of approach aims to thoroughly investigate the way people build the world around them, a fact that allows the researcher to propose theories, models as a way to describe social issues. The adequacy of the case study for this research "contributes, in an unparalleled way, to the understanding that we have of individual, organizational, social and political phenomena" (Yin, 2001, p. 21) and that has application in different areas of knowledge, being an empirical investigation. For this author, the case study allows an investigation to preserve the comprehensive and significant characteristics of real life events. In this purpose, Ludke and André (1986) affirm that "by portraying the daily school life in all its richness, this type of research offers precious elements for a better understanding of the role of the school and its relations with other institutions of society" (Ludke and André, 1986, p. 24). From this we have instruments that can be thought and discussed to minimize or contribute with the teachers in a more effective way in their praxis in Environmental Education.

Results and Discussion

When unveiling the enunciations of this research, we have unanimity in the conception and affirmation of the teachers that the Environmental Education is of extreme importance for the Education in the current days, since the environmental impacts are in the course of the most evident years, thus the school is a propitious environment to encourage the debates that allow an awareness and humanization of those involved as environmental problems. According to Hoeffel and Fadini (2007, p. 256), the environmental perception is conditioned by factors inherent to the individual himself, such as their cultural and educational factors and the way of perception of reality:

the different ways in which human beings understand and value nature are deeply influenced by their cultural contexts and the ways of understanding nature and the relationships established with the non-human world differ widely between cultures and historical moments and even individuals within the same culture interpret the concept of nature in radically divergent ways (Hoeffel and Fadini, 2007, p. 256).

Thus, and according to these same authors, studying this perception is of utmost importance, since the concepts and discourses that guide the practices of Environmental Education are intrinsically related to the perceptions of various social actors. The insertion of Environmental Education in the subjects of the school curriculum is seen and highlighted by the participating teachers as "fundamental for teaching in the school context"; however, they highlight the difficulty of "finding time and comply with the curriculum content established in the official

documents of teaching within the hours classes offered in the curriculum grid" and still work with issues related to Environmental Education. However, this conception of teachers is far from the integrative conception of environmental education in teaching and is loaded with misconceptions, because in this view of teachers the Environmental Education is emphasized as a theme part of the process of teaching and learning giving aspect only naturalist. Reigota (2009) warns that when the teacher is asked for a personal definition of Environmental Education and environment, almost all have a "naturalist" representation, that is, consider it as synonymous with nature and do not understand that we are part and members of it.

Tristão (2008) ponders that this essentially naturalistic conception brings with it a series of negative impacts to the educational process, making one run the risk of losing the importance of a social, economic and political analysis that involves the approach of Environmental Education. The naturalist vision separates the human being from the environment, placing him as a mere observer, without ties of belonging and responsibility. In this case, nature is appreciated for its scenic beauty, demonstrating a certain dose of religiosity and romanticism and should be preserved by being a provider of resources over which we have the right to use. These representations seem to indicate epistemological distortions in reading the world (Guerra & Taglieber, 2002) and are coherent with a fragmented concept of learning.

These subjects, treated in the classroom, highlight the conception of Oliveira (2000, p. 97), who believes that "the challenge of inserting the environmental theme in school curricula should seek to address environmental issues in their entirety, avoiding approaches of isolated themes, even if relevant". Carvalho (2006, p. 58) also reinforces that "Environmental Education is not neutral, but ideological. It is a political act, based on values for social transformation" and also warns that the environmental educator is a professional who refers to a social practice, "going beyond the frontier of personal conversion and professional retraining" (Carvalho, 2005, p. 57). We have many well-meaning schools and educators who often end up giving up the educational practice involving environmental education because of the many obstacles that arise along the way. When considering the social, economic and political problems, we have that the Environmental Education integrates the curriculum of all disciplines, so it is up to the teacher to seek to overcome the difficulties and bring the experiences of daily life for its contextualization within the discussions of various contents in their disciplines instead of ignoring them, because the environmental knowledge, because it is not only the result of professional training and disciplinary knowledge, but also coming from curriculum knowledge and their experiences. Besides being plural, the teaching knowledge is also temporal, so it is related to the time and society in which it is inserted, in addition to experiences and history of life and unique careers (Tardif, 2012, p. 20).

It can be said that one of the most frequent is the lack of understanding, on the part of the educators themselves, about what environmental education is. Justen (2006) explains that the most common view on Environmental Education is based on the study of nature and practices that guide the correct disposal of waste, which is also important, but not enough. Loureiro (2006, p. 47) agrees with the criticism of the aforementioned author saying that "[...] it is often placed at the heart of environmental education the contemplation of the natural and not the interaction in nature" [...], that is, the individual is not inserted in the environment in which he lives, it is not highlighted the performance of each one, both positive and negative". In this perspective, the authors share the idea that environmental education is not worked correctly in most educational institutions, which choose to treat the theme under a conception of common sense and superficiality, after all, the contemplation of the environment, in an isolated manner and without contextualization, will hardly produce a meaningful learning, leaning towards the point of view of pragmatism.

The mistake of pragmatism is to seek strictly the means to satisfy immediate needs. Without satisfactory cognitive and theoretical elements, there is no effective capacity for critical and self-critical reflection of what is done daily. And as has already been said, without such a reflexive movement, the tendency is to act to reproduce what is legitimized by society. This is also something to be overcome, since it limits the collective and individual capacity for social intervention. When dealing with environmental education in the school curriculum we should seek in the sense of praxis the transformation and humanization of this reality.

However, one cannot deny the importance of specific themes in school or only of celebrations on ecological dates, however, these should be contextualized and not loose, detached (Tristão, 2008). This question demonstrates the simplistic way in which, most of the time, Environmental Education has been conceived and treated, reducing itself to celebrations on ecological dates, commonly guided by the contents of biological areas. It is observed, so by the contributions of teachers in this research, that there is a growth in point practices, however, often without reflection what we call environmental dyspedagogy as being one of the consequences of the wrong process of teacher training without the commitment to emancipatory action and the ethics of professionalism and autonomy, fostering a conservative and mechanistic Environmental Education.

The concept of dyspedagogy is used by Fonseca (1995, p. 13-17) to designate the learning problems that are generated by the teaching conditions, linked to the teacher and the teaching itself. By transposition, environmental dyspedagogy can be understood here as the lack of an educational project that emphasizes the importance of political, social, cultural, theoretical and practical aspects of education in the construction of environmental complexity in the school curriculum. On top of that, we have noticed that the guidelines of the educational systems, the teaching conditions and the pedagogical formation of the teacher instill the naturalization of speeches and environmental practices disconnected from the political, economic, social and cultural processes. In this sense, we have that the environmental dyspedagogy makes the teacher believe that if he develops specific activities and detached from the socio-cultural reality (vegetable gardens, gardens, garbage selection, use of recyclable materials) in some classes, especially in the Week of the Environment, he will already be working Environmental Education and "doing his part", as "sends the costume".

In view of this, environmental dyspedagogy makes Environmental Education lose its purposes, losing its character as a permanent and continuous educational process, since it becomes uncritical and reproductive, leaving aside both the foundations of pedagogical practice that seeks to respond to the challenges of our time in the process of teaching and learning, and the foundations of Environmental Education itself, which aims to foster new critical and ethical attitudes in individuals and the community. In this scenario, teaching could be organized in order to provide opportunities for debate in the classroom, but also practical actions developed outside it, as stated Bern (2004):

The environmental educator should seek to place students in situations that are formative, such as in the face of environmental aggression or environmental conservation, presenting the means of understanding the environment. In environmental terms, that is no difficulty, because the environment is all around us. Dissociated from this reality, environmental education would have no *raison d'être*. However, more important than mastering information about a river or ecosystem in the region is to use the local environment as a motivator (Berna, 2004, p. 30).

The environmental problems close to the students can be better understood with the observation *in loco* and from the understanding of the relationships that occur in the observations and experiences that each one has with the environment since each one has a different perception of environmental problems and because they belong to a reality with diversified social and economic conditions. Martins (2003) questions why not make the school a socially constructed space in everyday relationships, which are permeated by economic, social and political activities. Teachers also highlight the difficulties of "transmitting knowledge and appropriating a theoretical basis articulated with Environmental Education and associated with its discipline, only with factual information obtained through news from TV, radio, magazines, newspaper, Facebook". However, Gutiérrez & Prado (2008) state that "To educate oneself is to impregnate the practices of daily life with meaning", thus being fundamental that the Environmental Education provides the transposition of behavioral changes and acquisition of new values and concepts convergent to the needs of the current world, with the interrelations and interdependencies that are established between the natural, sociocultural and other dimensions; economic, psychological etc.

In this note they externalize that the "lack of awareness in the subject and lack of teaching materials of environmental education in the school", associated with the "absence or non-existence of continuing education courses on environmental education, offered by the state. Here, however, we can consider that this is also comfort, because it does not seek ways of eliminating these difficulties in its disciplines. Many of these difficulties are consequences of a fragmented view throughout the teacher training, interfering in practice by making objections to the termination of conservative practices; emphasizing the desire to change, but without encouragement to dismiss the vices and "work the courage of renouncing what is established, what gives us security and the boldness to innovate" (Guimarães, 2007, p. 148). Several studies show that Environmental Education practices are punctual, without a critical social component (Reigota, 2009; Tristão, 2008). This reveals the fragility of teacher training, where it is perceived great difficulty in incorporating the environmental theme in the curricula and in their pedagogical practice. Travassos (2006), states that "Environmental Education has to be developed as a practice for which all people who work in a school need to be prepared" (Travassos, 2006, p.12).

Thus, the environmental education teacher also needs to take a new stance due to his training, because he should seek to update himself on the latest discoveries in the environmental field, from the most diverse sources, to share the information with his students. The student usually perceives the educator's lack of attachment to the content he or she is talking about. It is therefore essential that the teacher's self-awareness and self-training with the subject to be worked on in the classroom occur. On the other hand, to expect that only the textbook will give the necessary answers to answer the questions and solve the environmental problems is the same as to decree the inefficiency of the work with Environmental Education. When considering the difficulties cited by the

participants, Oliveira (2000) suggests some alternatives for the organization of the school in the work with environmental education, among which stand out:

- Formulation of a pedagogical project for the school that reflects the social-political-economic-cultural space in which it is inserted;
- Survey of relevant problem-situations, referring to the reality in which the school is inserted, from which the formulation of themes for study, analysis and reflection is sought;
- Structuring of a matrix of content cross-cutting contents/discipline x situations - problems / issues;
- Conducting seminars, meetings, debates between teachers, to make compatible the approaches of the contents/disciplines x situations-problem/themes, seeking on situations-problems to be worked on;
- [...] Accompaniment of specific projects in the school that will be developed by the teachers or by the Student Association (community garden, recycling of garbage, watershed as study unit, ecological trails, planting of trees, recovery of springs, etc.);
- Carrying out educational campaigns using the available means of communication, spoken and written press, distribution of pamphlets, folder, posters, in order to inform and encourage the population in relation to environmental issues (Oliveira, 2000, p. 93).

The public school teacher, who already encounters difficulties inherent to the profession, such as stressful workloads and lack of motivation of students, when he starts to develop his Environmental Education plan will always find unexpected situations, however, he needs to nurture the interest in doing a good job in the training of future generations. With this kick-off, you will certainly seek to know and show students the most varied possibilities for teaching Environmental Education. According to Dias (1998), the inclusion of the environmental theme as a cross-cutting theme in education in people's daily lives may enable a new perception of man's relationships with nature, as well as the promotion of a reformulation of values and attitudes in social coexistence in order to act in the resolution of environmental problems. Bigotto (2008) states that the educator will have due importance in teaching if he can act in a critical and reflective manner encouraging discussions that can enable the transformation of thoughts and the contribution of Giroux to "create conditions for students to strengthen and constitute themselves as political individuals" (Giroux, 1997, p. 203).

Transversality, in practice, implies the adoption of new challenges, because it requires teachers to leave their comfort zone and, thus, it implies the need to break with their already standardized performance, in relation to pedagogical activities. In addition, it is necessary to consider the educational reality, characterized by the dominant sociocultural environment in the environment where students are inserted (Bovo, 2004). One of the points highlighted by the teachers was the 'difficulty of working in an interdisciplinary way', which is considered crucial, since, through interdisciplinarity, it intervenes "in several areas with a view to acting together and understanding reality, enabling the environmental educator to share the challenge generated by the complexity of environmental issues" (Carvalho, 2011, p. 120).

Fazenda (2002, p. 40) points out that "[...] Interdisciplinarity does not intend to build a super-science, but a change of attitude towards the problem of knowledge, a replacement of the fragmentary concept for the unitary one of the human being". This is not an extra discipline that has emerged recently, but a dialogue between the existing ones. Thus, only from the interaction between different disciplines and different looks is it possible to discuss the complex challenges involving environmental and social problems in which Guimarães (2007) states that the "process of building interdisciplinary knowledge in the environmental area enables educators to act as one of the mediators in the management of relations between human society, in its political, economic, social, cultural, and nature activities" (Guimarães, 2007, p. 82). Such a situation makes Environmental Education weakened and reduced to the transmission of knowledge or to isolated actions. Most teachers also cite "the lack of funding for field or practical classes". Sauv  (2005) brings an important analysis when saying that it is up to the teacher to define his educational "niche" in EE, according to the particular context of his intervention, the target group to which he is directed and the resources available to him: it is about choosing objectives and strategies in a timely and realistic way, without forgetting, however, the set of other possible objectives and strategies.

Bigotto (2008) contributes to this research and that through the data obtained closes this discussion reminding us of other frequent difficulties for the viability of environmental education, such as lack of interest of teachers, lack of appropriate teaching materials, and "traditional forms of teaching, which give priority to theoretical, abstract and informative knowledge to the detriment of concrete and regional problems; and the lag in updating teachers in relation to advances in scientific knowledge" (Bigotto, 2008, p. 97). Contrary to the lack of interest of teachers and traditional forms of teaching, material problems, such as lack of teaching materials, can be considered the least important, since the main didactic resource used for the study of Environmental Education should be the surrounding environment itself.

Conclusions

When discussing the challenges of insertion and implementation of Environmental Education in the school curriculum and what are the problems pointed out by teachers for a praxis in Environmental Education that is effective, emancipatory, we inevitably deal with Environmental Education at this time with the temporal pointing, but that it is seen as a permanent and continuous process and that these challenges need to be considered to rethink the continued training of teachers as well as seek alternatives that in the work with Environmental Education there is a break with pragmatism and that Environmental Education is given from the praxis in the sense of transformation and humanization since this field of knowledge contributes to the strengthening and enrichment of the school curriculum seen the numerous similarities of this with the environmental theme, enhancing debates and reflections necessary for the construction of new looks and new relationships that emerge from the relationship between human beings, society and nature.

Trying to break with the linearity that determines most of the practices of environmental education, showing its fruits, to the detriment of its obstacles, this text seeks an epistemological dialogue that reinvents environmental education, in a perspective of construction and deconstruction, to overcome certain difficulties and use creativity to dare new paths. Our analysis was not intended to find "right and wrong," much less "guilty and innocent," but is limited to the need to recognize the limitation of the potential of environmental education. Abandoning the extremes of "uphanism-conformism" or "pessimism-optimism", we aim to generate a small malaise, so that from the crisis generated, we can overcome the conflicts. We conclude this research noting that there are still many challenges to be overcome for environmental education to be implemented in everyday school life, since it is necessary to break with the pragmatism that subsidizes isolated and punctual practices and with mechanistic and conservative education, allowing environmental education to be integrated into the curriculum and that the praxis contributes to the construction of new looks and new relationships, socially and environmentally sustainable.

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