


**ENVIRONMENTAL EDUCATION AND PESTICIDES: A STUDY BASED ON
PEDAGOGICAL PRACTICES IN ELEMENTARY SCHOOL II** <https://doi.org/10.56238/sevened2025.001-026>**Iara Lucia Tecchio Mezomo¹ and Nilvania Aparecida De Mello².****ABSTRACT**

The purpose of this study was to investigate the insertion of environmental education (EE) in the Political Pedagogical Project (PPP) of a rural school in Pato Branco, Paraná, and how the subject of pesticides is related to EE in the ninth grade of Elementary School (EF). For this, the guidelines of the Department of Education of the State of Paraná regarding EE were analyzed. In addition, semi-structured interviews were conducted with six professors from different areas of knowledge and analyzed using Bardin's Content Analysis technique. The analysis of the documents suggests that EE needs to be seen not only as an isolated discipline, but rather as a holistic educational approach that should be incorporated into all fields of study in a transversal, interdisciplinary and transdisciplinary manner. The interviews revealed that the topic of pesticides is not included in the contents of the subjects in the school's PPP and is little addressed in the classroom. The teachers pointed out the lack of adequate content on pesticides in the ninth grade of EF, which can lead to a relevant gap, since students may be deprived of sufficient information about the impacts of these substances on society and the environment.

Keywords: Curriculum analysis. Pesticides. Environmental contamination. Environment.

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INTRODUCTION

Among the numerous environmental challenges, it is evident that the use of pesticides has become an increasingly worrying issue, with its expanded dimensions and significant impacts on the health of the population, the ecosystem and biodiversity. The indiscriminate use of pesticides causes damage to both crops and human health (Santos; Villela, 2018).

For this reason, it is essential to promote Environmental Education (EE) in Elementary School (PE), which comprises the first nine years of school formation. Environmental Education plays an essential role in encouraging people to value the socially built environment, considering its cultural, scientific, technical and human aspects in dialogue and respect for biodiversity, water resources, the preservation and conservation of natural resources, awareness of responsible consumption and the encouragement of positive social, environmental and economic relations. In this way, through school communities, it is possible to build a society engaged in the preservation of the environment (Hendges, 2016).

Environmental Education is an area that contributes to the change of attitudes and choices in the face of environmental, social and political issues. According to Carvalho (2004, p.18), it is the "encounter of Environmental Education with critical thinking in the educational sphere", in the relationship between the survival of the human species and the natural environment, the search for this understanding, which leads to a change in meanings, values and attitudes, helping in ecological education. According to Reigota (2010), one of the main educational aspects of Environmental Education at school is precisely the interaction between students in different positions in the process and open to the "other", to the diverse, to their knowledge, worldviews, questions and possibilities.

Considering the relevance of the subject, this work aimed to analyze the integration of Environmental Education in the Pedagogical Political Project (PPP) of a public school in Pato Branco-PR, through the evaluation of how the theme of pesticides is approached in the different subjects of the ninth grade of Elementary School.

LITERATURE REVIEW

With the objective of developing legal mechanisms to promote the advancement of Environmental Education, Law No. 9,795 was sanctioned on April 27, 1999, which created the PNEA with the purpose of highlighting the educational practice of EE and the regulations for its inclusion in the school curriculum (Neto; Kawasaki, 2013). As a result, in the period between 2001 and 2004, there was a significant increase in the implementation

of EE in public schools in Brazil, with its practice expanding in Elementary Education (Lamosa; Loureiro, 2011).

Article 1, Law No. 9,795 sought to provide a definition for environmental education:

Art. 1 [...] the processes through which the individual and the community build social values, knowledge, skills, attitudes and competencies aimed at the conservation of the environment, a good for the common use of the people, essential to a healthy quality of life and its sustainability. (Brazil, 1999).

The aforementioned law establishes the mandatory nature of Environmental Education in all types and levels of education, emphasizing that the environmental theme must be prioritized by all schools, whether public or private. Environmental Education, in this sense, highlights the importance of perpetuating initiatives, which must be carried out with individual and collective responsibility, seeking to reach as many people as possible with increasingly impactful results.

Articles 2 and 3 of Law No. 9,795 of 1999 highlight the importance of the presence of environmental education in all stages and forms of education. Article 2 emphasizes that environmental education is essential and constant in national education, and must be integrated into all educational processes in an articulated way, both in formal and non-formal education. Article 3, on the other hand, ensures that everyone has the right to environmental education within a comprehensive educational process. In relation to formal education, article 10 establishes that environmental education must be developed in an integrated, continuous and permanent manner at all levels and forms of education.

It is also important to highlight Decree No. 4,281, of June 25, 2002, which establishes the guidelines of Law No. 9,795, of April 27, 1999, which created the National Policy for Environmental Education. In its article 1, it is evident the need for public and private educational institutions to be involved in the implementation of the national EE policy. In addition to the legal basis established by the country's legislation, there are several other official government documents that aim to regulate and promote the practice of Environmental Education in schools in Brazil.

The intention of the aforementioned legislation is not to punish, but to promote new initiatives aimed at changing the way people interact with the environment, also taking into account new principles that need to be redefined. Awareness can be observed in two instances: in thought and, consequently, in actions. Despite the existing environmental problems, many individuals do not feel responsible for the damage caused to the environment, ignoring the consequences for global ecological instability (Machado; Velasco; Amim, 2006).

The National Common Curriculum Base (BNCC) promotes changes in Laws No. 9,394, of December 20, 1996, which defines the principles and bases of education in Brazil, and 11,494, of June 20, 2007, which regulates the Fund for the Maintenance and Development of Basic Education and appreciation of education professionals, the Consolidation of Labor Laws - CLT, which was approved by Decree-Law No. 5,452, of May 1, 1943, and Decree-Law No. 236, of February 28, 1967; repeals Law No. 11,161, of August 5, 2005; and establishes the Policy for the Promotion of the Implementation of Full-Time High Schools.

Within the educational context, following the transformations present in education, the development of an innovative public policy begins with the implementation of the National Common Curriculum Base (BNCC). The BNCC was made official in 2018 by the Ministry of Education and Culture and ratified by the National Council of Education to be applied at the levels of Kindergarten, Elementary and High School in public and private educational institutions.

The proposal establishes rights related to the learning and skills of students throughout basic education, in all states, in the Federal District and in the Municipalities (BNCC, 2017) in accordance with the Law of Guidelines and Bases of National Education (LDB) Law 9.394/1996. With its dissemination, the National Base began to guide the curricula, aiming at the training of teachers, and allowed the revision of the didactic material during its implementation.

The National Common Curricular Base (BNCC) addresses, in several disciplines, issues related to cultural diversity, environmental preservation, as well as the historical, political, economic, and social origins of various forms of prejudice and marginalization, promoting awareness and resolution of disparities created by society (BNCC, 2017).

In addition to the approach carried out in the BNCC on topics related to the various forms of teaching in Basic Education, the creation of a common curriculum base will result in the need to prepare documents that discuss how this base is articulated with the particularities of each educational modality, since each of them has specific guidelines that guide them (BNCC, 2017, p. 36).

According to the BNCC:

In Elementary School – Early Years, the notions related to the perception of the natural physical environment and its resources stand out. With this, students can recognize how different communities transform nature, both in relation to the countless possibilities of use when transforming it into resources and the socio-environmental impacts arising from them. **In Elementary School – Final Years**, these notions gain more complex conceptual dimensions, in order to lead students to establish more elaborate relationships, combining nature, environment and anthropic activities at different scales and socioeconomic and political dimensions.

In this way, it becomes possible for them to know the natural foundations of the planet and the transformations imposed by human activities in the physical-natural dynamics, including in the urban and rural context (BNCC, 2017, p. 362).

In contrast to the PCNs, the main change in relation to the Cross-Cutting Themes in the BNCC is in the terminology. The inclusion of the term "contemporary" to replace the "transversal" highlights the importance and timeliness of these themes for Basic Education, through an approach that connects and brings together different areas of knowledge. While the PCNs deal with six themes, the BNCC includes 15 contemporary themes "that impact human life at local, regional and global levels" (BRASIL, 2017, p. 19).

Environmental Education in the National Common Curriculum Base is approached in an interdisciplinary way, that is, it is not restricted only to the subject of Natural Sciences. Thus, Environmental Education should not be confined to a single subject. It can be inserted in an interdisciplinary way in other areas of knowledge, such as Science, Geography, History and even Arts. For example, when analyzing an ecosystem, students can investigate not only the biological aspects but also the social and economic consequences associated with it.

METHODOLOGY

The Colégio Estadual do Campo São Roque, located in the District of Nova Espera, in the São Roque do Chopim neighborhood, 18 kilometers from the city of Pato Branco, welcomes students from various rural communities. At this time, the institution offers two levels of Basic Education education: Elementary School - Final Years and High School. With an enrollment of 165 students, the school has a team of approximately 21 teachers working annually, and about 08 are part of the teaching staff (QPM), while the rest are hired on a temporary basis (PSS).

In order to analyze the presence of Environmental Education in this educational institution and the relationship between Environmental Education and the use of pesticides, the study used a qualitative approach in its methodology, using bibliographic and documentary research as methods. In addition, the content analysis technique proposed by Bardin (2011) was used to interpret the information obtained in the interviews.

In order to understand the theme of Environmental Education in school, which is the focus of this study, four documents related to Environmental Education in the State of Paraná were analyzed, namely: i. State Legislation of Paraná - n.17.505/2013; ii. Paraná State Environmental Education Program (PEEA PR); iii. Paraná Curriculum Framework; iv. Political-Pedagogical Project (PPP).

In addition to the documents mentioned above, the study also included semi-structured interviews with six ninth-grade elementary school teachers at Colégio Estadual do Campo São Roque. The interviews took place in March 2024 in a reserved place, by prior appointment and authorization from the Board. All participating professors signed the Informed Consent Form (ICF) under protocol 6.843.171, approved by the Human Research Ethics Committee of the Federal Technological University of Paraná. During the interview, five specific questions were explored.

- Category 1 - Do you work with environmental education? Could you comment on some experiences with this theme
- Category 2 - What do you think about EA being a subject in the school curriculum?
- Category 3 - What activities are practiced in relation to environmental education in your discipline for the ninth grade of elementary school?
- Category 4 - In the school's PPP, in its curricular component, how is Environmental Education discussed?
- Category 5 - With regard to environmental education in your discipline for the 9th grade of elementary school, how is the issue of pesticides treated?

Chart 1 – Profile of the interviewees - Colégio Estadual do Campo São Roque

Training	Sex	Age	Postgraduate studies	Acting time
Sciences	Female	54	BSc Science and Biology Post Graduation in Guidance, School Supervision	24 years
Physical education	Male	34	Physical Education Degree Post School Physical Education	4 years
Geography	Male	48	Degree in Geography Post-Graduation in Environmental Education and Management	14 years
History	Female	43	Bachelor of Arts in History Postgraduate Diploma in Environmental Education and Special Education	19 years old

Mathematics	Female	37	Degree in Mathematics Post Graduation in Mathematics Teaching, Proeja and Special Education	12 years
Portuguese	Female	22	Academic in Letters	30 days

Source: Survey data (2024)

RESULTS AND DISCUSSIONS

DOCUMENTARY ANALYSIS

The following are the evaluations of the four documents that address Environmental Education in the State of Paraná, namely: i. Paraná State Law - n.17.505/2013; ii. Paraná State Environmental Education Program (PEEA PR); iii. Curricular Guidelines of Paraná; iv. Curricular Reference of Paraná.

- **Paraná State Law - n.17.505/2013**

State legislation number 17.505/2013 of Paraná marks a significant advance in the promotion of formal Environmental Education and comprehensive environmental management in the state. By including Environmental Education as an essential part of the educational process and environmental management, this Law recognizes the crucial importance of Environmental Education for sustainable progress and the preservation of the environment. In addition, it reinforces the state's commitment to promoting Environmental Education at all levels and forms of education, in accordance with Federal Law number 9.795/99, which defines the guidelines for Environmental Education in Brazil. Additionally, this Law establishes the State System of Environmental Education, seeking to integrate, organize and disseminate information and experiences related to Environmental Education, as well as to evaluate and monitor the effectiveness of Environmental Education policies and actions in the state.

By emphasizing the rights and obligations of all in relation to Environmental Education, this regulation encourages a comprehensive and participatory approach, with the collaboration of various agents, such as public authorities, educational institutions, civil society organizations and private companies, aiming to promote Environmental Education and foster a sustainability mindset. Environmental Education, according to Law No. 17.505/2013, prepares students with the knowledge, skills and attitudes necessary to understand and confront contemporary environmental challenges.

- **Paraná State Environmental Education Program (PEEA PR)**

The State Plan for Environmental Education of Paraná aims to guide the development of new EE projects and initiatives with an emphasis on sustainability, involving multiple segments of the population. The legislation in force in the state, represented by Law No. 17,505/2013 and Decree No. 9,958/2014, establishes the legal guidelines to promote Environmental Education, integrating it comprehensively at all educational levels and in environmental management. This document stands out for being a crucial tool for the implementation of such policies, promoting EE in an articulated and interdisciplinary way in the school context and highlighting the theme of crop protection products, highlighting the relevance of sustainability and environmental preservation. The state legislation together with the State Plan for EE of Paraná demonstrate the state's engagement in the promotion of EE and provide clear guidelines for its application in various sectors, aiming to contribute to the construction of a more sustainable society and aware of its environmental responsibilities.

- **Paraná Curriculum Reference**

In Paraná, Elementary Education (EF) lasts nine years and is divided into two parts: the first years (1st to 5th grade) and the last years (6th to 9th grade), as established by the BNCC. In that state, the availability of PE in public schools is the result of a partnership between the state government and the municipalities, with most of the initial years being under municipal responsibility (99.49%) and most of the final years being under the responsibility of the state (98%) (Referential Curricular do Paraná, 2018).

Paraná seeks to implement a single curriculum in collaboration between the state and municipalities, with the objective of guaranteeing the right to learning for all students in an equitable way, that is, ensuring the necessary conditions for this learning to be effective. This commitment was assumed by both the state government and the municipalities of Paraná, and it is expected that all education professionals will also assume it (Referential Curricular do Paraná, 2018).

- **Political-Pedagogical Project (PPP)**

With regard to the environmental issue in the Political-Pedagogical Project of the State Schools of Paraná, the importance of the school in promoting actions that guarantee the rights and learning objectives essential for the formation of the individual is highlighted, taking into account the social role of the school as an agent of transformation of the environmental and social reality. To this end, educational institutions must undergo changes

in order to become sustainable, integrating and harmonizing aspects such as the curriculum, participatory management and physical infrastructure, as stipulated in article 13, item V, of the National Curriculum Guidelines for Environmental Education (DCNEA). According to article 13, the objectives of Environmental Education, as provided for in Law No. 9,795/1999, must be achieved according to each phase, stage, modality and level of education, including the promotion of cooperation between the different regions of the country, in various territorial arrangements, aiming at the construction of an environmentally sustainable and fair society (DCNA, 2012).

Thus, the Political-Pedagogical Project (PPP) is an instrument developed by educational institutions to guide, among other aspects, the educational practice of the school. In this sense, the guidelines for Environmental Education (EE) must be present in this document to guide the actions of the school in general and also in the classroom in a specific way. It is essential that this document is built with the collaboration of all members of the school community (principals, teachers, students, employees, community and family), so the EE approach in this context becomes even more significant.

ANALYSIS OF THE INTERVIEW

The first question (Category 1) concerns the teacher's experience in relation to the EE subject in the school environment. This is because the knowledge and experience of teachers in this topic are essential to influence the approach to EE in educational institutions.

Category 1 - Do you work with environmental education? Could you comment on some experiences with this theme

Teachers	(Exploration of the material) Part of the speech extracted from the interviewee	(Inference and Interpretation) Content Analysis
Geography	<i>Here in this school we start from the reality of the students, [...] we do not have in-depth knowledge.</i>	<i>Little experience with EA</i>
Sciences	<i>I have experience with Environmental Education.</i>	<i>EA Experience</i>
History	<i>I am gaining experience [...], in the environmental issue. [...]</i>	<i>Little experience with EA</i>
Portuguese	<i>Environmental education, in terms of content, in specific terms, we don't work in the classroom.</i>	<i>Little experience with EA</i>
Physical education	<i>So here at school we didn't work much on this issue of environmental education.</i>	<i>Little experience with EA</i>
Mathematics	<i>. [...] a matter of throwing garbage in trash cans. Separate what is recyclable, what is organic. This kind of thing plus this type of approach we have in the classroom.</i>	<i>Little Practical Experience</i>

Source: Survey data (2024)

The words of the teachers, in their narratives (Category 1), highlighted an unquestionable truth: knowledge is fundamental for Environmental Education. It is not just about acquiring theories; it is a knowledge that merges with practice, enriching it. The training of educators for Environmental Education goes beyond theory, aiming at an integration with educational practice. However, this idealized pedagogical practice still seems to be far from the reality found at the Colégio Estadual do Campo São Roque.

The distance between theory and practice still appears to be an obstacle to be overcome.

The introduction of Environmental Education in Elementary School has proven to be challenging, despite the presence of a solid normative base, with emphasis on the BNCC, PCNs, DCNEA, DCEs of the State of Paraná, state legislation, Curricular Reference of Paraná and the Political-Pedagogical Project of the school. However, despite the political-educational efforts to implement Environmental Education in Elementary School, what has been observed are insufficient actions.

The constant improvement of educators is extremely important and should be encouraged, as it allows for a continuous process of development. According to Freire (1996, p.25), "the teacher must always seek to improve his practice, questioning it in order to be able to implement new ways of teaching". In light of this, it is essential that the state school administration prioritizes the inclusion of Environmental Education in school curricula and offers adequate support to teachers so that they can share this knowledge effectively with students.

Category 2 - What do you think about EA being a subject in the school curriculum?

Teachers	(Exploration of the material) Part of the speech extracted from the interviewee	(Inference and Interpretation) Content Analysis
Geography	[...], should be a curricular subject	<i>EA needs to be part of the discipline of the school curriculum</i>
Sciences	[...], there is a lot of content that comes related to this. Within science, within biology. [...]	<i>EA needs to be part of the discipline of the school curriculum</i>
History	[...] EE should be a curricular subject. [...] from Early Childhood Education	<i>EA needs to be part of the discipline of the school curriculum</i>
Portuguese	Environmental education should have more approach within the subjects of the curriculum.	<i>EA needs to be part of the discipline of the school curriculum</i>
Physical education	EE should be a curricular subject. [...]	<i>EA needs to be part of the discipline of the school curriculum</i>

Mathematics	EE should be a curricular subject.	<i>EA needs to be part of the discipline of the school curriculum</i>
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Source: Survey data (2024)

Interdisciplinarity is an educational strategy that seeks to unite knowledge, skills, and visions from different disciplines to deal with complex and situated challenges (Morin, 2015). Rather than focusing exclusively on a specific discipline, interdisciplinarity recognizes the interdependence between the various aspects of knowledge and seeks to understand and solve real-world issues in a global way. This can include cooperation between teachers from different areas, the incorporation of content from different disciplines into teaching projects, and a more practical and contextualized approach to teaching and learning.

We found (category 3) that most of the subjects of the Colégio Estadual do Campo São Roque apply a practical approach to Environmental Education. On the other hand, the Portuguese language discipline approaches Environmental Education in a more theoretical way.

Category 3 - What activities are practiced in relation to environmental education in your discipline for the ninth grade of elementary school?

Teachers	(Exploration of the material) Part of the speech extracted from the interviewees	(Inference and Interpretation) Content Analysis
Geography	<i>We made a compost bin and a vegetable garden. We teach how to make a cistern. We teach how to recycle garbage. [...].</i>	<i>Hands-on activities for EA</i>
Sciences	<i>[...], I can beneficially associate EE in this environment.</i>	<i>Hands-on activities for EA</i>
History	<i>For example, the way farmers use water from the river [...]</i>	<i>Hands-on activities for EA</i>
Portuguese	<i>I work at EA, whenever possible, doing research in books [...].</i>	<i>Theoretical activities for EA</i>
Physical education	<i>[...] cleaning the sports court and schoolyard, [...] separating organic waste from recyclables.</i>	<i>Hands-on activities for EA</i>
Mathematics	<i>We collect recyclable materials: we raise the amount of glass, plastic and paper. [...]. We listed them in tables and made graphs</i>	<i>Hands-on activities for EA</i>

Source: Survey data (2024)

We realized that in the rural school, Environmental Education is worked in a holistic way, combining theoretical knowledge with practical activities in order to stimulate the ecological awareness of students.

Likewise, the relevance of rivers is emphasized not only to meet the needs of the population, but also as important ecosystems that shelter the diversity of local life. In

addition, cleaning the school's surroundings is a recurring practice, which aims to foster respect for the nearby environment and collective responsibility in maintaining hygiene. Finally, research in literature (Portuguese language subject) enriches students' practical learning, providing a consistent theoretical basis that supports their actions and deepens their understanding of environmental issues.

In Category 4, we sought to understand how teachers perceive PPP in relation to EE.

Category 4 - In the school's PPP, in its curricular component, how is Environmental Education discussed?

Teachers	(Exploration of the material) Part of the speech extracted from the interviewee	(Inference and Interpretation) Content Analysis
Geography	<i>The PPP deals with EE, but not directed exclusively to the discipline of geography.</i>	<i>PPP does not include EE in Geography</i>
Sciences	<i>The PPP was very content-oriented, with no connection to EA.</i>	<i>Content PPP</i>
History	<i>The PPP deals with EA, but not directed to the discipline of history.</i>	<i>PPP does not include EE in History</i>
Portuguese	<i>I don't know how to answer.</i>	
Physical education	<i>The PPP deals with EE, but not directed to Physical Education.</i>	<i>PPP does not include EE in Physical Education</i>
Mathematics	<i>The PPP deals with EE, but not directed to the discipline of mathematics.</i>	<i>PPP does not include EE in Mathematics</i>

Source: Survey data (2024)

The curriculum of the disciplines contained in the PPP covers the discussion of socio-educational problems, such as Environmental Education, in accordance with relevant laws, recognizing the relevance of the school in the formation of students. However, the disciplines do not deal with Environmental Education in a specific way, which raises concern. Although the program of the disciplines covers the discussion of socio-educational challenges, such as Environmental Education, according to relevant laws, a more detailed focus on this theme is necessary. Given the particularities of the rural context in primary education, it is essential to promote meaningful teaching and address current environmental issues. This involves the incorporation of Environmental Education, as stipulated in norms such as Federal Law 9.795/1999 and State Law 17.505/13.

Teachers play a crucial role in encouraging student interaction and adjusting the teaching method according to local demands, helping in the progress of analytical thinking and in the search for alternatives that aim at sustainability. This form of action not only prepares students to understand and deal with complex environmental issues, but also enables them to act as agents of transformation in their communities in the interior.

Importantly, the shift towards sustainable schools involves the union and coordination of different aspects, such as the syllabus, school administration, and physical facilities, as indicated in the National Curriculum Guidelines for Environmental Education. The

participation of all members of the school community in the elaboration of the Political-Pedagogical Project is crucial, with guidelines for Environmental Education guiding the actions of the school in general and in the classrooms in a specific way. It is evident, therefore, the importance of knowledge so that the theme "Pesticides", in its broad conception, can be debated. Within this perspective, schools present themselves as an appropriate environment to discuss this issue, with the objective of improving the understanding of Environmental Education and, mainly, alerting students about the damage of pesticides to human health and the environment.

We found in Category 5 that the theme of pesticides is also not addressed in the ninth grade of Elementary School in the subjects of Geography, Science, History, Portuguese, Physical Education and Mathematics.

Category 5 - With regard to environmental education in your discipline for the 9th grade of elementary school, how is the issue of pesticides treated?

Teachers	(Exploration of the material) Part of the speech extracted from the interviewee	(Inference and Interpretation) Content Analysis
Geography	<i>In the ninth grade there is no specific content about pesticides, so I haven't worked yet.</i>	<i>Pesticides are not worked on in interdisciplinarity</i>
Sciences	<i>[...] It does not have specific content about pesticides.</i>	<i>Pesticides are not worked on in interdisciplinarity</i>
History	<i>I have not done specific work on pesticides.</i>	<i>Pesticides are not worked on in interdisciplinarity</i>
Portuguese	<i>In the Portuguese discipline, we do not work specifically on pesticides</i>	<i>Pesticides are not worked on in interdisciplinarity</i>
Physical education	<i>In Physical Education I didn't work with pesticides.</i>	<i>Pesticides are not worked on in interdisciplinarity</i>
Mathematics	<i>I have never worked on pesticides [...]</i>	<i>Pesticides are not worked on in interdisciplinarity</i>

Source: Survey data (2024)

We noticed that the lack of specific information on pesticides (Category 5) in the study plans of schools, especially in the ninth grade, of an institution located in a rural area, is an alarming theme. Awareness of the impacts of pesticides on people's health and the ecosystem is crucial and should be included in the school curriculum.

Teachers play a fundamental role in teaching students about the problem of crop protection products. They are able to identify issues specific to the region and integrate them into the lessons, providing students with a more in-depth and contextualized understanding of the subject. This is a way to stimulate an interdisciplinary approach in Environmental Education. However, for this to be effective, it is essential that the issue of

pesticides be present in the Political-Pedagogical Project of the São Roque State School. In this way, it would be ensured that the subject was treated in an organized and comprehensive way in all subjects, including Mathematics, Science, Portuguese Language, History, Geography and Physical Education.

The addition of knowledge about pesticides in school curricula, especially in schools located close to cultivation areas, would not only promote student awareness, but could also result in improvements in agricultural techniques and associated policies. With this, it would be possible to collaborate to create a healthier and more sustainable environment for the whole society.

Brazilian legislation regarding the environment addresses issues related to the contamination and use of pesticides, with the aim of protecting the environment and ensuring the health of the population. Standards such as the PNEA and regulations on the use of pesticides seek to raise awareness in society about environmental issues. It is essential that the subject of pesticides and their impacts on the environment and human health be included in the school curriculum, through classes that integrate different disciplines, due to the relevance of these substances. It is worth mentioning that the National Policy on Family Farming promotes the adoption of sustainable agricultural practices.

FINAL CONSIDERATIONS

It was observed that, in general, the attitudes adopted by the teachers who were the object of study, in relation to Environmental Education, demonstrate a conservative posture, although all of them express concern with the preservation of the environment, the transmission of knowledge and awareness about environmental issues. It is important to emphasize that these characteristics are in accordance with the guidelines established by the Department of Education of the State of Paraná.

It was also identified that the subject of EE is present in the PPPs of the school studied, but in a superficial way in relation to its application in the classroom. Despite this, the teachers admitted that they do not have a complete understanding of the PPP, but they recognize its importance and consider it important to obtain more information to improve discussions and activities related to EE, pesticides and local issues. Finally, despite the relevance of the pesticide subject to the environment, as well as to the health of the population, there is a lack of educational materials and specific techniques to deal efficiently with it in the school environment. In view of this, it is essential to create



creative pedagogical methods that can fill this gap and stimulate critical reflection on the consequences of pesticides.

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