

**ENVIRONMENTAL EDUCATION IN THE CONTEXT OF RURAL EDUCATION: A  
STUDY IN A PUBLIC SCHOOL IN THE MUNICIPALITY OF UPANEMA – RN**

***A EDUCAÇÃO AMBIENTAL NO CONTEXTO DA EDUCAÇÃO DO CAMPO: UM  
ESTUDO EM UMA ESCOLA PÚBLICA DO MUNICÍPIO DE UPANEMA/ RN***

***EDUCACIÓN AMBIENTAL EN EL CONTEXTO DE LA EDUCACIÓN RURAL: UN  
ESTUDIO EN UNA ESCUELA PÚBLICA EN EL MUNICIPIO DE UPANEMA - RN***



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**ABSTRACT:** Environmental Education has been a topic of discussion among various national and international organizations in recent years, addressing the relationship between the environment and society. This article aims to comprehend the perception of students at a primary school concerning Environmental Education. This institution is situated in the São Manoel II agrarian reform settlement in the municipality of Upanema, Rio Grande do Norte. Based on the research results, it is possible to identify information that provides a unique perspective on Environmental Education. This underscores the need for discussions and broadens the possibilities of approach within the rural school context.

**KEYWORDS:** Environmental Education. Rural Education. Agrarian reform settlements.

**RESUMO:** *A Educação Ambiental tem sido uma temática discutida por diversas organizações nacionais e internacionais nos últimos anos, abordando a relação entre o meio ambiente e a sociedade. O objetivo deste artigo é compreender a percepção dos estudantes de uma escola de ensino fundamental em relação à Educação Ambiental. Essa instituição está localizada no assentamento de reforma agrária São Manoel II, no município de Upanema/RN. Com base nos resultados da pesquisa, é possível identificar um conjunto de informações que proporciona uma percepção única sobre a Educação Ambiental. Isso destaca a necessidade de discussões e amplia as possibilidades de abordagem no contexto da escola rural.*

**PALAVRAS-CHAVE:** *Educação Ambiental. Educação do Campo. Assentamento de reforma agrária.*

**RESUMEN:** *La educación ambiental se ha constituido como tema discutido por diferentes organizaciones nacionales e internacionales en los últimos años, problematizando la relación entre el medio ambiente y la sociedad. El artículo referido tiene como objetivo comprender la percepción de los estudiantes de la Escuela primaria, sobre la educación ambiental, insertada del asentamiento de reforma agraria São Manoel, en el municipio de Upanema/RN. Por los resultados de la investigación, es posible evidenciar un conjunto de informaciones que proporcionan una percepción sobre la educación ambiental, estableciendo la necesidad de discusiones y ampliando posibilidades de enfoques en el contexto de la escuela rural.*

**PALABRAS CLAVE:** *Educación Ambiental. Educación Rural. Asentamientos de reforma agraria.*

## Introduction

Environmental Education has emerged as a fundamentally addressed theme by various countries, primarily aiming to provide a strategic direction in implementing mechanisms to address environmental issues. In this context, it is understood that the intense global economic development results from a process that has had dynamic and influential impacts on societies and governments over the centuries concerning a model that emphasizes financial aspects related to social and environmental well-being. Mastering techniques and their refinement have brought about changes in everyday activities and social practices, especially in the workplace, which consequently impact how people engage with the environment in their daily interactions (CARVALHO, 2017).

In this context, education has provided an opportunity to build a sustainability-based understanding, allowing for reflections on Environmental Education and the living conditions of future generations. According to Kieckhofer and Fonseca (2006, p. 122, our translation), the formulated concept of sustainable development "proposes a way to perceive solutions to global problems, which are not limited to the degradation of the physical and biological environment but incorporate social, political, and cultural dimensions [...]". To this end, Barbosa (2016) emphasizes that these issues are discussed in international forums promoted by the United Nations (UN) and have been intensifying each year.

Approaches related to environmental issues are fundamental for addressing questions that encourage participation among individuals and society, fostering reflection on the actions each person can undertake in their daily lives. In this context, discussions established in formal and non-formal education need to be disseminated with a focus on the collective interest of all those involved in the field of Environmental Education (REZENDE; BAMPI, 2019). Ensuring discussions in the school environment about the environment and, consequently, offering intervention alternatives regarding the content studied and addressed in the classroom is crucial for promoting an understanding oriented toward the critical formation of students, rooted in principles of representation and social values, based on knowledge, and supported by competencies and skills directed toward ecosystem conservation and preservation (LOURENÇO, 2018).

The contributions of Environmental Education, according to Martins and Schnetzler (2018), should provide critical assistance in the reflective process to foster understanding of current topics in students' social and school reality. It is imperative to establish a direct connection with the fields of humanities and social sciences, as well as natural sciences, to

promote discussions related to the implications resulting from human intervention in nature and, in turn, present actions that can be implemented to mitigate problems and expand possibilities for improved quality of life for society.

Therefore, the school environment plays a highly relevant role in creating conditions for debates that stimulate students' creative capacity regarding concepts that promote awareness of responsibility towards the environment. For Lima (2004), formal education significantly contributes to promoting actions committed to Environmental Education and sustainability. Thus, this present work seeks to understand the perception of students in elementary education at a Public School in the Municipality of *Upanema*, in the state of *Rio Grande do Norte*, regarding Environmental Education and subsequently identify how this topic is addressed in the mentioned school, located in the São Manoel II agrarian reform settlement.

### **Environmental Education in the Context of Rural Education**

Environmental Education enables the use of scientific knowledge as a mechanism to contextualize issues related to the student's reality. This approach promotes the construction of critical reflections on the problems presented in the analyzed context, encompassing various topics such as climate change, unchecked deforestation, genetically modified products and their implications on human life, and environmental pollution, among other diverse issues.

In light of this, Medeiros *et al.* (2011) assert that environmental issues are inherently social and are concerning due to the implications that can affect society. Therefore, it is imperative to develop studies in the school environment that facilitate understanding of environmental and social issues related to the future of our planet. UNESCO (2005) establishes that Environmental Education fosters discussions about the relationship between humans and the environment, encompassing various appropriate ways of conservation, preservation, and management of natural resources.

According to Bosa and Tesser (2014), Environmental Education emerges as a fundamental element in forming citizens committed to environmental issues. This continuous process allows individuals and the community to develop an ecosystemic awareness and acquire values, experiences, and determination, empowering them to act collectively and individually, especially in solving environmental problems.

As Frago and Nascimento (2018, p. 164, our translation) state,

All knowledge of the environment in which one lives is culture; it can mediate between nature and humanity. This culture, without ethics, irrational and compromising lifestyle humans possess today, must be changed. It is believed that changes in attitude are necessary, even if they occur on an individual level, and serve as an example for future generations.

In light of this, Tozoni-Reis (2004, p. 147, our translation) asserts:

Environmental Education is a dimension of education; it is an intentional activity within social practice that imparts a social character to individual development in its relationship with nature and other human beings, intending to enhance this human activity, making it more socially embedded and environmentally ethical. This activity demands systematization through a methodology that organizes the processes of transmitting and critically appropriating knowledge, attitudes, and political, social, and historical values.

Environmental Education can be characterized through the development of intentional activities that enable the connection between theory and practice in constructing knowledge related to environmental issues. This promotes a critical and reflective understanding of the relationship between humans and the environment. In this regard, Carvalho (2017) emphasizes that educational practices related to Environmental Education in the school environment positively impact students' lives as they promote a solid understanding of sustainable development. From the perspective of Cuba (2010), the school is seen as a space that facilitates the exchange of information and foundations, which can play a significant role in encouraging students to develop ideas deeply connected to responsibility regarding environmental issues.

Dantas, Soares and Santos (2020, p. 451, our translation) mention that,

Environmental Education was built through conferences and intergovernmental meetings involving ecological movements, environmental NGOs, and social movements. The objectives, principles, and strategies for Environmental Education worldwide were defined in the 1970s during the Intergovernmental Conference on Environmental Education, also known as the Tbilisi Declaration, organized by UNESCO in collaboration with the United Nations Environment Programme (UNEP), held in October 1977, gathering experts from around the world in Tbilisi, Georgia.

The discussions that took place during the Tbilisi Declaration, as reported by Dantas, Soares e Santos (2020), directly impacted the implementation of public policies related to Environmental Education in Brazil. According to Law No. 6.938/1981, which pertains to the National Environmental Policy, it is established that the fundamental principles aim centrally at the active participation of the community in environmental protection. Furthermore, the National Policy on Environmental Education, regulated by Law No. 9.795/1999, promotes an

understanding the environment, considering the interdependence between the natural, cultural, and socioeconomic aspects, focusing on sustainability (BRASIL, 1999).

In this context, Frigotto (1995) highlights that the interdisciplinary approach in education provides a solid path to address the challenges present in contemporary society, especially regarding the relationship between humans and nature. In Morales' (2012) view, when carried out interdisciplinarily, educational practices related to Environmental Education have significantly contributed to students' learning progress, promoting effective interaction between various disciplines.

According to *et al.* (2016, p. 26, our translation),

Environmental Education can be understood as a participatory process in which the learner assumes the central role in the intended teaching/learning process, actively participating in diagnosing environmental problems, seeking their solutions, preparing to become a transformative agent of current popular behaviors, through the development of skills and the formation of attitudes, or an ethical behavior consistent with citizenship.

In the context of Rural Education, it is understandable, according to Dantas, Santos and Soares (2020, p. 152, our translation), that

The foundations of Rural Education are rooted in the working classes' struggles against the institutionalization of liberal ideology as the education model offered by the State. This initiative is based on the understanding that the education model suitable for the economically dominant class (bourgeoisie) does not encompass rural workers' culture, traditions, beliefs, customs, and struggles.

Thus, Rural Education is characterized as a movement that acts counter-hegemonically against the implemented liberal model, especially in the Brazilian context and, more specifically, in rural areas. This model is responsible for criminalizing the working class, restricting land access, and diminishing the citizenship of rural inhabitants (DANTAS; SANTOS; SOARES, 2020). Therefore, it is possible to highlight that Environmental Education and Rural Education have a common origin as movements that simultaneously engage in dialogue, countering the hegemonic view of agribusiness in the capitalist context.

From this perspective, it is relevant to consider education as a catalyst in social transformation, particularly in rural school environments. According to Saviani (2003, p. 13, our translation), education is "[...] the act of directly and intentionally producing, in each singular individual, the humanity that is historically and collectively produced by the ensemble of human beings". Education is not limited to the mere transmission of knowledge but also

involves pedagogical facilitation in constructing this knowledge in each individual, considering their characteristics, specificities, and uniqueness.

As pointed out by Caldart (2009, p. 154, our translation), Rural Education is an educational project that:

[...] reaffirms, as a major purpose of educational action, assisting in the fuller development of the human being, in their humanization, and critical integration into the dynamics of the society they are part of; that understands that individuals become more human or dehumanized under certain material conditions and social relationships; that in the same processes by which we produce our existence, we produce ourselves as human beings; that social practices and, among them, especially work relations shape (form or deform) individuals.

This perspective allows us to understand that Rural Education is intrinsically related to the proposal of Environmental Education, considering that through education, humans can both preserve and transform nature. According to Molina and Jesus (2004), Rural Education is directly linked to the specificities that are part of the local reality of rural inhabitants, taking into account the education of the rural population as a pedagogical practice with a defined purpose.

The discussion surrounding this type of education has recently become more relevant in the Brazilian context. The prevailing economic development model prioritized monoculture, large estates, and agribusiness, relegating peasant farmers and family agriculture to a secondary role. For Dantas, Santos and Soares (2020), the educational reality in rural areas, represented by Rural Education, offers the opportunity to build an understanding that encompasses emancipatory education by providing a critical view of the frequent problems in the economic and social structure, related to mass migration from rural to urban areas. Among these problems are environmental issues and the quality of life of the rural population. Through this critical perspective, it is possible to enhance students' reflective capacity in the educational process, promoting their autonomy and stimulating their protagonism.

## Materials and Methods

The municipality of Upanema/RN is located approximately 278 km from the capital, Natal. It has a geographical extension of 873.14 km<sup>2</sup>, and according to the census conducted by the Brazilian Statistics Institute (IBGE, 2021), it has a total population of 14.937 inhabitants.

The school in focus is located in the São Manoel II Agrarian Reform Settlement (Photo 1), approximately 17 km from Upanema, Rio Grande do Norte. The institution offers early childhood education and the initial years of elementary education in the morning and the final years of elementary education in the afternoon. Currently, the school has seven classrooms and serves a student body of 200 students.

**Figure 1** – São Manoel II Settlement Sign



Source: Author's work.

To collect data, we employed both bibliographic research and field research, as Gil (1946) and Sasso *et al.* (2007). We utilized questionnaires administered through the Google Forms platform to gather specific information about the approach to Environmental Education in the reality of the school located in the São Manoel II Agrarian Reform Settlement in the municipality of *Upanema, Rio Grande do Norte*.

Initially, we conducted a bibliographic survey in electronic journals related to Environmental Education and Rural Education. Subsequently, we reviewed articles and scientific journals related to the topic to support this article. Following that, we conducted visits to the school, engaging with the school management team members to explain the work's objectives and request permission to perform the on-site research, as well as to schedule subsequent visits.



For data collection, we administered a questionnaire directly related to the research, focusing specifically on Environmental Education. This phase was carried out in October 2022. A total of 60 students were randomly selected, encompassing classes from the 6th to the 9th grade of elementary education. The questionnaire's questions were primarily centered on Environmental Education, emphasizing approaches related to the context of Rural Education.

The students who agreed to participate in the research were asked to sign the Informed Consent Form (ICF) to guarantee voluntary participation. A different ICF template was used for participants under the age of majority, which sought the legal guardians' authorization for the student's involvement in the research.

Based on the collected data and the applied analytical method, the research assumed a qualitative approach, considering the responses provided by the target audience. This resulted in a content analysis and the presentation of results in percentage terms. Excel 2019 spreadsheets were used to quantify the obtained data, enabling a more detailed analysis based on the generated charts, reflecting the responses to the individually administered questionnaires.

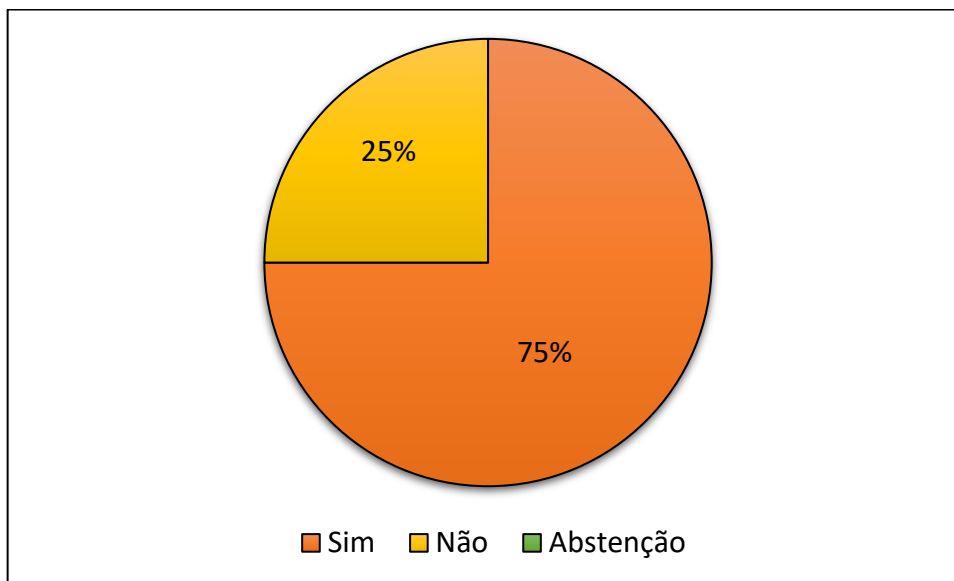
## **Results and Discussion**

Considering the research procedure carried out during the bibliographic data collection and fieldwork regarding Environmental Education in the context of Rural Education, detailed information was obtained to construct a critical analysis of the school's reality.

Regarding the age group of the students participating in the research, it was observed that 52% were female, and 48% were male. As for the time the students attended the school in question, it was found that 20% had been studying there for one or two years, 35% for three to five years, and 45% for more than five years.

According to Silva and Sammarco (2015), it is possible to identify the interviewees' perceptions regarding the sense of belonging between humans and their actions concerning the environment. To illustrate this perception, Graph 1 follows.

**Graph 1** – Notions of belonging to the environment as a human being<sup>3</sup>



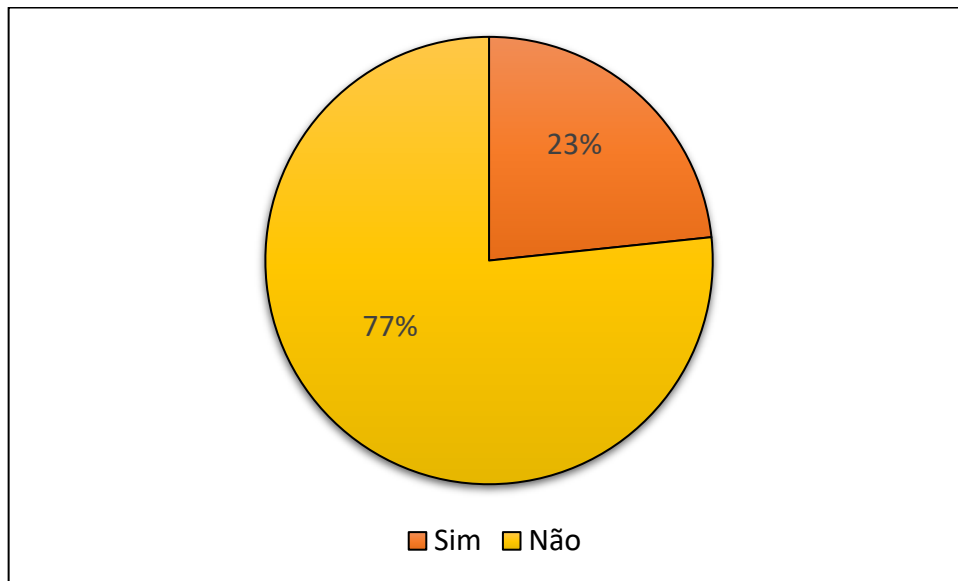
Source: Field Research, 2022.

Based on the presented data, the majority of students demonstrate a sense of belonging related to the environment, especially concerning understanding environmental issues related to preservation and conservation. Only 25% express a divergent perception. However, most respondents emphasize the connection between humans and nature. According to Hoeffel and Fadini (2007), individuals in society establish direct relationships with the environment, and their perceptions are cognitively processed and reflected in actions and expressions in their daily lives.

The perception of the majority of respondents indicates the formation of an understanding related to a sense of belonging to the environment, which is closely linked to the life reality of the students. Therefore, the development of discussions on Environmental Education in the context of Rural Education allows individuals to actively engage in sociocultural and sociopolitical issues while promoting reflections on environmental preservation within the students' educational scope (BRITO *et al.*, 2016). Next, Graph 2 will be presented, highlighting participation in projects related to environmental issues.

<sup>3</sup>Translation of the image: Orange square: Yes; Yellow square: No; Green square: Abstention.

**Graph 2 – Participation in projects related to environmental issues<sup>4</sup>**



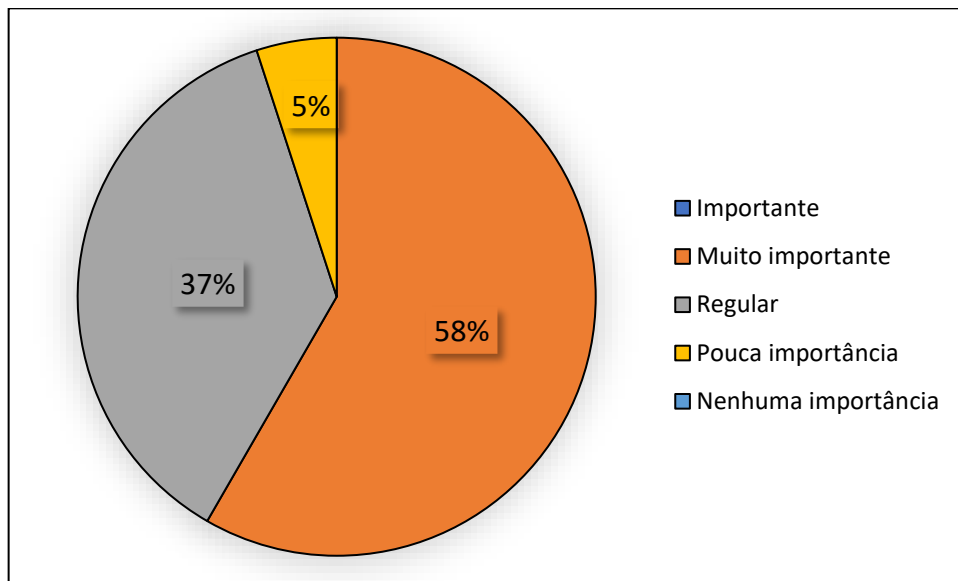
Source: Field Research, 2022.

Based on the presented projection, it is understood that a significant proportion of students are currently or have previously participated in projects addressing environmental issues, with a particular emphasis on carrying out work related to ecological themes in rural contexts. However, 23% of the respondents emphasize that they have not had the opportunity to participate in projects related to this subject.

In this context, it becomes evident that there is a need to implement activities within the educational context that are directly linked to Environmental Education. This will promote socio-environmental reflections, particularly within the semi-arid context and the geographic dimension of the São Manoel II Agrarian Reform Settlement. Graph 3 presents an analysis of the data related to the importance attributed by the students to Environmental Education activities within the school environment.

<sup>4</sup>Translation of the image: Orange square: Yes; Yellow square: No.

**Graph 3 – Perception of the importance of Environmental Education activities in the school environment<sup>5</sup>**



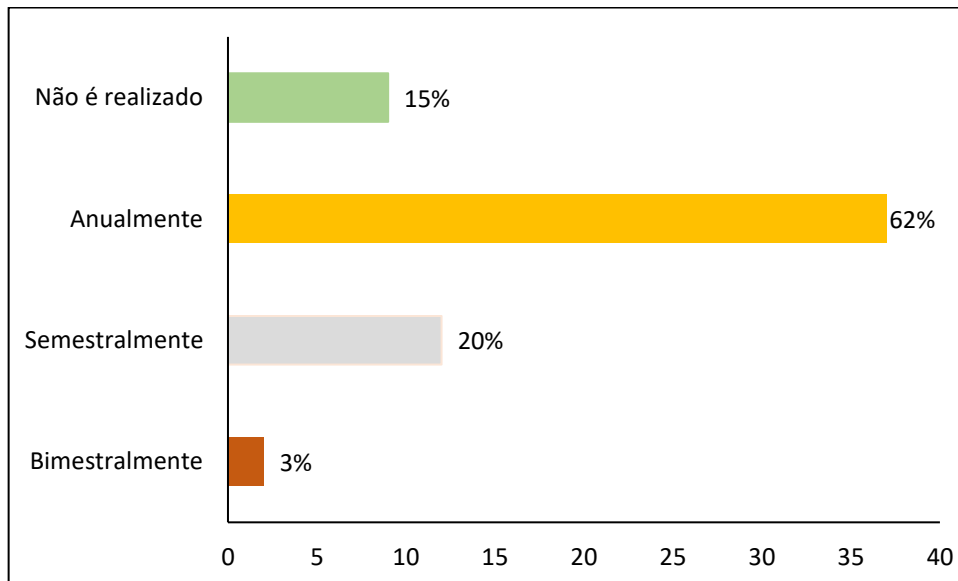
Source: Field Research, 2022.

It is observed that most respondents demonstrate an awareness of the importance of Environmental Education activities in the school environment. Approximately 37% consider these activities regular, while only 5% claim they have limited significance in environmental themes. Notably, a small group does not attribute significant meaning to Environmental Education, while the majority emphasizes the importance of addressing this subject.

According to Medeiros *et al.* (2011), education can be a support to improve the relationship between human beings, nature, and other human beings. Raising awareness among individuals is essential to enhance coexistence among people and the environment. Children learn to preserve, whereas adults tend to have more difficulty adopting new, more sustainable habits due to their adaptation to old ones. Graph 4 presents information on the frequency with which Environmental Education is addressed in the classroom.

<sup>5</sup>Translation of the image: Dark blue square: Important; Orange square: Very important; Gray square: Regular; Yellow square: Little importance; and Light blue square: No importance.

**Graph 4 – Approaches to topics related to Environmental Education in the classroom<sup>6</sup>**



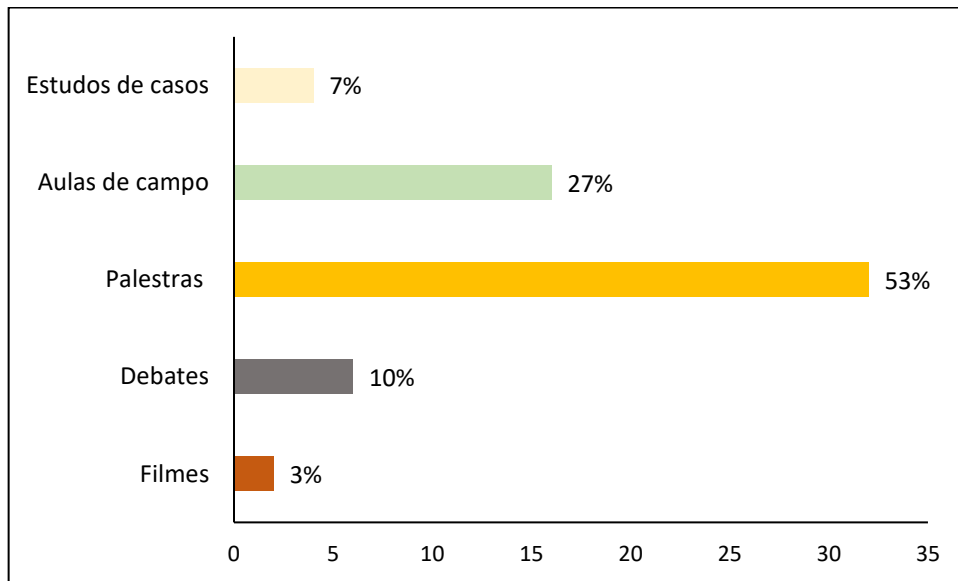
Source: Field Research, 2022.

When considering students' perceptions, it is possible to observe that 62% of them affirm that environmental themes are addressed annually, while 20% indicate that they work on a semester basis. Furthermore, 15% mention the absence of activities related to this theme, and only 3% report that these activities occur bimonthly. Therefore, based on the provided information, an educational context is observed in which environmental themes are not identified as a priority discussion, as evidenced by the higher percentage of responses.

In this context, students also highlight possibilities for approaches related to Environmental Education in the school environment, as presented in Graph 5. These perceptions become relevant when considering that most students state that this theme is discussed annually, as indicated in Graph 4.

<sup>6</sup>Translation of the image: Green line: Not conducted; Yellow line: Annually; Gray line: Semi-annually; and Red line: Bimonthly.

**Graph 5 – Approaches to the topic of Environmental Education in the classroom<sup>7</sup>**



Source: Field Research, 2022.

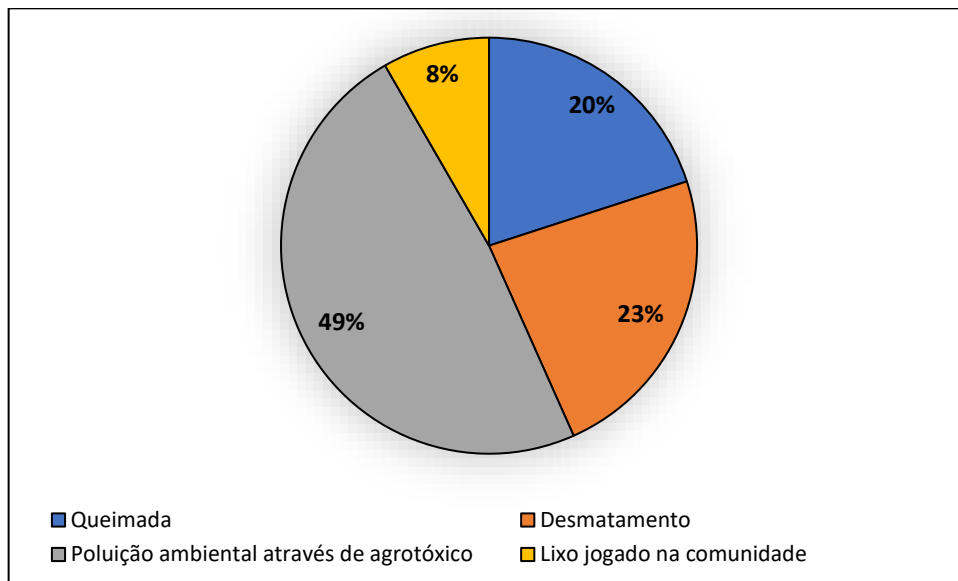
Based on the students' considerations, 53% of them highlight that lectures would be one of the viable ways to address Environmental Education in the classroom, while 27% mention field classes. Furthermore, 10% consider debates as a relevant alternative, 7% emphasize the importance of case studies, and 3% point out films as a meaningful option for addressing Environmental Education.

As stated by Medeiros *et al.* (2011), the classroom should be understood as a space where educators relate the taught content to the issues that are part of students' daily lives, connecting it to the phenomena occurring in their surroundings and applying scientific concepts to this reality.

Therefore, the perceptions presented in Graph 5 highlight the importance of considering these approaches as proposals to be applied in the classroom, especially when dealing with content related to Environmental Education. In Graph 6, it is possible to observe the environmental issues identified in the agrarian reform settlement where the students are daily immersed and aware.

<sup>7</sup>Translation of the image: Beige line: Case studies; Green line: Field trips; Yellow line: Lectures; Dark gray line: Debates; and Red line: Films.

**Graph 6** – Identification of existing environmental problems in your Agrarian Reform Settlement<sup>8</sup>



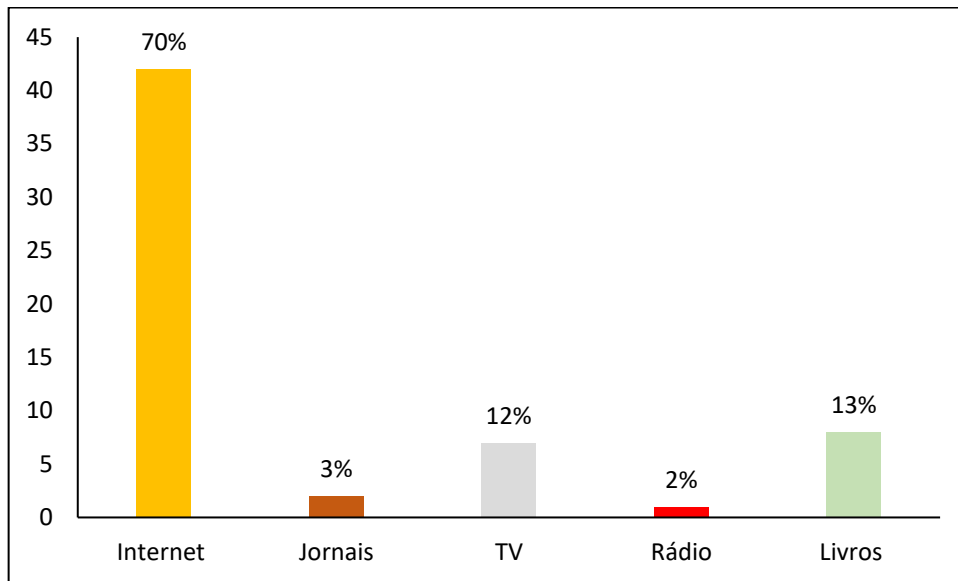
Source: Field Research, 2022.

Based on the students' perceptions, it is possible to observe that the use of pesticides is considered one of the primary environmental issues in the Settlement region, with 23% of the students highlighting this aspect. Furthermore, 20% identify deforestation as a problem, 8% mention wildfires, and 8% point out improper waste disposal in the community. These identified issues are related to the activities of Agribusiness in the Settlement and the absence of public waste collection services in rural areas.

For Castro, Ferreira e Mattos (2011), the use of pesticides has been causing harm to public health and the environment, compromising natural resources such as biodiversity, soil fertility, and water resources. The situation mentioned by the students in Graph 6 directly affects the residents' quality of life at São Manoel II Agrarian Reform Settlement. In Graph 7, different ways students stay informed about environmental issues will be analyzed.

<sup>8</sup>Translation of the image: Dark blue square: Forest fire; Gray square: Environmental pollution through pesticides; Orange square: Deforestation; Yellow square: Garbage dumped in the community.

**Graph 7 – Methods of updating information about the environment<sup>9</sup>**



Source: Field Research, 2022.

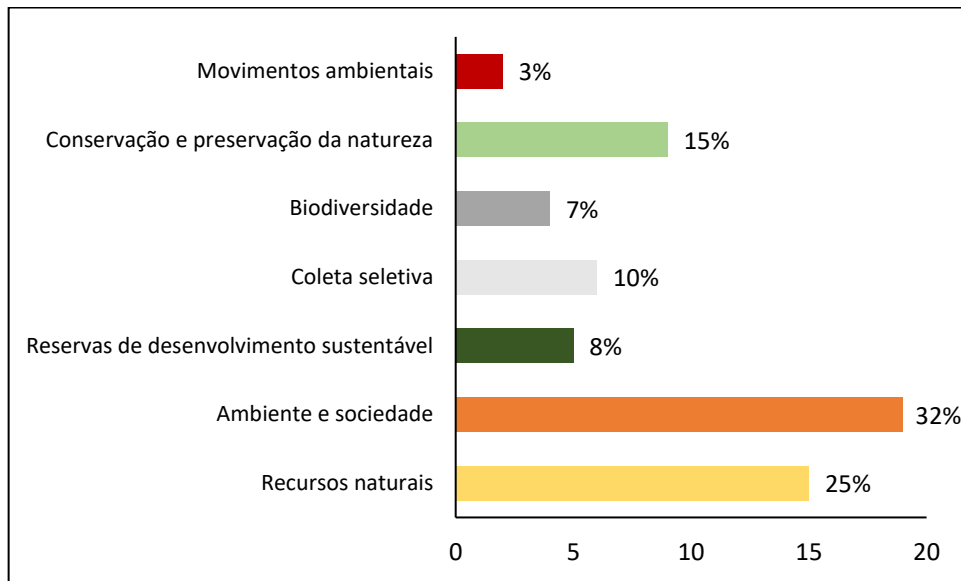
Based on the presented percentages, it is evident that most students obtain information related to the environment directly from the Internet. In light of this reality, it is possible to identify, within the geographical context of the São Manoel II Agrarian Reform Settlement, the use of the Internet as a technologically accessible resource for students. Consequently, it can be considered a potential tool for enhancing the teaching and learning process in the school.

According to Moran (1997, our translation), "The internet is a technology that facilitates student motivation due to its novelty and the inexhaustible research possibilities it offers." Therefore, its utilization can be a motivating strategy when incorporated by the teacher, promoting autonomy reliability and stimulating reflections on the topics covered. This can significantly facilitate the teaching and learning process, fostering authentic communication in the classroom and creating opportunities for learning through the discussions conducted. Additionally, students were asked about the topics they consider relevant for discussions related to Environmental Education, and their responses are presented in Graph 8.

<sup>9</sup>Translation of the image: Yellow line: Internet; Dark red line: Newspapers; Gray line: TV; Light red line: Radio; Green line: Books.



**Graph 8 – Relevant Themes in Environmental Education<sup>10</sup>**



Source: Field Research, 2022.

Analyzing the information presented as relevant in Environmental Education, it is understood that 32% of the students highlighted the theme "environment and society" as essential to be discussed and addressed in the educational context. Additionally, 25% mentioned "natural resources," 15% emphasized "conservation and environmental preservation," 10% pointed out "selective waste collection," 8% cited "environmental reserves," 7% highlighted "biodiversity," and 3% mentioned "environmental movements." Percentage-wise, the predominance is related to the theme "environment and society," which addresses the relationship between human beings and nature.

In light of these considerations, it is essential to note that Apel (1994) asserts that large-scale environmental issues can result in social, political, economic, and ecological conflicts, which, in turn, can lead to irreversible catastrophes in the environment. Therefore, Morin (2000) emphasizes the need to learn to live in harmony with nature, establishing coexistence relationships and utilizing present resources without compromising future generations.

The themes presented as elements of reflection in the context of Environmental Education become unique in the local reality of the school under study, establishing direct connections to the students' local reality. Thus, Camara *et al.* (2019) emphasize the importance of residents' perception in rural communities and agrarian reform settlements as indispensable

<sup>10</sup> Translation of the image: Dark red line: Environmental movements; Light green line: Conservation and preservation of nature; Dark gray line: Biodiversity; Light gray line: Selective waste collection; Dark green line: Sustainable development reserves; Orange line: Environment and society; Yellow line: Natural resources.

in the reflective process, especially in projecting reflections on topics that need debate in contemporary times.

### **Final considerations**

The theme of Environmental Education should be discussed and problematized, especially in formal educational spaces, considering the student's academic level. In this regard, stimulating critical and reflective thinking allows for a geographical exploration of climate, environmental, socio-economic, and socio-political issues present in schools in the Brazilian semi-arid region.

In the context of the central school in the study, located in the municipality of Upanema/RN, various situations were identified throughout the current research results, emphasizing the lack of discussions related to environmental issues. This draws attention to the impacts occurring in the local reality caused by the use of pesticides in agricultural activities, as well as deforestation, wildfires, and improper waste disposal in the community.

Based on the presented observations, the research participants' perceptions indicate opportunities to address the gaps related to the absence of Environmental Education in the classrooms of the school under study. In this context, it is possible to work on the theme in various ways, including case studies, field trips, lectures, debates, film or documentary screenings, and establishing methodological connections with the local reality of the researched context. This can promote the development of a critical perspective and stimulate student leadership in the rural school.

Considering the scope of Environmental Education, it is relevant to emphasize the importance of interdisciplinary work in addressing this theme. This involves expanding discussions between the fields of knowledge in the humanities and social sciences and the natural sciences, promoting collaborative teaching and learning. This can enhance students' knowledge and improve study and research practices related to Environmental Education.

## REFERENCES

- APEL, K. O. **Estudos de Moral Moderna**. Petrópolis, RJ: Vozes, 1994.
- BARBOSA, F. M. **Percepções sobre o aquecimento global nas escolas do município de Volta Redonda, estado do Rio de Janeiro**. 2016. 99 f. Dissertação (Mestrado em Formação Científica para Professores de Biologia) – Instituto de Biofísica Carlos Chagas Filho, Universidade Federal do Rio de Janeiro, Rio de Janeiro, 2016.
- BOSA, C. R.; TESSER, H. C. B. Desafios da Educação Ambiental nas escolas municipais do município de Caçador – SC. **Revista Monografias Ambientais**, v. 13, n. 2, p. 2996–3010, 2014. DOI: 10.5902/223613089763. Available at: <https://periodicos.ufsm.br/remoa/article/view/9763>. Accessed in: 10 Aug. 2022.
- BRASIL. **Lei nº 6.938, de 31 de agosto de 1981**. Dispõe sobre a política nacional do meio ambiente, seus fins e mecanismos de formulação e aplicação, e da outras providências. Brasília, DF: MMA, 1981. Available at: [http://www.planalto.gov.br/ccivil\\_03/LEIS/L6938.htm](http://www.planalto.gov.br/ccivil_03/LEIS/L6938.htm). Accessed in: 24 Aug. 2022.
- BRASIL. **Lei n. 9.795, de 27 de abril de 1999**. Dispõe sobre a educação ambiental, institui a política nacional de educação ambiental e dá outras providências. Brasília, DF: MEC; MMA, 1999. Available at: [http://www.planalto.gov.br/ccivil\\_03/leis/19795.htm](http://www.planalto.gov.br/ccivil_03/leis/19795.htm). Accessed in: 20 Aug. 2022.
- BRITO, V. L. T. *et al.* Importância da Educação Ambiental e meio ambiente na escola: uma percepção da realidade na escola municipal Comendador Cortez em Parnaíba (PI). **Revista Brasileira de Educação Ambiental (RevBEA)**, [S. l.], v. 11, n. 2, p. 22-42, 2016.
- CALDART, R. S. *et al.* Por uma educação do campo: traços de uma identidade em construção. In: KOLLING, E. J. *et al.* (org.). **Por uma educação do campo**. [S. l.: s. n.], 2002. v. 5, p. 147-160.
- CAMARA, L. R. A. *et al.* Qualidade de vida e percepção ambiental dos moradores de comunidades rurais em São Luís (MA). **Revista Brasileira de Educação Ambiental - RevBEA**, v. 14, n. 1, p. 263-274, 2019.
- CARVALHO, I. C. M. **Educação Ambiental: a formação do sujeito ecológico**. São Paulo: Cortez Editora, 2017.
- CASTRO, M. G. G. M.; FERREIRA, A. P.; MATTOS, I. E. Uso de agrotóxicos em assentamentos de reforma agrária no Município de Russas (Ceará, Brasil): um estudo de caso. **Epidemiologia e Serviços de Saúde**, [S. l.], v. 20, n. 2, p. 245-254, 2011.
- CUBA, M. A. Educação Ambiental nas Escolas. **Revista ECCOM**, [S. l.], v. 1, n. 2, p. 23-31, 2010.
- DANTAS, J. O.; SOARES, M. J. N.; SANTOS, M. B. A relação da Educação Ambiental com a Educação do Campo: aspectos identificados a partir de publicações em periódicos de Educação Ambiental. **Ambiente & Educação**, [S. l.], v. 25, n. 2, p. 448-480, 2020.

FRAGOSO, E.; NASCIMENTO, E. C. M. A Educação Ambiental no ensino e na prática escolar da escola estadual cândido mariano Aquidauana/MS. **Ambiente & Educação**, [S. l.], v. 23, n. 1, p. 161-184, 2018.

FRIGOTTO, G. A interdisciplinaridade como necessidade e como problema nas ciências sociais. In: JANTSCH, A. P.; BIANCHETTI, L. (org.). **Interdisciplinaridade: para além da filosofia do sujeito**. 6. ed. Petrópolis, RJ: Vozes, 1995, p. 25-49.

GIL, A. C. **Como elaborar projetos de pesquisa**. 4. ed. São Paulo: Atlas, 1946.

HOEFFEL, J. L.; FADINI, A. A. B. Percepção Ambiental. In: BRASIL. **Encontros e caminhos: formação de educadoras(es) ambientais e coletivos educadores**. 2º volume. Brasília, DF: Ministério do Meio Ambiente, Secretaria Executiva, Diretoria de Educação Ambiental, 2007. 357 p.

INSTITUTO BRASILEIRO DE GEOGRAFIA E ESTATÍSTICA (IBGE). **Censo 2021**. Disponível em: <https://cidades.ibge.gov.br/brasil/rn/upanema/panorama>. Acesso em: 10 maio 2021.

KIECKHOFER, A. M.; FONSECA, L. G. Desenvolvimento integrado e sustentável em municípios brasileiros. **Revista Estudos**, [S. l.], v. 10, n. 10, p. 121-137, 2006.

LIMA, W. Aprendizagem e classificação social: um desafio aos conceitos. **Fórum Crítico da Educação – Revista do ISEP/Programa de Mestrado em Ciências Pedagógicas**, [S. l.], v. 3, n. 1, out. 2004.

LOURENÇO, J. C. Educação Ambiental. In: LOURENÇO, J. C. **Educação Ambiental na Prática**. Campina Grande, PB: Independente, 2018. p. 254-418.

MARTINS, J. P. A.; SCHNETZLER, R. P. Formação de professores em Educação Ambiental crítica centrada na investigação-ação e na parceria colaborativa. **Ciência e Educação**, Bauru, SP, v. 24, n. 3, p. 581-598, jan. 2018.

MEDEIROS, A. B. *et al.* A Importância da Educação Ambiental na escola nas séries iniciais. **Revista Faculdade Montes Belos**, [S. l.], v. 4, n. 1, 2011.

MOLINA, M. C.; JESUS, S. M. S. A. (org.). **Contribuições para a construção de um projeto de educação do campo**. Brasília, DF: GEPEC, 2004. 75 p. *E-book*. Disponível em: <https://www.gepec.ufscar.br/publicacoes/livros-e-colecoes/livros-diversos/contribuicoes-para-a-construcao-de-um-projeto-de.pdf>. Acesso em: 10 jan. 2023.

MORALES, A. G. **A formação do profissional educador ambiental: reflexões, possibilidades e constatações**. 2. ed. Ponta Grossa, PR: UEPG, 2012.

MORAN, J. M. Como utilizar a Internet na educação. **Ciência da informação**, [S. l.], v. 26, p. 146-153, 1997.

MORIN, E. **Os sete saberes necessários à educação do futuro**. São Paulo: Cortez, 2000.

ORGANIZAÇÃO DAS NAÇÕES UNIDAS PARA A EDUCAÇÃO, A CIÊNCIA E A CULTURA (UNESCO). **Década da Educação das Nações Unidas para um Desenvolvimento Sustentável, 2005-2014**: documento final do esquema internacional de implementação, Brasília, DF, 2005.

REZENDE, F. S. S. L.; BAMPI, A. C. Práticas Pedagógicas em Educação Ambiental na Educação Básica: dificuldades e potencialidades da inserção da temática nas escolas. **Educação Ambiental em Ação**, [S. l.], v. 17, n. 67, p. 1-31, 2019.

SASSO, L. *et al.* Procedimentos metodológicos na construção do conhecimento científico: a pesquisa bibliográfica. **Revista Katálysis**, [S. l.], v. 10, 2007.

SAVIANI, D. **Pedagogia histórico-crítica**: primeiras aproximações. 8.ed. Campinas: Autores Associados, 2003.

SILVA, K. C; SAMMARCO, Y. M. Relação ser humano e natureza: um desafio ecológico e filosófico. **Revista Monografias Ambientais**, [S. l.], p. 01-12, 2015.

TOZONI-REIS, M. F. C. **Educação Ambiental**: natureza, razão e história. Campinas, SP: Autores Associados, 2004.

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