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SYNTROPIC ENVIRONMENTAL EDUCATION AND THE EMOTIONAL, SOCIAL AND WORK COMPETENCIES OF TEACHERS AND THEIR PERCEPTIONS IN STUDENT AND COMMUNITY LEARNING

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ABSTRACT

Syntropic Environmental Education (SES) proposes new epistemological perspectives to understand the development of knowledge and interventions on environmental reality, based on the creation of dialogues between natural and human sciences through the concept of Syntropy. Based on these assumptions, this research identifies and analyzes the effects of the training process in EAS on the emotional, social and work competencies of teachers and their perceptions on the learning of students and the community. The data were analyzed in a qualitative-quantitative manner with a longitudinal design and show that 'work ability', 'understanding of the interrelationship between environment and health' and 'expansion of socio-environmental practical activities' were improved. Analytical and sustainability capacity are also found to be provided by supervision and pedagogical guidance. These results corroborate the importance of the training process in EE for the improvement of the teaching work and the perception of the existence and construction of more satisfactory social relationships.

Keywords: Qualitative and quantitative research, Teacher training, Basic education, Sustainability.

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INTRODUCTION

Environmental Education (EE) emerged and is recommended to be implemented in all countries in the mid-twentieth century, as an essential tool to contribute to the transformation of the established relationships of human societies with nature.

Among the various trends emanating from this field, Syntropic Environmental Education (EAS) has proposed the development of knowledge and interventions on environmental reality, based on the creation of dialogues between natural and human sciences through the concept of Syntropy. It is a unitary theory of the interconnected physical, chemical, biological, and social world following the laws of nature in the search for balance. Fantapiè (2011) clarifies that this theory is opposed to the concept of entropy, which can be understood as a principle of convergence and organization of the living system, which is reflected in care, aiming at collective well-being, well-living and love of life. In this way, EAS is anchored in the assumptions of Education in Environmental, Physical and Emotional Health (ESAFE); Food and Nutrition Sovereignty and Security (SSAN); and in Citizen Science (CC) (TOQUETI; SPAZZIANI; RUMENOS; SANTOS AND PINTO, 2024).

The EAS in its connection to the field of education, similarly, is based on emancipatory critical pedagogical perspectives, proposed since the beginning of the twentieth century from the revolutionary socialist movements (SAVIANI, 2018). Among these, we highlight the foundations of Historical-Cultural Psychology, elaborated by Vigotski (2001) and collaborators, which impact here in Brazil the counter-hegemonic pedagogies that emerged from the 1960s onwards.

> It is a planetary pedagogy that proposes the emergence of an ethical-critical consciousness. Their educative action tends, then, not only to a cognitive improvement, even of the social or affective-instinctual victims, but to the production of an ethical-critical consciousness that originates in the victims themselves, as they are the privileged historical subjects of their own liberation. The critical pedagogical act is exercised in the subject himself and in his praxis of transformation: liberation is thus the "place" and the "purpose" of this pedagogy (DUSSEL apud LEGRAMANDI; GOMES, 2019, p. 28).

The challenges assumed by EAS converge to, based on considerations already widely based on critical and emancipatory pedagogies on the role of education in the constitution of humans, constitute critical and active subjects that favor the regeneration of the vital processes that maintain planetary life (TOQUETI; SPAZZIANI; RUMENOS; SANTOS AND PINTO, 2024).

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Also according to the authors above, human-nature interdependence is revealed through its conscious interaction of the cause-effect relationship of its choices and actions on nature, and this understanding contributes to the resilience of society and its different communities, where nature-based solutions should serve as an approach to broaden the perspective and design of sustainable and innovative solutions for healthy lifestyles that improve the quality of environments with a focus on the health and well-being of human and planetary life arising from the Physical, Environmental and Emotional Health Education (ESAFE) that guides the EAS.

To promote EAS it is important to contextualize and articulate environmental issues with people's lives; know what they see and feel, and the meanings they attribute to their observations and feelings. Otherwise, the process becomes distant from reality and does not fulfill its function of evidencing the real causes of the problems, relating them to human actions linked to the mode of production and consumption, as well as to deepen knowledge about the complexity of these issues so that it is possible to seek solutions (SPAZZIANI; GHELER-COSTA; TOQUETI; AND VIEIRA, 2022).

The incorporation of Emotional Health Education in the teacher training program is guided by the holistic paradigm, in which re-education and the balance of the 'I' are considered essential for planetary regeneration and human survival (VIVEIRA; CARNEVALLE; STIPKOVIC, 2022).

Environmental, Physical, and Emotional Health Education represents an emerging paradigm that intertwines the principles of education for environmental sustainability with the promotion of human physical well-being. This educational field recognizes the fundamental interdependence between the health of ecosystems and the health of human populations, underlining that the integrity of the environment is intrinsic to the prevention of diseases and the maintenance of physical health emanating from the concept of One Health (CONCEIÇÃO, 2023)

The syntropic approach emphasizes the need for practices that are aligned with natural processes, encouraging lifestyles that respect biogeochemical cycles and promote biodiversity, which is essential for the preservation of vital resources such as clean air and clean water, among others. In the educational sphere, this translates, for example, into teachings on syntropic agriculture methods (GOSTSCH, 1997), which seek to replicate the complexity and resilience of natural ecosystems in the promotion of outdoor physical

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activities for the benefit of human health and other entities, strengthening the connection with the natural environment.

Thus, in order to implement the EAS, it is essential to contextualize and articulate environmental problems with the daily experiences of individuals. This implies an in-depth understanding of people's perceptions and emotions, as well as the meanings they attribute to their affective observations and experiences (SPAZZIANI, 2019).

It is expected that the educator who commits to EAS develops at the cognitive, affective, intentional and motivational levels, acting together with knowledge, capacities and skills, motives and affective disposition. It also has the skills to form ethical principles that make Environmental Education feasible and fit its teaching needs within a transformative and action-oriented pedagogy, characterized by elements such as self-directed learning, participation and collaboration, problem orientation, inter and transdisciplinarity, in the realization of alliances between formal and non-formal education.

We understand that the EAS training program involves: 1) knowledge, where the focus is purely on intellectual development, scientific thinking and critical thinking; 2) learning to be, related to the ability to be with nature and emotional regulation, constituting a holistic dimension of sustainability and training in the predictability of socio-environmental processes; and 3) learning to do, involving community participation, application of sustainable values, and socio-environmental responsibility, articulating with the economic, environmental and social dimension in the areas of lifestyle and use of natural resources.

Based on these foundations, an improvement course in EE was promoted to teachers from five public schools in the interior of the state of São Paulo, with the objectives of identifying and analyzing its effects on the emotional, social and work skills of teachers and their perceptions on the learning of students and the community.

METHODOLOGY

This field study explored the concepts in practice with a qualitative-quantitative approach (SEVERINO, 2007). In other words, the articulation of qualitative and quantitative methods was sought as a means for theoretical propositions to seek logical, empirical evidence and insights necessary for interpretation (SOUZA; KERBAUY, 2017). For Santos Filho (1995), these approaches can be complementary, considering the complexity of the existing data produced in social research, whose purposes can be better achieved by mixed, multiple methods and with the crossing of data. Bauer, Gaskell and Allum (2008)

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argue that the qualitative approach makes it possible to interpret the complexity of a given social phenomenon, complemented with data analyzed with statistical tools. By also having a proposal for the applicability of an emerging model of education, the qualitative approach helped to observe the scope of the EAS.

In order to analyze the performance of teachers from the EAS course carried out, data were obtained in two stages, namely: 1) pre-training and 2) post-training process. The data from the first stage were evaluated with the WHOQOL100 (questionnaire 1) social support and work ability. There was also an evaluation of the teachers' perception in relation to Environmental Education (questionnaire 2) and Work Environment (questionnaire 3) as identifiers of the profile of the participating teachers. Regarding stage 2 of the research, the effects on the education, health and environment axes in the personal and interpersonal dimensions in the context of the school, student and community relationship were evaluated with categorical questions (questionnaire 4), at the level of agreement, where sub-items (social support and work ability) of the WHOQOL100 were also added.

The EAS training process took place between August 2021 and September 2022. This training process included theoretical classes on: Assumptions of EAS; Introduction to emotional training; Food security and community that sustains agriculture; Agroforestry and education; EAS in the scope of Food and Nutrition Security; Interpretive Trails; Eco training and recovery of green areas; Citizen Science, volunteering and eco-social protagonism. In addition to the theoretical classes, discussion meetings were held, analysis of pedagogical materials and school documents; supervision and guidance; Seminars; workshops and training. The training process and respondents to the data collection instruments were 23 teachers with an average age of 44 years, who worked in five public elementary schools in two municipalities in the interior of the state of São Paulo.

The WHOQOL 100 (questionnaire 1) - World Health Organization Quality of Life, 100 items (WHO, 1998), evaluates quality of life in social, work, affective, economic and accessibility dimensions. How the individual perceives spaces in a subjective way and how the circumstances of life adjust to the needs of the evaluated (WHO, 1998).

For a better identification of educators about EE and perception of the work environment, questionnaires 2 and 3 were prepared by the authors themselves. Questionnaire 2 (q2) (high consistency analysis between items: McDonald's W = 0.85) entitled Environmental Education aims to synthesize the environmental education actions carried out in the school for the critical formation of students. Questionnaire 3 (q3)

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(consistency analysis between moderately high items: W for McDonald=0.77), concerning the relationship with the work environment, addresses questions about the teacher's work function, contemplating subjective and objective variables. The subjective variables imply the cultural, political and social context, as well as the organizational climate of the school community in the working relationship with the coordinators, principals, students and guardians of the students that are configured in psychosocial aspects. In relation to the objective variables, it seeks to compile information about the place where the school is, the care with the work environment and the spatial organization, indicating greater or lesser security in professional practice.

Questionnaire 4 (q4) aims to observe the effects of the training process on emotional competence, health, quality of life, and work competence, as well as the effects of EAS practices on students' intellect, values, and stress reduction. It also addresses the effects on the community and family, in the items environment and health, emotion and Education in Environmental, Physical and Emotional Health.

The collected data were analyzed in a qualitative-quantitative manner with a test and retest design in the comparison of means. The software used for the analyses was jamovi 2.3.21. The quantitative analysis adopted was the comparison of the mean WHOQOL 100 (q1), after verification of the distribution of normality by shapiro-wilk deciding the t-test for analysis. In the categorical items, it adopted a qualitative interpretation and analysis of the perceived effects of the formation of the EAS.

RESULTS

PROFILE OF THE PARTICIPANTS

The research participants were 23 female teachers, all of whom participated in the entire training process. Average age of 44 years, with approximately 57% teaching for more than 10 years, 26% between 5 and 10 years and 17% between 1 and 3 years. As for training, 78% have a lato sensu postgraduate degree.

PRE-FORMATIVE PROCESS

The teachers who participated in the training process were already developing EE activities in their schools, due to the curricular proposal and the school's pedagogical political project aligned with the National Policy of Environmental Education (BRASIL, 1999). Themes such as: environment, health, healthy eating, conservation of ecosystems,

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among others are present in a large part of the school curricula of Brazilian basic education. However, even though EA is mandatory, it is often not carried out in a critical and transformative way. The proposal of teacher training in EE precisely guides contents and procedures to promote the integral formation of the subject and is configured as a possibility of relating nature and culture, society and nature, subject and object, as well as promoting the analysis of the relationships of the human being with the environment, of society among themselves, of production and knowledge, as a process under construction and debates for a new resignification of the world (MORIN, 2011).

Chart 1, with data from q2, explains the categories "Teaching in Environmental Education" (carrying out informative or practical educational activities on health and the environment), "Engagement and Motivation in Environmental Education" (level of interest in the area), "Community Expansion of Environmental Education" (perception of knowledge in EE in society) and "Transmission and Teaching" (perceived state of mastery in EE). Previous knowledge about EE and interest in carrying out this theme at school are observed, showing engagement to participate in the training process. As for the variable "transmission and teaching", it was found that teachers indicate mastery in the skills to teach EE, but the minimum score obtained indicates teachers with difficulties in this regard. This fragility demonstrated by the teachers in the domain of knowledge related to the themes of Syntropic Environmental Education reveals the importance of expanding and deepening training processes in initial and continuing education in this field (SPAZZIANI; GHELER-COSTA; TOQUETI; AND VIEIRA, 2022).

Table 1. Characterization of the Activity in Environmental Education (EE)

Variable	Median	Minimum	Maximum
Teaching in EA	100	50	100
Engagement and Motivation in EA	87,5	50	100
Community Expansion in EA	100	50	100
Broadcasting and Teaching	100	25	100

Source: prepared by the authors

Chart 2, with data from q3, sought to portray how teachers are in the work space and what their perceptions are about the school environment in which they work. The data indicate that schools are spaces that facilitate the teaching work, especially in the items "Student engagement" and "Perception of multidisciplinary development". In other words, teachers indicate institutional openings for the improvement of the school, and the training process is very welcome.

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Table 2. Identification of the teachers' workspace

Variable	Median	Minimum	Maximum
Professional and School Community Development	87,5	62,5	96,88
Student engagement	100	62,5	100
Perception of multidisciplinary development	100	75	100
Engagement activities	75	75	100

Source: prepared by the authors

These charts (1 and 2) show us engaged and motivated teachers who perceive the school space as satisfactory, allowing a facilitating environment to experience the concepts of Syntropy applied to EE at school for students and the community.

EFFECTS OF THE TRAINING PROCESS ON THE EMOTIONAL AND OCCUPATIONAL HEALTH OF TEACHERS

The teachers indicate improvement in the emotional aspects, according to the qualitative data of q4, indicating that the theme of emotional health addressed during the training process was understood and put into practice by them, presenting a level of agreement of 87% among those who totally and partially agreed, as shown in Table 1.

Table 1. Effects of the training process on teachers' emotional, health and work skills

Categories	Improved				
	I totally agree	Partially Agree	I don't agree, I don't disagree	I partially disagree	I totally disagree
Emotional Competence (Emotional Balance)	57%	30%	4%	4%	4%
Quality of Life	57%	39%	0%	4%	0%
Health	48%	48%	0%	4%	0%
Work Competence (Vocational Training)	65%	26%	9%	0%	0%
Understanding the Interrelationship Environment and Health	74%	22%	4%	0%	0%

Source: prepared by the authors

Regarding "Health and Quality of Life", the data indicate that the training process obtained expected results according to the objectives proposed by the EAS, as most (96%) of the teachers indicate that there was an improvement in health and quality of life. Social Support, which is related to the ability to be in a group where personal needs are met and indicative of health and quality of life, when comparing the mean score between the pre and post training process, obtained a statistically significant difference (Student's t: 10.47; p-

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value = <0.001; and effect size: 2,183) reinforcing the expected results. The mean pre-graduation was 46.47 points (±16.85) and the post-graduation obtained 90.77 points (±10.13).

The category "Competence for work" was the one that increased the most after the training process, from 'partially satisfactory' to 'full satisfaction', with the mean scores at the beginning of the training process of 59 points (±14.45) and at the end they obtained 98.10 (±3.97) (Student's t: 13.781; p-value: <0.001; effect size: 2.874). 91% of the professors agreed that they improved their practice, indicating greater personal and professional fulfillment in this regard, that is, greater satisfaction in their affective and cognitive skills within the profession. Thus, the teaching capacity is able to align with the teacher's personal goals, achieving the objective proposed by EAS, providing a strong historical and social human formation and respect for the appreciation of the environment in which we live.

Regarding the understanding of the interrelationship between environment and health, both to exercise the profession and at a personal level, 96% agree on the improvement of this understanding, that is, this interrelationship is essential for the application of EE in school, according to our propositions. Thus, it is sought that ESAFE becomes an important and structuring part of EAS, providing positive results on the socio-environmental, physical and emotional issues of the subjects.

EFFECTS OF THE TRAINING PROCESS ON TEACHING PRACTICE WITH STUDENTS

The training process in EE in practice with students, addressed by questionnaire 4 (q4), indicates that: there was an increase in understanding and importance of the "Environment" (78%); contributed to the development of "Intellect" and "Engagement in Studies" and to the understanding of "Environmental Impacts on Health" with a total agreement of 70%. A decrease in total agreement to 65% was identified in the development of "Values" and "Acceptance of Healthy Foods" with 57%. Finally, "Stress Reduction" had 43%, with the lowest total agreement index presented, as shown in Table 2.

The data indicate that students have developed their intellect, that is, the formative process has helped in the teaching and learning relationship, enabling the student's development. Teachers participating in this process motivate students more in their studies,

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the themes become more attractive and are part of their reality, affirming the importance of the proposed EAS training and, mainly, its developments and future applications.

Table 2. Effects of EAS on students through teachers' perception

	Intellect	Values	Stress Reduction	Environment	Engagement in studies	Healthy Eating	Environmental Impacts on Health
I totally agree	70%	65%	43%	78%	70%	57%	70%
Partially Agree	30%	26%	39%	22%	13%	30%	26%
I don't agree, I don't disagree	0%	4%	9%	0%	17%	9%	4%
I Partially Disagree	0%	4%	9%	0%	0%	0%	0%
Totally discord	0%	0%	0%	0%	0%	0%	4%

Source: prepared by the authors

EFFECTS OF THE TRAINING PROCESS ON TEACHING PRACTICE WITH THE COMMUNITY AND FAMILY MEMBERS

By observing effects on the Community and Family, also perceived by the educators, an important contribution of the training process in understanding the relationship between "Environment and Health" with total and partial agreement 96%; "Development of Education in Environmental, Physical and Emotional Health" 95% and "Emotional Impact" positive 82%, as shown in Table 3.

Table 3. Effects of EE on the Community and Family through the perception of teachers

	Environment and Health	Emotional Impact	Development of Health Education*
I totally agree	57%	30%	43%
Partially Agree	39%	52%	52%
I don't agree, I don't disagree	4%	9%	4%
I Partially Disagree	0%	2%	0%
Totally discord	0%	0%	0%

Source: prepared by the authors
*Environmental, Physical and Emotional

DISCUSSION

The results obtained in the present research are congruent with the research of Potter, Hiser, Evans and Feldman (2023) where it is addressed that emotional regulation, focus, reasoning, sociability and sense of identity are prerequisites for a pedagogical

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practice that seeks to transform the socio-emotional-environmental reality of the subject, as a requirement to contribute to broader social transformations. Emotional regulation is the basis for improving the intellectual reasoning of the personal and work relationships of the participants in the training process and was also observed in Syntropic Environmental Education.

Mohr and Schall (1992) reflect an evolution in the field of health education, which transcends traditional practices focused exclusively on public and individual hygiene. This area of knowledge has been expanding to include new perspectives that consider the interaction between the physical and social environment. Grynszpan (1999) criticizes the restricted concept of health, which is limited to a static view characterized by the absence of disease, and argues that such a conception fails to ignore the social and environmental imbalances that are at the origin of many health problems. This limitation leads to a conflict in the understanding of the interrelationship between living beings and the environment.

Environmental, Physical, and Emotional Health Education represents an emerging paradigm that intertwines the principles of education for environmental sustainability with the promotion of human physical well-being. This educational field recognizes the fundamental interdependence between the health of ecosystems and the health of human populations, underlining that the integrity of the environment is intrinsic to the prevention of disease and the maintenance of physical health.

In addition to this research establishing research on socio-emotional competence, indicated as necessary and lacking for Environmental Educators and Sustainable Development Educators, according to the systematic review by Corres, Rieckman, Espasa and Ruiz-Mallén (2020), we responded to the gap in socio-emotional aspects in these Educators, which were previously only signaled and with an exclusivist theoretical focus.

The dimension of the work of the Environmental Educator also involves theoretical improvement and aims to provide practical projects in environmental and sustainability decisions in the school context to mobilize the engagement of the school community and its surroundings. It was observed that the competencies listed for the Sustainability Educator are project development and analytical capacity containing sustainability, internationalization and socio-environmental development in the curriculum (CASTELLANOS; DE CASTRO; GIRONA, 2021). Based on these results of "work ability", as well as "level of agreement in the understanding of the interrelationship between environment and health" and "improvement in practical activity", the training in EAS

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suggested improving analytical and sustainability capacity and, in view of the supervisions and pedagogical guidelines, also the development of socio-environmental projects. These results corroborate the importance of the training process in EAS for the improvement of the teaching work and the perception of the existence and construction of critical and emancipatory social relations.

In view of the permanence in the emotional field, of negative feelings indicated by teachers, we can relate the pandemic of the new Coronavirus, between the years 2020 and 2022, in which 72% of teachers were physically and mentally exhausted due to deficient public policies in the previous psychoeducational confrontation and during the pandemic (DELBONI, 2021). In the symbolic aspect, this profession is associated with the construction of the future and the repair of the past due to the existing influence of cultural, political and social standards in actions with students. The political and citizenship function is inherent to the teaching profession (PEDROZA, 2010). According to Freire (2001), the emergence of ethical-critical consciousness comes from the educative action, which not only leads to cognitive improvement, but also the production of a consciousness that originates from the awareness of reality. The critical pedagogical act is exercised in the subject himself and in the transforming intervention of himself and of the place, provoking tremors in the sense of liberation.

The task of the teacher, for Paulo Freire (2001) is based on ethical, political and professional responsibility that is based on a critical analysis of one's own practice. Therefore, the dialectic between what is taught and what is learned in political, social and intellectual experiences admits constancy in practical and theoretical doing. In this aspect, being in direct contact with information and didactic-pedagogical foundations, during the pandemic, was more rigorous in view of the strategic role of the Environmental Educator in this scenario.

The EAS, when measured holistically in affective and cognitive dimensions of students, has the capacity to generate joy and curiosity and is also indicative of basic education. The orientation towards action and civic engagement at school represents effects on intellectuality and practical actions (ARDOIN; BOWERS, 2020). Although not directly assessed these dimensions, our results demonstrated an improvement in students' cognition and environmental understanding. The expected effects of EAS in basic education are: understanding of introduction to conservation, establishment of principles of environmental protection, ability to explore environmental problems, think critically and

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propose innovative solutions (ADNYANA MAHENDRA; RAZA, 2023) and the teachers participating in the training process observed intellectual and behavioral results in relation to caring for the environment.

The perspective of Citizen Science dimensioned by EAS indicates the importance of the educational character of scientific training in the context of everyday life. There is research in this area, which seeks to train subjects in environmental issues, even so that they acquire the necessary knowledge for data collection or to develop work according to the needs of their region. It is important that these projects are designed according to local demand and include the community, for which the training of citizen scientists becomes essential to meet social and environmental aspects (RUMENOS; SPAZZIANI, 2020).

Thus, in order to implement the EAS, it is essential to contextualize and articulate environmental problems with the daily experiences of individuals. This implies an in-depth understanding of people's perceptions and emotions, as well as the meanings they attribute to their affective observations and experiences (SPAZZIANI, 2019).

It is important to resume this information obtained from the team of teachers, who before training in EAS many teachers already carried out environmental educational activities with their students at school. All these variables were already worked on before the training process and were maintained during and after the training in EAS, reiterating the importance of working on these contents with teachers. However, significant results were observed in the themes of Education in Environmental, Physical and Emotional Health, Health and Food Safety and Citizen Science worked during the training process with a specialist from each of the areas, which enabled an improvement of the training processes in EAS.

CONCLUSIONS AND RECOMMENDATIONS

Western civilization has appropriated nature as an inexhaustible source of resources, using it as a basis for capitalist production, which came to dominate the market economy and most economic activities from the end of the eighteenth century and the beginning of the nineteenth century. The knowledge produced by science and technology, by a large part of the representatives of various scientific fields, began to serve to meet the needs of this mode of production, accelerating the environmental degradation of ecosystems, until then, unprecedented in the records of human history (SANTOS, 2006).

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The current environmental crisis is well translated by Soffiati (2002), who relates the conception of anthropocentrism and the humanist and mechanistic paradigms with capitalism and the technological revolution. However, the environmental crisis is not exclusively ecological, but the crisis of reason, insofar as environmental problems are problems arising from the ideology, which has become dominant, of the groups that have taken power in the so-called developed countries. Material and economic development sustained by the advance of the exploitation and domination of other peoples and of the natural resources arising from their (our) lands that are still little devastated (LEFF, 2001). In other words, these blocs of countries imposed modus operandi in the way of thinking and acting that impacted and continues to impact the lives of a large part of the economically disadvantaged populations and other beings and ecosystems of planet Earth, submitted through the imperialist expansion assumed by neoliberal globalization implemented from the 1980s onwards.

Parallel to this scenario of installed barbarism, the initiatives within the scope of EE arise with the purpose of contributing to transform this current situation, through processes of awareness of human populations about the degree of madness to which we are subjected by the dominant ideological model that produces every day consistent evidence of the extinction of life in general, and especially that of human beings.

Gerd Bornheim (2001) highlights the relations between human beings and human reality as constitutively environmental. Hence its initial characteristics: the human cannot live without the environment, he is universally a being in the natural and social environment (Bornheim, 2001). In the poorest countries, the socio-environmental issue is linked to the problem of survival and the satisfaction of the most basic needs for the affirmation of human dignity (SAVIOLO; DELAMARO, 2005). Societies, entitled as developed, on the other hand, strictly apply the model of appropriation and exploitation of nature, but currently preach discourses and proposals to contain the use of natural resources, including the inclusion of EE.

We understand that the forms of relationship between human beings and nature are the result of multiple and complex, changeable and dynamic interactions, limited in spatial-temporal cuts, which allow the construction of the sense of locality, territoriality, identity and belonging. Thus, the environmental problem is cultural and refers to the totality of life in society on Earth (LOUREIRO; AZAZIEL, 2006).

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Thus, the results corroborate the importance of the training process in EAS for the improvement of the teaching work and the perception of the existence and construction of more satisfactory social relationships. The parameters analyzed support the importance of the bond between students and teachers and between them and the school community as a whole, in addition to the work environment contributes to the development of the teacher's work and the implementation of EAS as an essential proposal in their pedagogical actions.

The training process contributed to the opening of paths for the improvement of Basic Education, presenting transformations in the subject's worldview. This improvement occurs as these citizens become more aware of the interactions between the environment, health and social relations, taking a critical look at environmental problems, self-perception and emotional regulation of themselves, as they seek an improvement in their quality of life.

The pedagogical actions from the perspective of the EAS brought satisfactory impacts with the acceptance of healthy foods; community-school collaboration; implementation of Citizen Science and Education in Environmental, Physical and Emotional Health. Relating the emotional effects of teachers with the learning promoted to students and the community, there are indications of positive changes bringing applicability to the perspective of Syntropic Environmental Education.

As a limitation of this study, we can emphasize that there was no direct evaluation of the student, the community and/or family. We also understand as a limitation the non-evaluation of the technical and theoretical capacity of the professionals (level of knowledge and application in EAS and the monitoring of student learning in a systematic way, as an example: monitoring of grades and behavior in the classroom, having the bias of the teacher's perception, due to the fact that the EAS project proposed at the time focused on the teacher. For future works and developments of the present research, we can focus on the analysis of issues related to knowledge, physical, emotional and environmental aspects of students.

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