

Post-Critical Perspectives to Rethink Research in Environmental Education: The Aesthetic Experience and Subjectivity in the Training of Environmental Teachers and Educators

Marcos de teorías poscríticas para repensar la investigación en educación ambiental: la experiencia estética y la subjetividad en la formación de profesores y educadores ambientales

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Abstract

The current climate, ecological, social, and health crisis leads us to rethink paths of Environmental Education Research (EER). Post-critical theories value local contexts, the subjective dimension of reality, and the subjectivity of subjects. The aim of this research is to characterize post-critical contributions to EER based on an experience in training teachers and environmental educators on an interpretive trail in the Amazon jungle in Brazil. The participants were teachers and environmental educators from the local city. The data presented correspond to narratives about the trail walked, where narrated affective and sensory elements were identified to characterize the subjective dimension. Each subject highlighted different moments and attributed different meanings to the experience. However, considering the subjective dimension in the process of analysis implies methodological gaps in terms of how to access the subjective through narrated experiences, which transform pre-reflective sensations into reflexive ones. We also argue that outdoor activities can promote non-commercial relationships or encourage nature not to be commodified or seen as merchandise, as well as contributing to progress in EER.

Keywords: environmental education, aesthetics, subjectivity, training of environmental teachers and educators.

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Resumen

El escenario de crisis climática, ecológica, social y de salud nos hace repensar caminos de investigación en educación ambiental. Las teorías poscríticas valorizan los contextos locales, la dimensión subjetiva de la realidad y la subjetividad de los sujetos. El objetivo de este trabajo fue caracterizar las contribuciones poscríticas para la investigación en educación ambiental a través de una experiencia en formación de profesores y educadores ambientales, en un sendero interpretativo en la selva amazónica de Brasil. Los participantes fueron profesores y educadores ambientales de la ciudad local. Los datos presentados corresponden a narrativas acerca del sendero recorrido donde se identificaron elementos afectivos y sensoriales narrados para caracterizar la dimensión subjetiva. Cada sujeto destacó momentos y relacionó sentidos con la experiencia. Sin embargo, considerar la dimensión subjetiva en el proceso de análisis implica brechas metodológicas en cuanto a cómo acceder a lo subjetivo a través de las experiencias narradas, que transforman las sensaciones prerreflexivas en reflexivas. Adicionalmente, se argumenta que las actividades al aire libre pueden promover relaciones no mercantiles o que la naturaleza no sea vista como objeto o mercancía y contribuir a generar avances en la materia.

Palabras clave: educación ambiental, estética, subjetividad, formación de profesores y educadores ambientales.

Introduction

The current climate, ecological, social and health crisis, which characterizes the Anthropocene epoch (Cole, 2019; Crutzen, 2006), leads us to rethink theories, educational practices, and paths for environmental education research (hereinafter EER), as professionals linked to the processes of research and teaching. Although the key characteristics that tend to produce the most desirable results in environmental education cannot be isolated conclusively, Stern, Powell, and Hill (2014) contend that assessing experiences, the local context, contact with nature, participation, affective elements, research of problems, and projects can support guidelines for developing environmental education programs. Similarly, many of the characteristics show the contributions of modern science and value knowledge, attitudes, and abilities to solve environmental problems.

Some principles of modernity describe research work using concepts such as objectivity, certainty, rationality, causality, linearity, individualization, and fragmentation of thought (Carvalho, 2012; Giddens, 2002; Leff, 2002; Lima, 2009; Ramos, Neves, & Corazza, 2009). These characteristics are also present in the field of environmental education, which is guided by theoretical frameworks and validity of research. However, global changes in society—marked by new information and communication technologies—have meant that certain assumptions of modernity have been questioned, supporting new social relationships and other less anthropocentric approaches to research that respect nature and understand the complexity of contemporary environmental problems (Giddens, 2002; Lima, 2009).

In this study we aim to go beyond the frameworks that govern environmental education, which are guided by criticisms of the field without losing legitimacy (Bonnett, 2007; González-Gaudio & Arias Ortega, 2014; Haluza-Delay, 2013; Sauvé, 2005). That is to say, we examine the perspectives of post-critical theories and their contributions to move past the characteristics of modernity such as universalization, hierarchization, fragmentation of knowledge, and the lack of understanding of complexity (Carvalho, 2012), the valuation of reason over emotion (Giddens, 2002), the lack of perception of non-human nature (Menéndez, 2018), and the isolation of the human being from nature.

Kawahara and Sato (2017) thus consider that the paths for environmental education in the framework of post-critical theories consider the subject and the intersubjective relationships of the human being, creating new possibilities of practices that strengthen human relationships. In addition, by placing value on affectivity and subjectivity, new paths are initiated for EER (Iared & Oliveira, 2017; Iared, 2019; Kawahara & Sato, 2017; Payne, 2016; Rodrigues, 2019) which enable the meanings of relationships with nature to be remodeled and generate theoretical advances not only in the field, but also in terms of educational experiences and practices.

In this respect, this proposal is a theoretical-practical construct that involves a specific experience of training for teachers and environmental educators on an interpretive trail (Blengini, Lima, Silva, & Rodrigues, 2019; Gonçalves, 2009; Lima-Guimarães, 2010; Menghini, 2005; Paiva & França, 2007; Pellegrini, 2009; Vasconcellos & Ota, 2000) in the Carajás National Forest, a protected area in Brazil's Amazon rainforest.

The paper initially discusses the concepts of post-critical frameworks and their connections with the subjective dimensions of the human being. Then, we argue that the incorporation of aesthetic and subjective dimensions into educational practices and training processes for environmental education, linked to an experience in nature, can be presented as productive work with the potential to overcome the gaps in the approaches of EER. Finally, this experience is contextualized and analyzed based on the different meanings that each participant provided from walking the trail. We also argue that outdoor activities can promote a new relationship with nature.

The aesthetic and subjective dimensions in environmental education from the perspective of post-critical theories

What is meant by post-critical theories?

As with critical theories, post-critical perspectives understand that subjects are related to the natural environment and at this point there are interactions between environmental, historical, and political dimensions (Silva & Henning, 2018). However, these authors consider that what differentiates post-critical theories from critical theories is the position of the subject, because from post-critical perspectives they are marked “by processes of objectification and subjectivation” (p. 988), and can be understood as an historical production, a product of “power and knowledge relationships” (p. 989).

Similarly, post-critical trends transcend critical theories insofar as they perceive the issues of subjectivity and identity going beyond the class struggle (Kawahara, 2015; Kawahara & Sato, 2017) and, in addition, they incorporate the themes ignored by science in modernity and expand the understanding of processes of domination (central in critical theories), surpassing the economic considerations of capitalism that are related to the social class struggle (Neira, 2018; Silva, 2005). In other words, power relations, discussion, and analyses guided by post-critical theories incorporate topics such as race, ethnicity, sexuality, culture, and gender (Neira, 2011; 2018; Rodrigues, 2013; Silva, 2005).

Post-critical research is not interested in “universal explanations, either of totalities or plenitude” (Paraíso, 2004, p. 286), because it understands that the subjects are identified by their differences, in which a multiplicity of social and cultural experiences intersect (Paraíso, 2004; Souza Filho, 2016). Indeed, Tristão (2007; 2015) considers that post-critical trends understand the cultural function of educational spaces that are free of certainties, that is, based on uncertainties, where the subjects are the result of the processes of history, language, discourse, and subjectivation (Paraíso, 2004; Silva, 1999).

Thanks to questions incorporated from post-critical perspectives related to power, subjectivities, and identities, the notion of emancipation departs from a totalizing and stable view, unlike critical theories (Neira, 2011; Rodríguez Romero, 2012). Likewise, in the post-critical sense, subjectivity is social (Silva, 2005) and emancipation transcends a project that liberates the alienation caused by capital (Maia, 2011). Therefore, post-critical theories admit the ambiguity of reality and the decentralization of power, and understand that identities are not fixed, breaking away from the universalization of subjects and hegemonic premises, which ensures the bases to overcome the fragmentation of thought, on the basis of issues founded on dialogue and the contextualization of local problems (Kawahara, 2015; Kawahara & Sato, 2017; Silva, 2005).

Possible paths for environmental education research and practices based on aesthetic and subjective dimensions

The emergence of post-critical theories bolsters the urgent need to reorientate the lines of EER towards less anthropocentric meanings, which stimulates reflection among researchers of this subject regarding their practice or praxis, (re)inventing theories and methodologies that address the current issues and value the subjective (Hart, 2005; Iared, 2019; Payne, 2016). In this respect, it should be noted that, from a post-critical perspective, research allows movements and changes that can enable transcendence of the practices that are already used, thus helping to overcome gaps in research and collaborate with the construction of possible paths for EER (Paraíso, 2004; Payne, 2016).

As a consequence, EER can progress from post-critical frameworks towards addressing the subjective and intersubjective dimensions of reality (Andrade & Sorrentino, 2013). Therefore, we take into account the arguments of Payne (2016) and Hart (2005), who discussed the potential of carrying out biocentric research based on new data generation and analysis techniques, and Payne, Rodrigues, Carvalho, Freire, Aguayo & Iared (2018), Iared (2018; 2019) and Iared and Oliveira (2017; 2018), whose work involved examining experiences in nature through the aesthetic and affective dimensions.

This study is also based on the work of Iared (2015), Iared and Oliveira (2017), Payne (2013), and Payne et al. (2018), who propose the concept of “ecosomaesthetics”, which allows the environmental issue to be related to “somaesthetics”, where the term “soma” is related to a living and feeling body that perceives, lives, and acts in the world, generating new meanings (Shusterman, 2008; 2013; Shusterman, Estevez, & Velardi, 2018). Meanwhile, the prefix “eco” incorporates an ecocentric approach to research and practices from a non-anthropocentric perspective (Payne et al., 2018; Rodrigues, 2019). This kind of approach broadens the perspectives of environmental education by understanding human beings in the world, their relationship with nature in a horizontal and integrated manner, their perception, and their ability to give meaning to experiences (Payne et al., 2018).

Post-critical theories provoke epistemological and methodological reflection, not only in EER, but also in how it is practiced, which is also justified by the influence of the modern paradigm of educational processes, such as the approach focused on the “transmission” of scientific content (ecological, botanical, historical, etc.) in environmental education activities, specifically those that take place outdoors. Therefore, the overvaluation of “curricular” content (reason and objective dimension) and the connection between outdoor teaching practices and the purpose of understanding concepts and content do not prioritize the emergence of subjectivities and aesthetic experiences among the subjects involved in educational practice.

Meanwhile, the analysis by Andrade, Bozelli, and Freire (2018) of the interpretative trails approach in research indicates that most of the pedagogical proposals incorporate affectivity as a factor that underlies the learning of conceptual contents. However, we understand that the aesthetic and affective dimensions enable conditions for construction of not only curricular knowledge, but also cultural, socio-environmental, political, ethical, and emotional knowledge (Bonotto & Sempredone, 2010; Carvalho, 2012).

In this regard, Freire (2014) contends that education should not focus solely on curricular content such as concepts and procedures, but is instead a practice of subjectivities (Carvalho, 1998) which constitutes the process of attribution of meanings and understanding of the human experience (Carvalho, 2012). From this perspective, educating is the act of becoming human, which takes place in a “social space and in the time of existence” (Delory-Momberger, 2016, p. 145). According to this interpretation of education, we understand that an educational practice also constitutes an aesthetic experience (Iared, 2015; Iared & Oliveira, 2018).

For her part, Hermann (2018) argues that aesthetics are related to the senses, which allow sensitivities to emerge from experiences in the world, providing the creation of realities where “reasoning and imagination” are connected (p. 10). Likewise, the way in which subjects relate to nature based on the aesthetic experience also involves the human senses (sight, touch, taste, smell, and hearing) and their way of attributing meaning to experience (Iared, 2015). These experiences prioritize the sensitive dimension and the perception of the environment through the body, by allowing the subject to “(re)perceive and (re)signify the world in all its forms of existence” (Iared, 2015, p. 32), which can have sensitive effects related to emotion and the body (Almeida, 2018) and therefore educate. In this respect, Saito (2007) and Berleant (2015) consider that aesthetic experiences are part of daily life in our day-to-day dynamics, habits, and activities, which allow the existence of different sensations, instincts, and subjectivities, which are dimensions of the subjects and form their identities and worldviews.

Marin and Kasper (2009) and Silveira (2009) argue that is precisely based on aesthetic experiences that subjects integrate and (re)encounter the other and the world. This movement allows self-knowledge, the recognition of their history and naturalness, their culture, and their interactions and affections with other human beings or not (Payne et al., 2018; Silveira, 2009). According to Silveira (2009), the perceptions of self and the world, awakened by aesthetic experiences, “provide the subject with the possibility of inter-determination, reconstruction of their subjectivity, and adoption of new values and ways of living” (p. 373), in the same manner as “they open themselves to the option of belonging to a historical-cultural context and to an inhabited home” (p. 373). With this they provide other ways of feeling and experiencing the aspects of reality (Tristão, 2005).

In this sense, environmental education “fosters affective sensitivities and cognitive abilities for an environmental interpretation of the world” (Carvalho, 2012, p. 79) and its principles are the promotion of ethical conscience (Fórum Internacional de Organizações não Governamentais e Movimentos Sociais, 1992) and belonging. In this context, Payne et al. (2018) point to the triad of ethics-aesthetics-politics¹ as a guide for EER training and practices. This conception contributes to a complex and integrated interpretation of the world and of the relationship between society and nature, because it includes the way in which we behave in society, how we individually and collectively position ourselves politically, and how we attribute meanings to lived aesthetic experiences.

Aesthetic experiences therefore comprise the intrinsic and constitutive relationships of subjects in the world (Iared, 2015; Iared & Oliveira, 2017; 2018). Thus, the way in which we are affected by an experience in the world goes through our body, since this is a place for construction of culture, meanings, and subjectivities (Hermann, 2002; 2018; Nogueira de Echeverri, 2000; 2004). Based on the philosophy of Merleau Ponty, Nóbrega (2008) also contends that the aesthetic experience “extends the expressive operation of the body and perception, refining the senses, sharpening sensitivity, developing language, expression and communication” (p. 147). This author believes that the perception of being is reflected in the experience and the interaction of our body in the world (Nóbrega, 2008).

1. The ethical-aesthetic-political triad discussed by Payne et al. (2018) is presented as a proposal that understands that our experiences in the world and in the environment are connected by different constitutive dimensions related to affectivity, sensitivity, culture, politics, and the social sphere.

In this respect, Payne et al. (2018) propose that affectivity be included as a component of the aesthetic dimension, and we echo that, proposing that this is a requirement of the formative processes in environmental education. This is because affect is considered to be a sensitive experience where a body is influenced by the action of another body (Payne et al., 2018). When we understand the body not merely as something human, but also as something that occupies a place in space-time, we can consider pedagogical processes that promote and awaken affectivity and sensitive experiences in subjects in order to allow other relationships with/in nature, without objectifying or commodifying it. Since we attach more value to reason in our western culture, we have not yet been educated to examine our feelings and how we are affected by lived experiences. So, in order to interpret the environment in a more holistic manner, it is essential to awaken the senses to enable comprehensive perception of the environments in which we are immersed or, in other words, it is necessary to integrate the physical, the emotional, and the cognitive (Alves, 2010).

In this regard, sensoperception practices lead to comprehensive perception, since they seek to develop the sensory perception of the environment through corporal expressions and movements and multiple languages, exploring the personal, social, and interactive environment with the group (Alves, 2010). Finally, as Iared (2018; 2019) and Iared and Oliveira (2017; 2018) state, practices in outdoor environments can awaken feelings, sensations, and bodily interactions.

Considering the busy modern day lifestyle (Giddens, 2002), the rhythm of industry (Alves, 2010), and disposable social relationships, thinking of other relationships with nature requires attention to the present, where we live and feel (Krenak, 2019). Space is also an important factor for affectivity: forests, reserves, and interpretive trails are often places that are chosen to carry out environmental education practices, since they allow relationships of relevance and affection in and with nature to be learned and built.

Based on these theoretical contributions, the objective of this study was to characterize post-critical contributions to EER based on a specific experience of training teachers and environmental educators on an interpretive trail in the Carajás National Forest in the Amazon rainforest in Brazil. The activities on the trail were intended to stimulate the senses and sensations of teachers and environmental educators during the training and thus understand how this activity could promote pathways for new EER practices and methodologies.

Methodology

The interpretative trail in the training of environmental educators

The training processes for environmental educators were conducted through workshops with theoretical and practical activities in a continuous interaction between researchers and educators. A total of 23 teachers and environmental educators took part (Table 1), all of whom were working in local schools or institutions linked to the municipal departments of Education and Environment in the local city. The teachers worked in schools, each of them in their own subject, and may or may not have been carrying out environmental education activities in their practices. The environmental educators were linked to a local Environmental Education Center and worked with schools and the community in either informal or formal processes; in the latter they collaborated with teachers and students on integrated projects. The participants were active in various areas of knowledge, with training in natural and earth science programs, math, pedagogy, history, theology, religious studies, and languages.

Table 1
Type of participants, occupation, training, and number

Participants	Occupation	Training	Number
Teachers	Working in local public schools	Higher education	14
Environmental educators	Working in the Environmental Education Center in the local city	Higher and/or technical education	9
Total			23

Source: Prepared by the authors.

The interpretive trail was part of the workshops in the training process and was carried out on the Trilha da Lagoa da Mata, in the area of the Carajás National Forest in the northern region of Brazil. The National Forest is an Environmental Conservation Unit of the Amazon biome, in which sustainable use of the land is allowed (Instituto Chico Mendes de Conservação da Biodiversidade, ICMBio, 2016).

We subscribe to the understanding that interpretive trails are activities that can enable environmental awareness and articulate playful, aesthetic, political, and cultural elements, allowing the participants to share experiences in the environment, producing new sensations, perceptions, interactions, and meanings (Gonçalves, 2009; Lima-Guimarães, 2010; Menghini, 2005; Paiva & França, 2007; Payne et al., 2018).

The interpretive trail proposal (Andrade, Freire, Villaça, & Bozelli, 2019), prepared by our research group, assesses the aesthetic, affective, and subjective experiences of the participants, rooted in the ethical-aesthetic-political triad of Payne et al. (2018). The trail experience took place over a period of approximately 3 hours and was divided into three moments (see Figure 1). In the first moment, at the beginning of the trail, three activities were carried out:

- Sensory perception activities (Alves, 2010), to activate the senses, perception, and the movement of the participants' bodies.
- Reading of a story from the book *Libro de los árboles del Pueblo Ticuna* (Gruber, 1997), which contributed cultural aspects of the Amazonian peoples.
- Reading of motivational questions in order to be aware of the senses while they walk the trail.

In the second moment, the participants walked freely along the trail without any predetermined stopping point. Lastly, in the third moment, at a kiosk in a clearing in front of the lagoon, the participants were invited to create a drawing and make a narration in letter format (using benches and a table if they so required) where they told a person about their experience during the walk and addressed how this experience made them connect with the surrounding environment (Andrade et al., 2019). Then they made general and free comments about the activity, an assessment protocol was recorded, and they returned along the same route, but without a guideline of activities this time. Finally, a video was produced (available online) based on the participants' experiences on the interpretive trail².

2. Video available at the following link: https://www.instagram.com/p/B_k814bppcC/?igshid=158c83xjv09h

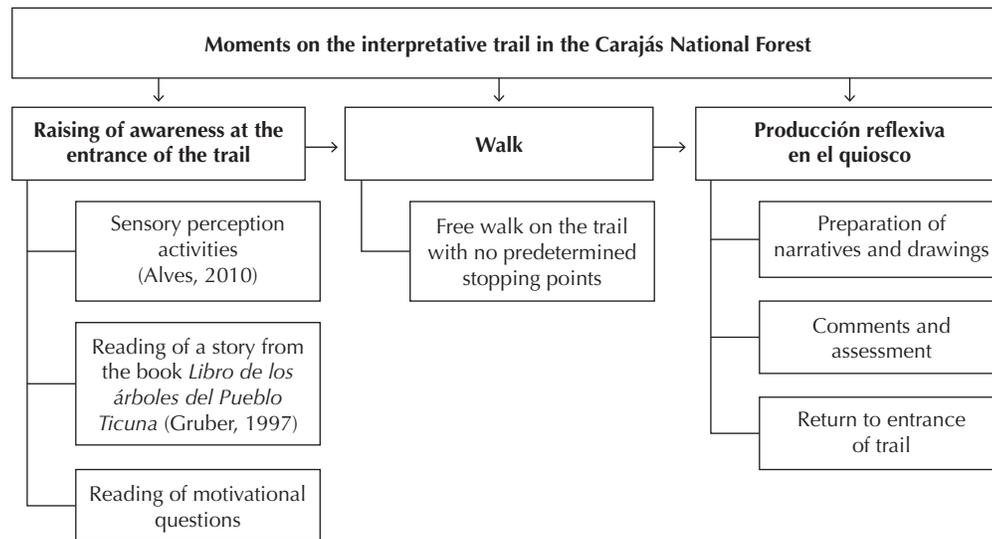


Figure 1. Moments on the interpretative trail in the Carajás National Forest in the Brazilian Amazon jungle.

Source: Prepared by the authors.

Data analysis

Of all the activities carried out and the products created, the 26 texts produced after the walk on the trail, written in the jungle, were defined as the corpus of analysis. Three environmental educators took part in the workshop twice and produced two texts each, which have been considered equally, since the participants were able to prepare and rework their subjectivities and also express them in different ways in each new narrative.

For the discourse analysis, as a reference we used the work of Gee (1991; 2011a; 2011b), who considers the context in which the text was written or, in other words, the physical environment and its components (Gee, 2011b).

On the other hand, when reading the texts, we observed deictic elements that allowed us to examine the links between speech, writing, and context (Gee, 2011a), indicating time, space, and the subjects in the discourses (Koelling, 2003). The deictic elements are pronouns and adverbs, and they appear in certain verbal tenses of the narrated actions. In this study we present the results and general trends of the analyses carried out in order to understand the presence of subjectivities in these narratives.

After reading the 26 texts, we identified seven idea units (Gee, 1991): nature as subject, memories, belonging, spirituality, resignification, feelings, and sensoperception. These units were related to the subjectivity of the participants and the moments at which they stated how they were affected by the aesthetic experience on the interpretive trail. We stress that these units have not been considered as being isolated or exclusive, but are related to each other. Similarly, we considered the possibility of identifying more than one idea unit in the same fragment of text. At the end of the analysis, we counted the idea units that were mentioned by each subject to describe in which texts they were present.

Results and discussion

The 26 texts we analyzed were written with verbs conjugated in the past, present, and future tenses and had structures that varied between two and three paragraphs. The genre of the text was a narrative letter addressed to loved ones or work colleagues. The teachers and environmental educators generally began the text with an invitation to the recipient of the letter to walk the trail. In other cases, they began by thanking a co-worker for the opportunity to have been there. Some of the letters started with a participant who eulogized about the time spent in contact with nature, describing the particularity of the experience, while others assessed previous experiences of walks along the same trail, determining the proposal of the training encounter and the way in which the walk was carried out according to the perception of each of them faced with nature. Table 2 presents the idea units that we characterized in the narratives and the respective meanings attributed to them during the analysis. We also added two to four examples of text fragments and present the occurrence of the idea units (IU) in each of them.

Table 2
Idea units (IU), meanings, text fragments, and frequency of IU in the texts

IU	Meanings	Text fragments (translated to English)	N° of IU in the texts
Nature as a subject	Nature with actions and feelings	<p>“... I could feel the embrace of nature, the smell of the jungle, the sound of the birds, the sound of the wind as it blew through the trees.”</p> <p>“... the clouds have opened up letting the sun through and with that comes new sounds, it’s as if the jungle was pleased with the presence of sunlight.”</p>	2
Memories	Stories of life, past experiences or memories recalled by the experience on the trail	<p>“... and missing ... the times of my childhood, when I went to the countryside with my grandfather.”</p> <p>“[...] all of that brought back memories of growing up.”</p> <p>“The beauty is undeniable, the enchanting sounds and the smell of the bushes ... it reminded me of the good times of childhood, when we went to our grandmother’s house.”</p>	3
Belonging	Feeling of belonging to nature and that environment	<p>“... considering that we’re part of that captivating nature.”</p> <p>“... it makes us connect and feel part of that immensity of lives.”</p> <p>“... understanding the importance of nature, of the jungle, is to protect ourselves and future generations.”</p>	3
Spirituality	Being in nature connected with the divine and holy	<p>“... here the energy and peace sends us into our inner world and we see that we’re part of nature and that our God, creator of all things, made everything so perfect and with such harmony.”</p> <p>“... to feel closer to God, like I feel when I’m in nature.”</p> <p>“Every time I come here ... I feel renewed, at peace and closer to God.”</p> <p>... “Experiencing the trail ... is invigorating, as it allows me to get closer to God”.</p>	4

Resignification	Change in the ways of seeing the space of the trail and its elements	<p>“The second walk was different, as if I <u>were</u> in a totally different place, a totally different world”.</p> <p>“<u>The</u> activity <u>generated</u> a big change in <u>my way of looking at my relationship with nature</u>.”</p> <p>“... of all the times I <u>walked this</u> trail today was special, it was different.”</p>	8
Feelings	Emotional state and sensations generated by the experience on the trail	<p>“... <u>that’s</u> the trail ... who <u>knows, loves, lives, protects and cares</u>.”</p> <p>“... <u>you feel good</u> and <u>you enter</u> into harmony with the jungle.”</p> <p>“... I’ll <u>take with me</u> a feeling of peace that the environment <u>has created</u>.”</p>	10
Sensoperception	Attribution of human feelings (touch, smell, taste, sight) to perceive nature and the reflection on what was observed	<p>“... <u>hearing</u> the song of the birds, <u>seeing</u> the diversity of colors.”</p> <p>“... <u>stopping to observe</u> every rich detail, sounds, smells, tastes, texture, all of <u>that refers to this</u> world.”</p> <p>“... it <u>allowed</u> us to stop and sharpen our senses.”</p> <p>“... <u>perceiving the interactivity of nature</u> on the small trail is living.”</p>	26

Note: IU = Idea units; N° = Numbers. The words and expressions in bold represent the textual markers associated with the idea units; the deictic elements that are underlined.

Source: Prepared by the authors.

Based on the experience reported by the participants, we have characterized different ways of being affected by the environment. The seven idea units were present in more than one text and, in some cases, at various times in the same text, showing that a single experience was signified in different ways by the teachers and environmental educators. This is due to the fact that the subjects are different and are influenced by different social, cultural, and historical issues (Silva, 2005), which leads them to reinterpret, with means that their experiences in nature become particular according to their development with the world (Iared & Oliveira, 2018).

Therefore, after analyzing the texts, we observed that all the participants used their human senses to perceive the characteristics of the environment, such as smells, sounds, and textures, in the same way that they used their sensoperception (Alves, 2010) to interpret and observe nature in more detail, reflecting on its operation, organization, and appearance. For two environmental educators this produced the idea of being in a new place, different from their previous experiences, although they regularly guided students along the trail (eight (8)

texts mentioned it in this manner). Thus, accompanied by a new view of nature, this experience allowed the participants to resignify the fact of being in the environment, facilitating reflection on nature as if it were a different environment, with movements and sounds, demystifying the idea of it being a silent place (Andrade et al., 2019). This fact is important to identify the presence of other beings in the environment and break away from the view of nature as a static landscape or a scenario of events (Sato, Quadros, & Kawahara, 2018).

In addition, the fact that they had previously experienced the trail and still perceived something new points to the unique, subjective, and individual nature of this practice. This movement demonstrates the relationship between the aesthetic experience and the subjectivity of each subject and dialogues with their daily practices, as well as in the (re)signification of the subject's manner of perceiving the environment. In this respect, Marin and Kasper (2009) argue that perceiving the environment and its dynamics in an aesthetic experience opens up the possibility for human beings to relate to the world through the creation of “new ways of living and new subjectivities” (p. 268), contributing to the resignification of their relationship with nature.

However, considering the construction of belonging, the reaffirmation of nature in the human being (Andrade & Guimarães, 2018), and their rapprochement with nature, we can identify signs in the narratives that three subjects felt that they belonged to nature because they used plural pronouns and/or verbs to describe their relationship. Similarly, in two (2) texts we observed that the participants mentioned the idea unit of *nature as a subject*, with actions and feelings. According to Iared and Oliveira (2017) and Silveira (2009), the meanings produced in an aesthetic and subjective experience collaborate with a new way for human beings to relate to the world, which can contribute to overcoming the human being-nature dichotomy, and thus break away from the fragmented logic of the modern paradigm of domination of nature.

Meanwhile, it should be noted that in four (4) texts we observed relationships based on spirituality, where the personal experience of being in nature is associated with proximity to God. In this respect, Carvalho and Steil (2008) consider that the constitution of the subjects can be guided by ecological and spiritual values and that “the reconnection with nature comes to include the religious practices and beliefs” (Iared, 2019, p. 206) of each individual. That said, the association between nature and spirituality is also a possibility of seeing nature as something sacred, which is exactly what happens in the views of native peoples.

Another aspect present in the narratives was that the experience in nature, from the trail, brought back memories of life and childhood, which was observed in three (3) texts. This makes the trail a memory space that aroused memories related to older relatives and play, linking the participants to ancestral knowledge, along with the possibility of restoring/building other relationships in this space. Furthermore, the experience elicited feelings related to love, peace, and feeling good, which were described in around half of the texts. With that, we see that outdoor activities in contact with nature generated sensations, feelings, and interactions that contribute to the construction of new meanings (Iared & Oliveira, 2017; Marin, 2006; Payne et al., 2018) and the relocation of the place that the human being occupies in the world (Degaspero & Bonotto, 2017).

As a second dimension of analysis in this study, we describe the methodological debate to access these post-critical perspectives. In this respect, the texts analyzed allowed the description of different ways in which the experience in nature affected the subjects, while the subjective dimension was mobilized (Andrade & Sorrentino, 2013) and analyzed by the participant him or herself at the time of writing the narrative—as they rationally selected what they wanted to record in the letter—and then for us researchers, since we create objective relationships with the field of environmental education and seek points of encounter with convergent debates, or rather, in terms of the role of experiences in outdoor spaces. Therefore, the narrative texts about the experiences made contact with the subjective field of the subjects possible (Delory-Momberger, 2016; Souza, 2008), although it was not fully accessed.

However, the academic debate about how to arrive at subjective experiences still continues, since the aesthetic, affective, and sensitive experience occurs at a pre-reflective level prior to language (Iared & Oliveira, 2018), which makes it difficult to understand the aesthetic experience that, actually, occurs in a dimension that is subjective. When narrating what has been lived, either orally or textually, we try to choose and organize experiences (Delory-Momberger, 2012; Souza & Oliveira, 2016): it is in this movement that the subject constructs and gives meaning to the lived reality. Thus, what is narrated consists of their interpretation of reality, as well as what remains in the memory and what they desire to be public, which fits into the time and space of the narrative: the textual genre allows this type of expression by the subjects.

So, would narrative be a methodological alternative for research in the frameworks of post-critical theories of environmental education? What is neglected from the analysis? We point to certain limitations of these approaches and, at the same time, possibilities of advancement for research, by presenting discourses that, when stated, mark a reflection on the subjective. It is through language that we attribute meaning to the world, we create meanings, activities, identities, relationships, and connections (Gee, 2011a). These meanings are “an integration of ways of saying (informing), doing (action), and being (identity),” (Gee, 2011a, p. 8).

Thus, like Iared and Oliveira (2018) we see methodological combinations as alternatives that allow different perspectives that complement each other, providing various ways of accessing and interpreting the lived experience. Other studies have used methodological combinations in order to access the subjectivity of participants in experiences in nature. For example, Iared (2018) and Iared and Oliveira (2018) have mixed semi-structured interviews with a walk (walking ethnography) in the Cerrado biome; Payne et al. (2018) also carried out a walk in nature complemented with the construction of narratives of the immersion of the participants in the aesthetic experience; and finally, Iared (2019) presented the construction of (eco)narratives after experiences in nature, highlighting affectivity, emotion, and movements as a methodological alternative to express the experience of the subjects in nature.

Finally, the invitation to narrate the experience supports the training of educators, as it enables the authorship, resignification, and assessment of their practice and reflections (Reis, 2012; Souza & Oliveira, 2016; Souza & Meireles, 2018), which pass through different temporal dimensions: the present, past, and future in the texts (Freitas & Ghedin, 2015).

Final thoughts

On the basis of the analysis presented, we argue that actions in nature (outdoors) produced evidence regarding how the experience included the subjective dimension of reality and affected the subjectivity of the subjects. It was thus possible to perceive that the experience on the interpretive trail can promote a view where nature is not seen as an object or merchandise, which is important since both of these views are part of the causes of the environmental crisis.

In methodological terms, we assert that the interpretive trail without predetermined stopping points and associated with sensorial perception activities contributes to awakening the senses, attention to the path taken, and what one feels during the experience. This was reflected in the discourse by producing observations, sensations, and reflections that contributed to the identification of aesthetic dimensions. In addition, the invitation to write about what was experienced allowed it not only to be recorded, but also enabled reflection and the establishment of relationships with memories and other experiences during the walk.

The discourse can include the subjectivity of the subjects and indicate how they were affected by the experience. However, we understand that because the participants choose what they are going to say (and therefore indicate out what they consider important) and when taking decisions and making interpretations during the analysis there is methodological deficit, there are therefore limitation on the understanding and scope of the subjectivity of the subjects. We thus favor the inclusion of contexts and methodological diversity to broaden the possibilities of understanding aesthetic experiences in post-critical approaches.

Assessment of affectivity and subjectivity is essential in educational and EER processes because it enables a new meaning of the ways of seeing nature, the meaning of this as a dynamic and living pedagogical space and the observation of other members of the Earth's systems. In the study, belonging, spirituality, and recognition of individualities were perceived as constituents of realities. Furthermore, sensoperception proved to be an important element for the emergence and access of subjectivity, not only by the researchers, but also by the participants of the trail experience. This is relevant for emotional participation, the construction of experiences, affection, and love, which are crucial elements for the promotion of sensitive relationships, coexistence, and the exercise of socially and environmentally engaged citizenship.

During these times of pandemic, social isolation, and threats to human survival, memories of the outdoors become a haven and a privilege. Perhaps this is also an opportunity for us to understand that we are nature, both in research and in the appreciation of the humanities that coexist within it.

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