

Experiential environmental learning together with the trees in the Anthropocene

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ABSTRACT

The study reflects on the encounter of young people with trees, focusing on a holistic and ecocentric approach to ecological knowledge and awareness. A small group of students of an environmental education course at a university pedagogical department participated in experiential activities that took place at a treescape, where different kinds and ages of trees grow. The participants interacted with trees through a pedagogical methodology of three stages (silent walk among trees, holistic approach to a tree, and exercising empathy for trees) and reflected on their experiences. The study's findings capture the different ways that young people experienced trees: (a) trees as friends, (b) trees as self, and (c) the mindfulness of connecting with trees. Encounters among humans and trees have the potential to create places for contemplation on human-nature organic bond and communities for ecocentric learning and action for environmental change.

Keywords: trees, experiential learning, environmental education, ecocentrism, mindfulness, Anthropocene

INTRODUCTION: TREES IN EDUCATIONAL CONTEXT

In the era of the Anthropocene, trees like the rest of the natural world experience the consequences of human impact on nature (Crutzen, 2002) and suffer all forms of violence, exploitation and disrespect. From the extinction of flora species to the uncontrolled exploitation and destruction of important forest ecosystems and the implications of climate change, with a typical example on a planetary level being the deforestation of the Amazon rainforest, trees are one of the non-human entities that are particularly threatened by anthropogenic intervention in ecosystems (Allen et al., 2015; Bengston & Dockry, 2014; FAO, 2006).

Furthermore, we cannot overlook the fact that our society experiences plant-blindness. The term expresses the neglect of plants in human societies.

Plant-blindness is defined as

- the inability to see or notice the plants in one's environment,
- the inability to recognize the importance of plants in the biosphere and in human affairs,
- the inability to appreciate the aesthetic and unique biological features of the life forms that belong to the Plant Kingdom, and

(d) the misguided anthropocentric ranking of plants as inferior to animals and thus, as unworthy of consideration (Wandersee & Schussler, 2001, p. 3).

Consequently, plants are also underestimated in the educational context. Most of the students express their scientific interest in animals and not in plants (Amprazis et al., 2021; Strgar, 2007; Tunnicliffe & Reiss, 2000; Wandersee, 1986; Wandersee & Schussler, 1999).

Nevertheless, an alternative approach to the world of plants has recently begun to be captured in an interdisciplinary field from philosophy and anthropology to biology (e.g., Hall, 2011; Marder, 2013; Myers, 2015; Wohlleben & Flanery, 2016). This interest moves away from the dominant paradigm that approaches the plant kingdom as part of a pathetic natural landscape, a resource for human survival and an object of scientific research. Particularly, in the context of education, there is a great need for cultivating empathy for plants in light of an ecocentric perspective that recognizes the equal right to live and blossom with humans and emphasizes the non-instrumental utilization of the non-human world (Naess, 1973). However, there is insufficient research on the integration of plants, and specifically trees, in the context of educational praxis compared to the world of animals.

Nowadays, we experience the emergence of focusing on trees in the framework of the ontological shift in the era of the Anthropocene. Trees are presented as the new tendency in academia and arts. The secret world of trees as beings with a

character, feelings, the ability to communicate and the possibility to form communities (Wohllebe & Flanery, 2016) manifests and invites us to redefine the role and rights of trees on the planet. Trees can also make a great contribution to the development of ecological knowledge and consciousness in the context of educational practice (Ambreen & Pahl, 2023).

Innovative, experiential pedagogical methods have been investigated regarding their contribution to the interaction of learners with trees. The first positive results have been already revealed, opening the door to a whole universe for experimentation and synergy with trees. These methods include, for example, storytelling (Hadzigeorgiou et al., 2011), letter writing to trees (Marquina et al., 2022), painting trees under the lens of new materialist common world approaches to environmental and sustainability education (Jørgensen & Martiny-Bruun, 2020; Tsevreni, 2021a), nature journaling (Flowers et al., 2014), mindfulness and contemplative techniques (Flowers et al., 2014; Tsevreni, 2022), art-based environmental education techniques (Flowers et al., 2014; Hunter-Doniger, 2021), painting and poetry (Délano Alonso & Saavedra, 2023), intercultural walking in a treescape (Magos & Tsevreni, 2023), ethnographic walks with trees (Cele, 2019), paintings and narratives about trees (Olson et al., 2023), deep listening and singing in and with the environments (Schuurman-Olson, 2023) and posthumanist and arboreal methodologies to move away from anthropocentric and romanticized views on the relationship between children and trees (Osgood et al., 2023).

In the 21st century, a great challenge for humanity is to “encompass entire ecosystems rather than solely focus on outdated notions. Acknowledging that plant-being means much more than mechanistic responses to stimuli upturns the Cartesian perspectives that have culturally impoverished the world we live in” (Aloi, 2018, p. 10). Looking beyond human exceptionalism and anthropocentrism, some voices call to approach plants not as property, resource, commodity and object of anthropocentric scientific research but as allies in the creation of livable worlds (Myers, 2018).

The greatest challenge in the epoch of the Anthropocene is the paradigm shift away from the Cartesian dualisms that structure the dominant humanist knowledge traditions and pedagogies and divide subject from object, mind from body, and nature from culture. It is time to move from “learning about the natural world” to “learning to become with the natural world” of which we are already an organic part. After all, “it took us a while to break with the delusion that we live and learn in autonomous human societies, which are somehow outside of the ‘natural’ ecological communities that we ‘study.’ It was hard to fully understand ourselves as ecological insiders” (Common Worlds Research Collective, 2020, p. 4).

Under the lens of the above ontological and pedagogical perspective, in this study, we investigate and evaluate pedagogical methods that have been implicated in experiential learning with university students and trees at a pedagogical department. The participants encountered and interacted with trees and reflected on their experiences. The study includes the presentation and the findings of young people’s pedagogical encounters with trees in the treescape of an urban park. We approach the “treescape” as a notion that “is helpful to acknowledge the daily trees in our lives” and trees not as a

“resource” for human needs but as a companion to the possibility of living and learning together in environmentally endangered times (Ambreen & Pahl, 2023). A place for contemplation on human detachment from the rest of the natural world and a place of possibility for the creation of environmental learning communities of companionship and alliance.

The purpose of the research is to explore the subjective experiences of young people with trees through outdoor activities that focus on a holistic and ecocentric approach to knowledge and awareness in their local environment. Our research question is: “How do young people experience their encounter with trees through their engagement in an experiential and ecocentric pedagogical methodology?” We wish to explore the different ways in which young people can experience their encounter with trees. Furthermore, we attempt to highlight the possibility of forming a community of environmental learning and connection between human and non-human beings in an era of great hyper-separation between nature and culture (Malone et al., 2017).

METHODOLOGICAL CHOICES

Research Framework & Participants

The study aims at developing a deeper understanding of how students’ encounters with trees are able to cure detachment from the non-human world and empower ecological consciousness. To answer the research question we chose to implement a small-scale participatory research with young people and trees to identify the subjective ways of experiencing the synergy among humans and trees, through engagement in an experiential and ecocentric pedagogical methodology. The study is part of the critical realism paradigm, since it aims at developing deeper levels of explanation and understanding of acquisition of environmental knowledge and consciousness (McEvoy & Richards, 2006). It is on framework of the ontological turn that includes human and non-human entities in educational research and praxis (Bhaskar, 2016; Le Grange, 2018).

In the spring of the academic year 2021-2022, eight students of a pedagogical department at University of Thessaly in Greece interacted and reflected on their encounter with trees. The experiential activities took place in the nearby park of the university building, where different kinds and ages of trees exist. The pedagogical purpose activities that took place was the experimentation with undirected learning, the emergence of the participants’ subjective experiences of the treescape and the exploration of the possibility of empowering embodied and sensory empathy for the world of trees through a holistic pedagogical methodology (Figure 1).

Students’ participation in educational activities and research was voluntary. Participants came from community of environmental education courses of the pedagogical department and in particular of the last academic year. There was no prior knowledge or experience of interactive ecocentric exercises with trees. The average participants’ age was 22 years. In addition, the experimental nature of the educational



Figure 1. Young people & trees (Source: Authors' archive)

action and the need to form a community with familiarity and trust required a small number of participants.

The sample size cannot lead to the generalization of the results, but to the appearance of initial trends, and above all to the emergence of ways for synergy among humans and trees (McEvoy & Richards, 2006). The findings of the study could be useful to the development and evaluation of an experiential and ecocentric research methodology that potentially could be applied to new cases.

There was close attention to ethical issues such as confidentiality and the participants' anonymity. The findings of the current study are based on participants' final reflective texts and took place after the completion of the academic year and the student's studies. The activities were optional and not linked to the course assessment. The students were informed of the scope of the study, and they provided their permission for the use and analysis of their reflective texts in the framework of the current study.

Educational Activities

The educational activities took place under the lens of place-based educational philosophy that connects and empowers the relationship among young people and their environment (Gruenewald, 2003; Sobel, 2013). The pedagogical philosophy on which the activities are based focuses on a holistic and experiential approach that seeks the formation of ecological consciousness through alternative paths and not from the established and stereotypical way that deifies students' cognitive knowledge about environmental issues (Nazir & Pedretti, 2016).

The experiential activities were based on philosophical and pedagogical tensions derived mainly from Eastern traditions such as mindfulness, zen, forest bathing, origami and haiku,



Figure 2. Reflecting on experience at the treescape (Source: Authors' archive)

but also from western nature-based pedagogy like forest school and Waldorf pedagogy. They included:

- (a) silent walk among trees,
- (b) embodied and sensorial approach to the trees,
- (c) dialogue with a tree,
- (d) creating the face of a tree,
- (e) tree-centered mindfulness meditation,
- (f) yoga posture, and
- (g) origami and haiku.

Finally, the participants wrote a reflective text on their experience (Figure 2). In detail, the stages, the individual activities, the pedagogical basis and the purpose of the activities are presented below and summarized in Table 1.

Specifically, the participants in groups walked slowly and silently among the trees. This silent walk was inspired by forest bathing techniques (Clifford, 2021; Cornell, 2015; Tsevreni, 2021a). The route was freely chosen by the participants based on the stimuli and points of interest they encountered along the way. The purpose of the activity was a first acquaintance with the trees through a mindful walk at the treescape, to keep the concentration focused on the "here and now" and to overcome plant-blindness.

Table 1. Outdoor experiential educational activities

Stage/activity	Inspiration	Techniques	Purpose
Silent walk among trees	Forest bathing	Mindful walking	Focus on "here & now" of connecting with trees to overcome plant-blindness
Holistic approach to a tree	Forest school & Waldorf techniques	Sensory approach of tree, dialogue with tree, & creation of face of tree	Approaching a tree through mind, body, spirit, & heart
Exercising empathy for trees	Contemplative pedagogy & notion of the Planthropocene	Mindfulness exercises, tree meditation, tree yoga posture, origami, & haiku for trees	Experiencing & exercising corporeal & spiritual empathy for trees



Figure 3. Creating the face of a tree (Source: Authors' archive)

Then, each group chose a tree and tried to approach it through the senses of sight, hearing, smell and touch. The sensory approach was followed by a dialogue between each student with the tree during which she had the freedom to ask the tree whatever she wanted about it, to ask for advice or to confide about any personal issue (Clifford, 2021). The groups discussed the characteristics of the trees' personalities and the life they have lived as they imagined them. Based on these observations and ideas, they created the faces of the trees on their trunk with clay and natural materials (Robb et al., 2015) (Figure 3).

The next stage of the outdoor activities involved mindfulness exercises focusing on the empowerment of connection and empathy for the trees. The students participated in a tree meditation exercise inspired by Myers (2014), "a kriya for cultivating your inner plant" and in yoga practice—the tree asana (posture)—with the aim of a corporeal and spiritual experience of the entity of a tree (Ergas, 2014; Pulkki et al., 2017; Oostendrop, 2017). Finally, they created origami and wrote haiku dedicated to trees.

RESULTS

To answer our research question we used the method of thematic analysis on the participants' reflective texts regarding their experience at the treescape (Boyatzis, 1998; Braun & Clarke, 2006). The participants' reflective texts on their experience with trees were analyzed according to the context of the research question. In the first stage of data analysis, participants' experiences were categorized in three axes:

- (a) participants' experience with trees,
- (b) participants' feelings, and
- (c) the degree and tendency of interaction with trees.

In the second stage of thematic analysis, three main themes emerged that capture the different ways that the participants experienced trees:

- (a) trees as friends,
- (b) trees as self, and
- (c) the mindfulness of connecting with trees.

The main themes of findings are presented in **Table 2** and are analyzed in detail.

Trees as Friends

Through the experiential activities, it seems that the participants began to approach the trees not as inanimate objects but as separate entities with special characteristics, life routes and personalities. This shift in approach to trees is captured in the participants' words below:

"The truth is that before this particular action I had not consciously come into contact with a tree or an element of nature to process it. So this experience was very interesting and offered me a new perspective on the way I approach trees. I no longer believe that [a tree] is simply an element of nature, but a living organism with personality, content and history."

The embodied and sensory approach to trees created feelings of calmness and relaxation, which in turn strengthened the process of familiarization with the trees, as one participant underlined (Figure 4):

"After our experience, I felt relief, relaxation and calmness as it was the first time we came into such direct and close contact with the trees. In particular, I liked that I climbed on a tree and stayed there for a few minutes. I used most of my senses to touch it and through this many mixed feelings developed ..."

The conversation developed by the participants with the trees encouraged a more personal and intimate process of connection with trees. This activity gave the participants the time and opportunity to observe and reflect on the special characteristics of trees.

Attributing anthropomorphic features to the trees seems to have served as fertile ground for cultivating a more equal relationship between young people and trees, as reflected in one participant's thoughts below:

Table 2. Three main themes emerged through thematic analysis of research data

Trees as friends	Trees as self	Mindfulness of connecting with trees
Approaching trees as separate entities with special characteristics, life routes, & personalities	Merging with non-human world of trees	Concentration on "here & now" & mindful communication with world of trees
Trees as creatures that create positive feelings of calmness, relaxation, & peace	Achievement of concentration focusing primarily on world of trees & secondarily on human experience	Organic reunification of human & non-human world as ultimate goal
Cultivating a more personal & intimate process of connection with trees	Experiencing empathy for trees	
Revealing of a more equal relationship between participants & trees		



Figure 4. Embodied interaction with trees (Source: Authors' archive)

"I enjoyed the process of making the face of the tree we chose to observe, feel and capture."

Trees as Self

Mindfulness practices contributed to merging with the nonhuman world of trees. The yoga asana and the tree meditation exercise put the participants in the place of the trees, as two of the participants described:

"It was also nice that we took some time and with the help of yoga got into the position of the trees."

"The relaxation, the calmness, the pressure of the day was all that I managed to forget, feeling like I was a tree. We really got into the heart of the tree and understood what it's like to be a tree."

Furthermore, the connection with the trees highlighted the empowerment of empathy for the trees. One of the participants described her experience:

"For a moment I also felt what it is like to be a tree and I thought about behavior they receive from humans."

An important element that emerged in some of the participants' reflections was the achievement of concentration and the focus primarily on the world of trees and secondarily on the human experience. For example, one of the participants described how she came close and connected with the non-human world, expanding from self to ecological self:

"I felt that I got so close to nature, especially the trees. The whole process of touching the trees, smelling them and feeling them was a special experience that I probably would not have experienced if we had not done it in this lesson."

Mindfulness of Connecting with Trees

The concentration on the "here and now", the manifestation of silence away from external noise, the mindful communication with the world of trees contributed to the empowerment of the connection with the trees (Figure 5).



Figure 5. Connecting with a tree (Source: Authors' archive)

"I felt my body relax through the spiritual contact with the trees ... I became one with them and with the nature that existed."

The embodied and sensory experience at the treescape revealed feelings of calmness, relaxation and peace and created the field for a mindful communication with trees, as, for example, is outlined in the words of a participant:

"Today's experience I gained from the course was very special and relaxing. I managed to forget the pressure of the day, feeling like I was a tree."

Another participant described in a very interesting way the combination of the above two elements (i.e., the feelings of calmness and relaxation that emerged from the contact with the trees and the concentration in the world of trees) with the ultimate goal of the organic reunification of the human and non-human world. This process could be defined as mindfulness of connecting trees:

"At first I had come in a happy mood but very tired and stressed. No way did I expect to feel so relaxed at the end. We started the walk in a relaxed and funny way, entering slowly and without realizing it. When we touched our tree, that's when I started to feel. And later when we were talking with the girls I realized that I was relaxed sitting as I was on the tree ... By the time we got to the haiku, a calmness that I had not expected had spread over me. Even though I did not do the yoga exercise I think because of the calmness I could stand up. In meditation, I really felt liberated and 'rooted.' Now I am in zen."

DISCUSSION

Beyond the traditional approach to the pedagogical practice, which objectifies and classifies the world of plants and transfers theoretical information and scientific knowledge about trees, through our pedagogical practice we aimed to

shed light on alternative paths of familiarizing ourselves with trees. The participants of the study communicated with the trees not as inanimate objects that are different from them, but as living and equal beings in an organic connection with the human world. It seems that trees can be friends and allies even in the modern western world, where plant-blindness dominates, and plants are approached only as a resource for the satisfaction of human needs and as a tool for scientific research and educational practice.

According to an ecocentric point of view as it is expressed by Myers (2018), human beings are not dominant on this planet and are not alone in overcoming the ecological crisis. They have non-human friends and allies for the creation of a common world of co-existence and action towards environmental change. Besides, learning to become with the more-than-human world as an ontological shift has already been discussed in the post-humanist and new materialistic approach of pedagogy in the epoch of the Anthropocene (Common Worlds Research Collective, 2020; Malone et al., 2017).

The old-fashioned, knowledge-centered approach to environmental education that emphasized the consequences of the ecological crisis as well as disembodied, anthropocentric action for the solution of environmental problems may be replaced by experiencing non-human creatures like trees as mutual companions to ecological knowledge and action. It appeared that there is a possibility for an organic connection with the trees. We observed how embodied and sensory concentration can be transformed into corporeal empathy (Abram, 1997), as opposed to the intellectual awareness that is dominant in the context of environmental education.

The study revealed the possibility to approach trees as self. Myers (2018) raises the interesting notion of the hybrid figure called Planthropos, as we are of the plants. It is our chance to experience the world not as a battlefield or a trap, under the lens of the ecological crisis, as Macy (2007) writes, but as an extended self, our ecological self, as we are “in, of and for nature from our very beginning” and our self is extended from society and human relationships to a larger community of all living beings (Naess, 1988, p. 20). A genuine interest and engagement in/for the world can grow out of the self, our feelings, our thoughts, our lived-body awareness in the context of an embodied pedagogical praxis (Bonett, 2013; Payne, 1997; Pulkki et al., 2017).

Mindfulness of connecting with trees emerged as an embodied and spiritual approach to ecological knowledge and awareness for the trees in the “here and now”. The pedagogical methodology has the potential to create places of ecocentric experience and reflection that empower our contemplative body to think, feel and care for our trees others (Pulkki et al., 2017; Tsevreni, 2022).

Research Limitations & Questions for Further Investigation

At this point, it is worth noting that this study's findings are based on a small-scale experimental application of implementing an alternative, holistic pedagogical methodology to strengthen young people's connection with trees. The qualitative orientation of the research does not permit the generalization of the findings. However, it

highlights tensions and research gaps and possibilities for future investigation.

More applications with a variety of ages of young and older adults as well as children and trees would enrich research findings on the relationship between people and trees under the lens of ecocentrism. Another limitation of the research is the implementation of the educational activity within the protected and creative environment of an academic community. It would be interesting to implement the educational methodology with a public less familiar with educational innovation and experimentation.

There is a need for further investigation both at a theoretical level to form an informed theoretical pedagogical philosophy within the framework of the holistic and ecocentric environmental education paradigm, as well as for applied research that will reveal the dynamics as well as the challenges of the pedagogical methodology.

CONCLUSIONS

In this study, we attempted to capture and explore the potential of experiential, alternative pedagogical methods that, in the context of environmental education, focus on a holistic approach to the relationship between humans and trees in the Anthropocene. Experiential learning with trees was based on a pedagogical philosophy that utilizes the holistic learning process to raise and empower the ecological consciousness through the activation of the body, heart and spirit of the learners. The participants experienced trees as friends, and as an extension of self beyond the restrictive boundaries that are reproduced in traditional, anthropocentric educational processes.

Participants, reflecting on their experience, highlighted an ecocentric shift towards trees, far from the established cognitive-centered approach that takes place usually in traditional educational contexts. They managed to familiarize with trees not as inanimate objects of scientific research and environmental inquiry, but as friends and non-human others with characteristics, needs, and rights equal to human beings.

Having the organic reunification of the human and non-human world as the ultimate goal, the embodied and spiritual encounter among human beings and trees allowed the manifestation of the mindfulness of connecting with the more-than-human world as an expression of a somatic and empathetic interconnectedness in the here and now.

This small-scale study reveals the potential of accessing encounters with trees as a place of contemplation on human detachment from the rest of the natural world and as a field of possibility for the creation of pedagogical communities that cultivate co-existence and action towards environmental equity and change. Further research with a variety of people and trees can expand and enrich the findings and highlight the challenges.

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