Chapter 2
Outdoor Environmental Education: Grounding a Tradition Within Environmental Education

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2.1 Introduction

A central role and challenge of contemporary education is facilitating individuals to acquire and develop the life competences to ensure environmental sustainability and promote sustainable lifestyles (UN, 2000, 2015). This chapter is written while humanity is struggling to adapt to the overwhelming challenges imposed by the COVID-19 pandemic, which epitomizes the complexity, turbulence, and unpredictability of life in the current world. The chapter aims to ground outdoor environmental education (OEE) as meaningful education that enables developing the competences and resilience necessary for adapting to, achieving well-being, and living rewarding lives in such environmentally, socially, economically and politically challenging and stressful conditions (EC, 2019; Krasny & Tidball, 2009; Sterling, 2010).

Outdoor education (OE) and environmental education (EE) developed as separate educational movements (Smith & Knapp, 2011), each in response to specific challenges, as reflected in distinctive goals and attributes, but also as close areas sharing some overlapping content and educational pedagogies. The first section of this chapter looks at these two fields from a historical perspective highlighting their dynamic nature reflected in the evolution of the understanding of OE and particularly EE. While these educational movements may have developed differently in

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different socio-economic-geographic contexts, some central international developments are evident in the literature. These do not necessarily represent evolution that occurred worldwide. The second section brings into focus several challenges facing contemporary society and confronting EE identified as factors significant in the linking between EE and OE. It then presents selected learning theories associated with both EE and OE, which, parallel to the challenges facing contemporary society, provide a pedagogical grounding for OEE. The final section ties OEE to the more recent concept of 'environmental citizenship' which is essential for promoting sustainable societies. The chapter concludes by identifying some ongoing practical challenges confronting OEE as a model of progressive education in a contemporary world.

2.2 Outdoor Education and Environmental Education: A Story of Dynamic Fields

According to Neil (2008), OE "refers to a range of organized activities that take place in predominantly outdoor environments for a variety of purposes" (p. 5). He cautions against strict definitions since conceptualizations and practices of OE differ in different cultures and local conditions, thus the understanding of OE is "relative to time and place" (p. 6). Within this broad field, Neil (2008) mapped classifications of OE programs according to their purposes: Recreational & Physical, Therapeutic, Educational (subject knowledge, academic self-concept), Developmental (personal and social development, life skills), and Environmental (environmental knowledge, attitudes, and behavior). This chapter looks at OE from the Educational, Environmental, and Developmental frames, the latter relevant to realizing the educational and environmental goals.

It is generally agreed that OE emerged in the mid-twentieth century as an educational approach that does not focus on content area but rather the educational process, specifically where meaningful education can take place, namely utilizing the natural and manmade surroundings as means for achieving teaching-learning goals of different curricular subjects by enabling direct experiences and contextual learning in the outdoor environment (Smith & Knapp, 2011; Tal, 2012; Woodhouse & Knapp, 2000). Accordingly, OE is applicable to any content that can be more effectively taught and learned via firsthand experience in relevant out-of-class settings (natural, manmade). The schoolyard, field trips, field study, nature centers, residential camp programs, have been traditionally recognized outdoor learning environments and continue to be central settings for outdoor learning. However, in an increasingly urbanized world, urban nature and open spaces in cities, zoos and aquariums, museums, or any manmade built environment (e.g., factory, waste-treatment site, electric plant) that provides effective learning settings for the topic under study are increasingly identified with OE (Lavie Alon & Tal, 2017).

From its emergence, understanding of the essence of OE has expanded, evident in several of its definitions and goals. Julian Smith, in the 1940s defined OE as "…education in and for the outdoors", which emphasizes using the outdoors as a 'laboratory' to complement teaching in the classroom for learning activities that can be more effectively conducted in the outdoor settings, but also teaching skills necessary for healthy outdoor pursuits (Smith, 1960). In the late 1980s, following establishment of the field of EE, the definition expanded to "… education in, about and for the out-of-doors" (Ford, 1986, p. 2), reflecting the place, the focus, and the aim of OE. *In* informs that OE may happen in any out-of-class setting. *About* informs that the focus is the outdoor context and learning addresses the relationships within the natural environment and between human societies and the environment. *For* addresses the aim, referring to the importance of comprehending humanity's dependence on the natural environment and, consequently, appreciating it (Ford, 1986). Ford's definition reinforces the role of the affective domain. This definition of *in, about* and *for* echoes one of the early definitions of EE. Lucas (1973, 1979) framed EE as education *in* the environment, *about* the environment (addressing the cognitive domain of understanding and skills) and *fo*r the environment (preserving the environment). More currently, the definition of OE was expanded to include *throug*h (Bunting, 2006, p. 4), implying that the involvement in activities in the outdoor (e.g., natural) environment aims to enrich different learning contents, provide interest, and contribute to making them more easily understood.

Hence, while OE is acknowledged as one of the antecedents of EE (Braus & Disinger, 1998; Stevenson et al., 2013), contemporary writing on OE indicates that once the field of EE emerged, understanding of the essence of OE expanded to include EE, as reflected in the more recent definitions of OE that specifically link it to EE. We claim that this association between contemporary OE and EE results from a combination of the challenges facing education in an era of global environmental-social crisis and the educational philosophies identified effective in educating citizens for such a reality (elaborated further on).

EE emerged in the late 1960s as a distinct field addressing human-nature inter-relations aimed at educating people to develop as environmentally responsible citizens. EE is identified with terms such as developing individual's environmental literacy, environmental citizenship, and sustainability citizenship (e.g., Barry, 2006; Cao, 2015; Goldman et al., 2015; Hadjichambis & Reis, 2020; Hollweg et al., 2011; Sarid & Goldman, 2021). From its conception in the 1960s, despite contested ideas regarding the characteristics of EE (Wals, 2009), it is agreed that education aimed at cultivating these qualities in individuals needs to incorporate three domains: the cognitive, the affective and the behavioral. Accordingly, the focus of EE is enabling individuals to comprehend the complex inter-relationships among the environmental, social, economic, and political dimensions that characterize sustainability issues; fostering the emotional attributes that enable and motivate individuals to "translate" their understanding into actions and behavior; and providing opportunities for engagement in these behaviors.

It is beyond the scope of this chapter to provide a comprehensive review of EE encompassing the many lenses through which it is addressed in the literature (e.g.,

different social-geographic perspectives, relationship between theory and practice, what research teaches regarding the effectiveness of different approaches), or the debate around the shifting terminology associated with this field (e.g., education for sustainable development, education for sustainability, environmental and sustainability education). For this book, which focuses on the association between EE and OE, we look at how the understanding of the nature of EE has evolved since its emergence. This framing offers better grounds for linking EE and OE. We do not presume to exhaustively address the numerous, equally appropriate descriptions of EE, but rather a sampling that highlights development in two major fronts: (1) how environmental issues confronting society are understood and conceptualized, and (2) transition in the educational approaches perceived best suited for conducting effective and meaningful EE.

Early descriptions of EE are the highly cited definition of Stapp et al. (1969) and the goals of EE endorsed in the Belgrade global framework for EE and the Tbilisi Intergovernmental Conference on Environmental Education (UNESCO, 1976, 1978). These early depictions reflect the educational response to the increased focus of the scientific community on ecological issues of the environment: environmental problems are perceived mainly through a scientific-oriented lens as problems to be solved by science and technology; an enlightened, motivated, and responsible public, via education, is crucial for the success of environmental policies. While the role of a responsible involved citizenry in achieving environmental protection, and of EE in facilitating this, are not contested, these early conceptions of EE have been subject to critique by several education thinkers (e.g., Bonnett, 2006; Gough, 2013; Palmer, 1998; Sterling, 2009; Wals, 2011). They reflect the grounding of EE within the scientific domain and positivist paradigm (Palmer, 1998), translating into a behavioristic, transmissive, instrumental, and teacher-oriented approach to education (Sterling, 2009; Wals, 2009). It is critiqued that these early definitions emphasize achieving environmental sustainability and not human development, thus, they undermine the essence of education (Jickling & Wals, 2008; Wals, 2009, 2011). It is argued that this early thinking about EE reflects a linear causality and knowledge-oriented approach by which providing people with the necessary knowledge will lead to more pro-environmental attitudes, which, in turn will lead to more environmentally responsible behavior; an assumption that much EE research does not support (e.g., Kollmuss & Agyeman, 2002; Marcinkowski et al., 2013; Yavetz et al., 2009). Another critique is that situating EE within the science domain inherently links it to science education, which is viewed as a main umbrella for incorporating environmental content, whereas EE should be a component of educating all citizens (Gough, 2008; Parra et al., 2020). Furthermore, the capacity for addressing environmental aspects not directly related to science, or educating for values, within the framework of science education have been questioned (e.g., Gough, 2002, 2008).

Descriptions of EE from the late 1980s–1990s reflect how development in environmental issues are conceptualized. An example is the North American Association of Environmental Education interpretation:

A process of helping individuals understand the environment, their place in it, and related issues. It is a lifelong process through which persons can develop the knowledge, skills, and commitment necessary to live compatibly with nature, act equitably toward each other and future generations, and make informed and forward-thinking decisions. Environmental education envisions and promotes a society peopled by strong, effective, and environmentally literate citizens who are capable of and inclined toward democratic participation, cooperation, creativity, and responsibility (Archie & McCrea, 1998).

Without ignoring the role of knowledge, skills or commitment components, this conception of EE resonates the holistic, multi-dimensional comprehension of environmental issues reflected in the concept of sustainable development (Brundtland, 1987). By underscoring the linkage among problems in the ecological dimension and social, economic, and political dimensions, this concept brings to the front of environmental discourse notions concerning the human condition such as social equity and environmental justice, multiculturality, environmental rights and obligations, and intergenerational responsibility. In the absence of expressions such "protect and improve the environment" or "solving environmental problems", paralleled by inclusion of terms such as democratic participation, cooperation, and creativity, the NAAEE description expresses a more constructivist, transformative and emancipatory educational approach to teaching-learning in EE. This evolved conception of EE is also identified as education for sustainability (EfS) or Education for sustainable development (ESD):

…a vision of education that seeks to balance human and economic well-being with cultural traditions and respect for the earth's natural resources. It emphasizes aspects of learning that enhance the transition towards sustainability including citizenship education; education for a culture of peace; gender equality and respect for human rights; health education; population education; education for protecting and managing natural resources; and education for sustainable consumption (UNESCO, 2005).

EfS and ESD are seen as major ways to address the environmental crisis by engaging the community; they aim to empower individuals and communities of all ages to assume responsibility for creating a sustainable future and developing environmental stewardship. Taking this further, Wals directly articulates not only emphasizing the pedagogical justification of EE but also the environmental justification:

Environmental education is viewed as a means to help individuals, groups, and communities to develop their own pathways to sustainable living, whereby sustainable living is something to be determined contextually in an open-ended, participatory process…the emphasis lies on educating people and not persuading, influencing, or manipulating them toward a predetermined and expert-determined way of thinking and behaving which supposedly is to lead toward a healthier planet…Education here refers to a carefully prepared, planned, and guided learning processes during which knowledge, values, and action competence (head, heart, and hands) develop in harmony to increase an individual's or a group's possibilities to participate more fully in life and society (Wals, 2009, p. 110–111).

This contemporary perspective of EE aligns with the role of education to develop autonomous thinking by focusing on capacity building and critical thinking that enable individuals to raise critical questions concerning "what is going on in society" and determine autonomously how they should act (Jickling & Wals, 2008; Wals, 2009). This view of EE is also culturally sensitive and socially inclusive, reflecting current understanding that cultural diversity is a driver of sustainability (Capra & Luigi Luisi, 2014; UNESCO, 2002, 2015).

This brief historical look at EE in the 50 years since its emergence highlights the evolution this field has undergone: (1) from the environmental perspective: transition from a narrow lens focusing on environmental quality via the science-oriented domain to a holistic understanding of environmental issues as multidimensional, involving complex interactions among environmental, social-cultural, economic and political factors, and thus straddling the natural sciences, social sciences and humanities; (2) from the pedagogical perspective: progression from a positivist, instrumental approach to an emancipatory, learner-centered, critical, and transformative approach.

EE is confronted with significant challenges arising from a combination of related factors: the nature of sustainability issues, the nature of EE as the educational response to preparing citizens to function and thrive in such a reality, and how to incorporate and implement such education given the current reality of many Western education systems. To a significant extent, these environmental-social, educational, and political challenges are key factors in linking EE to OE. The following section looks at several of these challenges and what OEE offers to addressing them. It then presents selected educational pedagogies inherent to OE and acknowledged effective in achieving the goals of EE, thus providing pedagogical grounding for OEE.

2.3   OEE: Linking EE to OE

2.3.1   Contemporary Challenges of EE

The twenty-first century presents individuals and societies with overwhelming challenges: How to live and thrive in an industrialized, technological, and urbanized world? How to cope with increasing environmental-social problems associated with such as world, such as climate change and recurring pandemic diseases, necessitating responsible and ethical decision-making an integral component of our daily lives? How to operate in the face of change and uncertainty? People are confronted in their daily lives with highly complex and poorly defined situations that often have several incompatible solutions, involve multiple stakeholders with diverse and often competing value systems and interests and, consequently, different views regarding what the problem at hand is. These challenges are further confounded by factors stemming from the increasingly multicultural contexts of current societies. Such

complexities raise crucial questions for EE as the type of education accepted for cultivating resilient individuals equipped to live well and have fulfilling lives in such a reality. Following are several factors that contribute to the increased acknowledgment that the outdoor settings are beneficial to EE's response to these challenges.

Disconnect from Nature

In an increasingly urban, industrial, and technological world, people, including children, spend most of their time indoors, significantly less time outdoors and, consequently, are losing connection with the natural world. Indoor lifestyle is also associated with the Net generation (Walter, 2013). This issue is extensively addressed in the literature (e.g., Kesebir & Kesebir, 2017; Louv, 2005; Orr, 1992), reflected in introduction of terms such as 'nature deficit disorder' (Louv, 2005) and Biophobia (or nature phobia) (Olivos-Jara et al., 2020; Soga et al., 2020) into environmental and EE discourse. These terms highlight implications of this human-nature disconnect, which often manifest in fear and anxiety of being in nature, alienation from nature, repulsion, and other negative perceptions of the natural environment. Literature supports that contemporary environmental issues are strongly tied to this disconnect from nature, going as far back as the ecologist Leopold (1949) who claimed that when people do not feel they are part of the "land" and regard it from an instrumental perspective as a commodity, they disrespect it and lack concern for environmental degradation, leading to its abuse. Literature emphasizes that developing 'connectedness-to-nature' is a key factor in cultivating environmentally responsible behavior (Chawla, 2020; Liefländer et al., 2013; Mayer & Frantz, 2004; Nisbet et al., 2009). Along this line, studies indicate that accumulating direct positive experiences in natural environments and creating a sense-of-place is crucial for developing positive emotions regarding the environment, such as empathy, respect, and care, which are key to motivating commitment to the environment and embracing environmentally responsible behavior, especially when this entails tradeoffs at the personal level. An insight of researchers is that connecting people to nature should commence in early childhood; indeed, one of the tenets of early childhood EE is providing regular opportunities for direct contact of children with natural environments (e.g. Davis, 2010; Samuelson, 2011) to develop empathy to nature as a foundation for later commitment to protecting the environment (Chawla, 2009, 2020) parallel to the development of healthy (physically, mentally and socially), competent children (Davis, 2009).

The relevance of human relationships with nature and of creating a sense-of-place through direct contact with the natural environment for addressing environmental challenges confirms the role OE in achieving meaningful EE.

OE has traditionally focused on rural contexts – bringing nature into schools and getting students out to nature.With increasing urbanization there is growing

awareness of the importance of the urban environment as a learning environment for OE. Urban nature, urban open spaces such as parks, river parks and green belts, and other urban landscapes provide an alternative to natural environments.

Culture-Related Challenges
A central challenge is the increasingly multicultural nature of societies worldwide. This requires an educational agenda supportive of engaging culturally diverse participants. Multicultural Education, put forth as such an approach (Banks, 2016), refers to teaching in and about cultural diversity. The major goal of multicultural education is creating educational systems that provide equal opportunities and experiences for students from diverse ethnic, racial, and social-class groups and expose learners to the diverse cultural-based perspectives (Banks, 2016).

The increasing multicultural nature of societies worldwide brings into play diverse norms, traditions, beliefs and behaviors, and different understandings and perceptions regarding human-nature relationships. Thus, addressing cultural and ethnic diversity is crucial for EE. UNESCO (2002, 2015) identifies culture as an enabler of sustainable development and includes cultural diversity a dimension to address within the framework of the 2030 sustainable development goals. Despite this, the cultural dimension still receives less attention in EE practice (e.g., Alkaher et al., 2018; Negev & Garb, 2014; Nordström, 2008). Careful attention is required to provide equal opportunities for culturally diverse groups to participate in EE and contribute to environmental discourse (e.g., Goldman et al., 2019; Rodriguez & Lee, 2012). In practice, marginalized cultural groups, which are often more exposed to environmental problems (Marouli, 2002), are frequently disregarded or underrepresented in public discourse and decision-making processes around these issues, which are largely determined by the dominant social groups. Engaging culturally diverse groups in EE requires characterizing the multicultural settings in-depth and identifying the challenges these settings create in educational contexts. It is beneficial to adopt an approach that is not only respectful of all people and their cultures but acknowledges cultural diversity as a resource and utilizes it toward richer and meaningful environmental-social learning (Capra & Luigi Luisi, 2014; UNESCO, 2002). Integrating environmentally sustainable practices associated with traditional lifestyles of indigenous peoples can contribute to achieving resilient communities; the importance of traditional ecological knowledge in informing the science of environmental management, conservation, and sustainable utilization of natural resources is increasingly acknowledged (Uprety et al., 2012).

Learning outdoors offers rich opportunities for incorporating the multicultural approach in EE, especially when these settings are multicultural themselves and thus provide an authentic learning environment illustrating how multiculturality plays out in reality. Natural environments also provide the opportunity to explore

the relationships of different cultures to these environments and investigate issues affecting these places from the different viewpoints originating in the different cultural perspectives.

Challenges Arising from the Nature of EE

The inherent attributes of EE bring in several challenges for incorporating it within the educational system and curriculum:

1. Sustainability issues are multi-dimensional – they link among environmental, social, economic, and political factors. Moreover, these issues are systemic – they are interdependent and cannot be fully understood in isolation. These attributes situate environmental issues at the interface of natural sciences, social sciences, and humanities; they cannot be fully comprehended or addressed through separate disciplines (e.g., Capra & Luigi Luisi, 2014; Goldman & Sarid, 2021; Orr, 1992). A challenge arising from EE's holistic and interdisciplinary nature is how to integrate it within a disciplinary-oriented education system, which is the reality of many Western education systems.

2. EE deals with normative questions that, by nature, involve values, and seeks to enable value-guided [behavioral] change (e.g., Činčera et al., 2020; Jickling & Wals, 2013; Goldman et al., 2021). Values education, in the context of EE, is highly debated, reflecting, among else, tension between advocating certain values or educating for values (Činčera et al., 2020; Wals, 2009; Wals & Jickling, 2002). Contemporary EE embraces the latter and associates values education with critical education; a critical approach and developing a critical consciousness is central to EE for developing autonomous thinkers based on critical reflection (see previous section). Thus, while fostering environmental values is an explicit aim of EE, the debate concerns how to achieve this. Confounding this, incorporating education that adopts a critical approach regarding dominant social norms (cultural beliefs and practices) within education systems that do not encourage critique of the existing social order presents a challenge. Centralized education systems do not exist in a political vacuum and are often viewed as tools in strengthening existing norms. This places constraints for teaching controversial issues (e.g., Goldman & Sarid, 2021; Ho & Seow, 2015; Jickling & Wals, 2013; Sterling, 2009).

3. EE, differing from most other school subjects, involves human behavior – developing the individual's capacities and tendency for environmentally-responsible action, (Stevenson et al., 2013). Discourse around this attribute reflects a debate similar to that concerning values, namely the tension between indoctrinating and empowering, concerning the educational approach to achieving this end.

The outdoors provides a meaningful learning environment for looking at multi-disciplinary issues since it represents the authentic situation in all its complexity and multidimensionality. Directly experiencing authentic situations supports exposing and exploring values, and emotional involvement. The complexity embodied in these authentic situations reveals conflicts, tensions and dilemmas that can activate emotions and stimulate constructing a personal position regarding the issues at hand, and through this contribute to exposing personal values and critically inspecting them. Experiencing authentic settings encourages student involvement and active learning via the exploration of the real-world issues (e.g., climate change, pandemics and other health concerns, ocean degradation, consumer culture, sustainable agriculture and food systems, dietary preferences, biodiversity loss), forming and practicing of solutions. These contribute to cultivating agency in environmentally responsible behavior. Together, these indicate that the outdoor environment is conducive for implementing progressive educational approaches such as those endorsed by contemporary EE and elaborated in the second section chapters of this book.

2.3.2 Situating OEE in Contemporary Educational Theory

The challenges presented above raise questions regarding pedagogies that may be effective in enabling meaningful EE and achieving its goals. Several pedagogies inherent to OE are significant for EE in view of its holistic, value-laden, and action-related nature. These provide theoretical and practical educational grounding for OEE.

Experiential Learning

OE is grounded in *experiential learning theory*, a philosophy of learning informed by constructivism. It is based on the idea that learning happens when learners use hands-on, task-oriented activities and relate previous knowledge in a contextual way to real-life examples (Beard, 2018; Kolb & Kolb, 2012). It emphasizes the value of learning by doing – direct experience and focused reflection of the learners on their experiences. Experiential learning asserts the combination of the direct encounter with the phenomena being studied and reflecting on the experience. Kolb's experiential learning model (Kolb & Kolb, 2012) is a recursive cycle of concrete experiencing (doing, having a concrete experience), reflection (reflecting on the experience), generalization (learning from the experience by forming abstract concepts), testing (active investigation in new situations), which itself is an experience for reflection. Contrary to transmissive learning, in experiential learning the direct contact with the reality under study, employing multi-senses, stimulates the learner's intellectual, emotional, and physical involvement. Through this transformation of experience, the learner actively creates and re-creates knowledge.

Experiential learning is foundational for OE (Smith & Knapp, 2011). Experiencing environmental-social issues through direct contact with the authentic environment (natural or manmade) is essential for meaningful EE – learning that influences the individual's attitudes, personality, and behavioral decision-making (e.g., Motschnig & Cornelius-White, 2012; NAAEE, 2010; UNESCO, 2017). This overlap is reflected in the goals of experiential learning specified by the Association for Experiential Education "to increase knowledge, develop skills, clarify values, and develop people's capacity to contribute to their communities" (AEE, 2012), which echo EE's goals. Activating and engaging the affective domain are enhanced in experiential learning, and this is crucial for motivating personal action. Experiential learning in EE contributes to developing the participants' sense-of-efficacy, sense-of-accountability, social skills and problem-solving skills along with satisfaction, and sense of accomplishment. It nurtures the individual's sense-of-belonging and awareness of what is going on. Together these motivate the desire for agency. These individual, social, and environmental advantages of experiential EE underscore the significance of OEE.

Place-Based Education (PBE)

PBE is grounded in learning within the actual places and communities where the students live to make explicit the connection and relevance of the content being learned to the students' lives. It aims at making the local social-cultural, political, economic, and environmental phenomena, occurring outside the classroom, the students' learning experience. PBE is associated with cultural studies, nature studies and real-world problem solving that involves students in decision-making around authentic social-cultural, economic and managerial issues (Smith, 2002, 2007). It shares practices and aims with other educational reforms such as constructivism and experiential learning, multicultural education, critical pedagogy (Greenwood, 2008), and emancipatory education (Činčera et al., 2020). Rich literature has accumulated on PBE by prominent thinkers (Greenwood, 2008; Smith, 2002; Smith & Knapp, 2011; Sobel, 2004). It is acknowledged as an effective means for overcoming the school – daily-life disjuncture: by enabling individuals to connect with their place (physical and social), and through this develop a sense-of-place (place-identity), PBE provides an antidote to the disconnection and alienation associated with post-industrial societies in which people are losing attachment to nature, their environment, and their communities (Sugg, 2013). Many researchers agree that culture, ethnicity, geography, race, gender, socioeconomics, and socio-political situations, which are part of PBE, play a considerable role in shaping environmental perspectives (Greenwood, 2008; Smith, 2002, 2013; Sobel, 2004). This highlights the relevance of PBE for developing the individual's environmental and social responsibility.

Taking this further, Greenwood (2008), in his 'critical pedagogy of place', synthesizes place-based discourse with critical pedagogy discourse, which specifically addresses social justice issues by challenging dominant power relations and resulting cultural norms reflected in

(continued)

mainstream education. In this synthesis, by looking at how economic and political decisions impact the places where people live, place also becomes a critical construct. "Place-based educators believe that education should prepare people to live and work to sustain the cultural and ecological integrity of the places they inhabit" (Woodhouse & Knapp, 2000, p. 4). Tying this into Greenwood's 'critical pedagogy of place', a central justification for adopting PBE is providing learners with the knowledge and experiences necessary to actively participate in democratic processes. The escalating environmental-social challenges associated with a technological and increasingly urban world, and post-COVID-19 reality make place-based outdoor EE even more important.

It is clear that discourse on PBE, like other progressive educational approaches such as contemporary EE, forces thinking about the true aims of education in contemporary western societies: "are schools a tool for producing workers and consumers, or should schools be a vehicle for nurturing democracy and community?" (Sugg, 2013, p. 56). The chapters in section two of this book take a deeper look into this critical question for education.

'Forest School' Education is a distinct form of OE that evolved from place-based education in Europe in the mid-twentieth century[1] as a grassroot educational movement to address increasing frustration concerning the children–nature disconnect and increasing awareness of the importance of outdoor experiences to the healthy development of young children and their individual and social wellbeing (Davis, 2009; Tuuling, Õun and Ugaste, 2018). It was originally developed for pre-school education and more recently is expanding to include elementary school-level children. Forest school employs the outdoors as the curriculum and not just a place; the outdoors is viewed as a flexible learning environment providing diverse possibilities for experiential learning (O'Brien, 2009). In this constructivist approach, children make meaning through interaction with the environment and with each other. The Forest school approach is based on several principles, including: (1) learning in the natural environment is regular and repeated as opposed to sporadic encounters which characterize much outdoor learning; (2) Children have the freedom to select their activities according to their interests, and are encouraged to play and explore using resources from the natural surroundings to support their development as independent and creative learners; (3) Suitable risk-taking is viewed as part of the learning process to develop the children's' confidence, self-esteem, and resilience (Forest School Association, 2020; Knight, 2009).

[1] The 'forest school' movement emerged originally in Scandinavia in the context of early childhood education, expanded to the United Kingdom in the 1990's and is expanding worldwide.

In addition to learning about the environment, forest school education, especially with young children, cultivates the many cognitive, affective, physical, and social attributes that are crucial developing as environmentally sensitive and engaged individuals.

Contemplative Pedagogy is an educational pedagogy based on contemplative practices that developed in Western and East-Asian traditions (Ergas, 2015) that is gaining interest in public education, including EE discourse in (Pulkki et al., 2017). This new direction reflects increasing critique regarding western-oriented curricula that emphasize acquisition of external knowledge about the world (i.e., focus on "out there" information) and rarely look at the "in me" processes and feelings, and seeks to shift emphasis to focusing on oneself, gaining access to oneself, and cultivating a consciousness of oneself in relation to the world (Ergas, 2015). In the context of EE, the focus on "out there" and lack of attention to "in me" runs the risk of leading to a state-of-mind of detachment; alienation of the individual from oneself extends to alienation from one's environment, a key factor in environmental degradation (see above. 2.3.1). By cultivating awareness and mindfulness of the body and its senses (the 'lived-body'), contemplative pedagogy can contribute to nurturing the capacity for intrinsic valuation – concern for the well-being of non-human organisms and nature necessary for caring about the environment (Pulkki et al., 2017) and may contribute to overcoming current alienation of people from their environment.

Individuals are challenged by the conflict between non-materialistic values associated with EE (e.g., modesty, compassion, sensitivity, care) and the materialistic realities and fast living that characterize modern western lifestyles (e.g., consumerism culture, fast-food, rapidly changing trends). Contemplative practices, through cultivating and strengthening the individual's spirituality and inner well-being and providing a source of meaning and purpose for life, offer an alternative to materialism as a source of contentment and purpose, and therefore, offer a means to bridge the well documented behavioral gap related to environmentally responsible behavior.

While not specifically identified with OE, contemplative pedagogy ties into OEE. Proponents of this area claim that parallel to enabling multi-sensory experiences of children and youth in nature, it is necessary to cultivate their ability to "calm down, to focus, to clear their consciousness, to compassionately notice and care" (Pulkki et al., 2017, p. 3) so that the experience in nature is realized to its full potential. Moreover, the outdoors, especially nature in all its richness, offers diverse places in which to practice contemplative exercises.

Additional Areas Relevant to OEE

Additional pedagogies are increasingly recognized for their contribution to effective EE. One of these is **Citizen Science**, which connects among science education and environmental education. It provides opportunities for the general public to work with scientists and engage in addressing environmental-social issues relevant to their local community. Since monitoring and data collection activities focus on local environmental issues, much of citizen science occurs outdoors. From an EE perspective, public participation in such inquiry-based actions is increasingly acknowledged as a means to cultivate the public's consciousness of sustainability issues and environmental citizenship (Bonney et al., 2014; Peter et al., 2019; Wals et al., 2014).

It is well accepted that social and emotional skills are required for facing the challenges of unsustainable human actions (Olsson, 2022). Students, as future citizens need to acquire knowledge while examining their attitudes and skills necessary to manage their emotions. This includes dealing with uncertainty, problem solving, developing empathy and compassion for others, maintaining positive relationships, and making responsible decisions (Omasta et al., 2021; Pinchumphonsang & Chanchalor, 2020). **Social Emotional Learning** (SEL) is an educational method that aims to foster social and emotional skills as part of students' learning and the school curricula (Neth et al., 2020). The aim of ESD to transform "[…] the way we think and act" (UNESCO, 2017, 1) through cognitive, socio-emotional and behavioral learning, is adequately in line with the aims of SEL. Therefore, using SEL as part of EE programs, including OEEPs, is beneficial.

2.4 OEE in the Contemporary World

2.4.1 OEE and Environmental Citizenship

The significant environmental-social challenges facing humanity in the twenty-first century are influencing the essence of citizenship; environmental issues are increasingly framed in terms of citizenship (Cao, 2015). An effective 'Environmental citizenship' (EC) is crucial for addressing global and local environmental issues and promoting societies empowered to adopt sustainable ways-of-living, sustainable businesses, technologies, and economies and to promote sustainable policy towards achieving SDGs (Cao, 2015; Capra & Luigi Luisi, 2014; Dobson, 2007; Hadjichambis & Reis, 2020; UNESCO, 2015). A recent definition of EC put forth by The European Network for Environmental Citizenship states

> …Environmental citizenship includes the exercise of environmental rights and duties as well as the identification of the underlying structural causes of environmental degradation and environmental problems, the development of the willingness and the competences for critical and active engagement and civic participation to address those structural causes,

acting individually and collectively within democratic means and taking into account inter- and intra-generational justice (ENEC, 2018).

This presents significant challenges for EE: how to equip individuals with the propensity to seek, and the ability to identify, the underlying structural causes embodied in modern society's social-cultural, economic, and political foundations? How to encourage and cultivate critical thinking concerning these structural causes? How to create the mindset that as citizens we have not only rights but also responsibilities? How to motivate the propensity for civic engagement? How to stimulate individuals of a neoliberal era, that values the individual over the collective, to look beyond self-interest and consider the welfare of society-at-large? How to reconnect people to nature in a world in which technology masks humanity's basic dependence on natural resources and has replaced people's connection to the natural world?

OEE is an instructional strategy conducive to facilitating the cultivation of these qualities in individuals, as elaborated above (Sect. 2.3.2). Experiencing environmental issues in their authentic settings allows learners to better understand the components (physical, social-cultural, economic, institutional-political) that comprise the issues and the interactions among them. Directly experiencing how factors related to the different stakeholders of an issue play out in-situ contributes to exposing the underlying structural causes. The physical, emotional, and social interactions that occur when learning takes place in authentic situations positively effect different dimensions of learning – cognitive and emotional. When students learn in the outdoors, they gain better understanding of the interactions that tie humans to their environment (and to other people) and appreciation for the natural world. David Orr (1992) views EE as education that prepares people to live well in a place without destroying it. The basic step toward achieving this is learning in that place itself.

2.4.2 Ongoing Challenges for OEE

This chapter closes by outlining practical challenges confronting teaching and learning EE in the outdoors and, more broadly, integrating outdoor learning in the school curriculum, since challenges confronting OEE often stem from issues related to outdoor learning in general.

Environmental issues play out in the real world that comprises the learners' lives, thus, for EE to be meaningful, it best be conducted in its authentic settings. From its emergence, learning 'in' the environment is inherent to achieving EE goals, but in reality, this presents immense challenges; thus, in practice, much EE is conducted in the classroom, is knowledge-oriented (learning 'about' the environment) and does not employ the outdoors as a powerful learning environment and teaching-learning resource. Several related factors underly this situation, some of these originate in the teachers, some in the students and some reflect logistic-institutional factors. These have been extensively addressed in the literature (e.g., Rickinson

et al., 2004), therefore we briefly sketch them organized around the actors (teachers and students) and logistic factors.

Actors – While the outdoors and natural environment provide powerful opportunities for meaningful learning combining minds-on (head), hands-on activities (hands) and emotional engagement (heart), this requires suitable preparation of teachers to fully realize these benefits. Although teachers acknowledge the importance of outdoor learning, research indicates a 'philosophy-reality gap' reflecting several barriers. Teachers report feeling intimidated by and hindered to teaching outdoors (Fielle & Nettles, 2017; Tuuling, Pun and Ugaste, 2018; van Dijk-Wesselius et al., 2020). Pre- and in-service professional development needs to develop teachers' competences in designing and executing outdoor teaching and cultivate a 'mindset' regarding the outdoors as a legitimate learning environment.

A challenge is shifting teachers' perception regarding their role in the teaching-learning process. Contemporary learner-oriented, constructivist approaches, including EE, OE and the pedagogies addressed in this chapter, identify the role of the teacher as a facilitator of a 'dialogue' between the student and the object of study. If challenging when teaching in the classroom, it is all-the-more difficult outdoors, since outdoor learning is student-oriented and experiential by nature, and the students have an active role in the learning process guiding their own learning. This presents a conflict for teachers who maintain conventional, instrumental teacher-oriented perspectives by which they are in control and learning is largely via teacher-directed classes. Teachers also voice a sense of need to organize and manage the students in the outdoors (McClintic & Petty, 2015; van Dijk-Wesselius et al., 2020).

A crucial aspect requiring sufficient preparation is developing the educators' pedagogical content knowledge (practical skills, didactical confidence, and expertise) for conducting learning activities out of the classroom. Low confidence in outdoor teaching expertise is indicated by teachers (Rickinson et al., 2004; van Dijk-Wesselius et al., 2020).

Another challenge is that the outdoors is largely associated, by students (Orion & Hofstein, 1994) and teachers (McClintic & Petty, 2015), with leisure activities and free time and not with learning, while the indoor classroom is viewed as the main site for learning. Additionally, for many students as well as teachers, the outdoors, in the context of learning, presents a 'novelty space' in three aspects: geographical (lack of familiarity with the physical environment in which learning is taking place), cognitive (preparation regarding the relevant content and skills) and psychological (gap regarding learning expectations from the outdoor learning experience) (Orion & Hofstein, 1994). This implies the need for careful planning addressing pre-outdoor, outdoor, and post-outdoor work, including suitable preparation of the students towards the outdoor component so that its educational value is achieved. It is often necessary to facilitate teachers to overcome their own perception of the outdoors as 'novelty space'.

The psychological aspect may also include the various manifestations of modern society's disconnect from nature, relevant for students and teachers. Teachers also need to be prepared to cope with student-related factors concerning outdoor learning, such as possible age difference in enthusiasm, resistance to learning in less

conservative frameworks, fears and phobias of nature, and diversity in learning styles as well as cultural diversity and students with special needs (Rickinson et al., 2004).

Another challenge is the importance of helping teachers develop a 'mindset' regarding the rationale and reason for learning outdoors and acknowledging it as 'real' teaching (Skamp & Bergmann, 2001). This is especially relevant in the context of EE. In view of the numerous practical challenges of teaching-learning outdoors, it needs to be the teachers state-of-mind not only that the outdoors provides pedagogical opportunities for learning, at large, but also that it is the most powerful and valuable learning environment for meaningful EE.

Logistic factors- Compounding these issues, OEE is confronted by various logistic and institutional barriers, as reflected by many teachers. Preference is commonly given to safety and health-related considerations and factors such as curriculum prerequisites, time and resource shortage, and teacher overload (e.g., Edward-Jones et al., 2018; Rickinson et al., 2004; Skamp & Bergmann, 2001).

These problems reflect a broader fundamental issue that outdoor learning, like many progressive educational movements, is still not recognized by many educational systems as a legitimate type of learning, is still rarely embedded in the curriculum and, consequently, has still not gained formal recognition as a valuable educational tool for EE. This underlying problem is what drives the two major lines of challenges: the logistic barriers to incorporating outdoor learning, and the barriers related to teacher training and preparation which needs to include outdoor learning as a core competence of teachers (van Dijk-Wesselius et al., 2020). Thus, a major challenge for the future of OEE is the mainstreaming of outdoor learning as a crucial type of learning in contemporary societies. Such a shift in educational policy will pave the way for overcoming the challenges downstream.

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