

International Explorations in Outdoor  
and Environmental Education 12

Jan Činčera · Bruce Johnson  
Daphne Goldman · Iris Alkaher  
Michal Medek *Editors*

# Outdoor Environmental Education in the Contemporary World

 Springer

# **International Explorations in Outdoor and Environmental Education**

Volume 12

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Editors


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### *Editors*

Jan Činčera   
Department of Environmental Studies,  
Faculty of Social Studies  
Masaryk University  
Brno, Czech Republic

Bruce Johnson   
College of Education  
University of Arizona  
Tucson, AZ, USA

Daphne Goldman   
Department of Environmental Science and  
Agriculture  
Beit Berl College  
Doar Beit Berl, Israel

Iris Alkahrer   
Center of Environmental  
and Sustainability Education  
Kibbutzim College of Education,  
Technology and the Arts  
Tel-Aviv, Israel

Michal Medek   
Department of Environmental Studies,  
Faculty of Social Studies  
Masaryk University  
Brno, Czech Republic

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# Series Editors' Foreword

A mantra for environmental education from the 1970s was that it was education *about* the environment, *in* the environment, and *for* the environment. As Annette Greenall (now Gough) (1978, p. 9) argued,

The most effective place for teaching about the environment is in the environment. Experiences in the environment give the best basis for developing awareness of the inter-relationships between man [sic] and his [sic] environment, concern for the general quality of life, and a commitment to the principles of environmental conservation.

An American Geological Institute poster from around this time proclaimed, “THE REAL CLASSROOM IS OUTSIDE *get into it*” (in Greenall, 1978, p. 10). The distinguishing characteristic of environmental education was that it educated *for* the environment, whereas outdoor education was seen as being more focused on adventure activities *in* the environment. Although outdoor and environmental education were seen as having different goals, and were sometimes in tension, their respective goals did overlap in a number of aspects. For example, Andrew Brookes (1989, p. 15), distinguished outdoor education from other educational pursuits, including environmental education, by “its physical and conceptual isolation from schooling. Conceptual isolation provides the opportunity to construct powerfully affective forms of de-schooled environmental education”.

In the early part of this century, the field of “Outdoor Environmental Education” (OEE) emerged simultaneously, and perhaps independently, in many different countries, and this was reflected in academic journals (see, for example, Harrison, 2010; Stewart, 2008; Thomas, 2005). More recently, volumes in this series have discussed this field (Stewart, 2020; Thomas et al., 2021; Jukes, in press), and this edited collection is a timely and important contribution to the growing acceptance of the term which signals a significant shift away from an outdoor education that is focused chiefly on adventure and personal/group development, although there is no consensus. For example, Daphne Goldman and Iris Alkahr (in Chap. 2) discuss the history of outdoor education and environmental education as separate fields and argue for OEE as a “contemporary form of environmental education in which the outdoors provides a setting conducive for meaningful teaching and learning in environmental

education”, though others in this volume have different interpretations. For example, Michael Paulsen (in Chap. 6) criticises mainstream ideas about OEE, particularly “the unquestioned sharp distinctions between culture/nature and indoors/outdoors”, and discusses two different understandings of OEE that go beyond the conventional distinction between in/out.

Outdoor and environmental education – both as separate disciplines and as OEE – have long suffered from being marginalised in policy and funding discussions. In Chap. 1, Jan Činčera recounts his meeting with an influential politician who questioned why environmental education centres should be supported from public sources, and why the teaching of subjects situated *outside* of the formal education structure should be supported. These are not new questions. It seems that outdoor and environmental educators have always had to argue for the importance of outdoor experiences as part of formal education. School science educators have also long had to fight hard to be able to take students out of the classroom to undertake ecological and other biological field studies. This situation has been exacerbated by costs (for buses, camps, equipment, etc.), and because of safety concerns (as discussed by Brookes (2018) in another volume in this series), teacher workload issues, disruptions to the school timetable, and competition for space in an overcrowded curriculum, where every moment is seen as needing to be in the classroom for learning to happen. More recently, following the COVID-19 pandemic school lockdowns and the associated switch to online learning precluding outdoor experiences, teachers now seeking to leave the classroom are finding it increasingly difficult to organise. As a result, there is a shift towards accepting that the sharp division between society and nature is artificial, and accepting a view of OEE as encompassing the outdoor, indoor, and virtual dimensions of our being-in-the-world. This may not satisfy those who subscribe to Richard Louv’s (2008) notion that children are developing nature deficit disorder, but it does take into account children’s immersions in virtual worlds.

It is difficult to speak of OEE in universal terms, and the diversity of practices and foci that can comfortably co-exist in this field are exemplified in this volume. In Chap. 20, Jan Činčera discusses this range of practices as spanning from being a tool for nature protection to being more concerned with moving society towards sustainability (see Table 20.1). Chapter authors in this latter group argue that

OEE should be a transformative force challenging contemporary society and providing a more meaningful alternative based on non-anthropocentric, non-dualistic, and wild-oriented approaches. Profound social transformation is needed to remedy the human–nature relationship; such a process calls for transformative learning that is not compatible with the current dysfunctional educational system.

This broader vision is related to Sustainable Development Goal 4’s focus on quality education, and particularly Target 4.7:

By 2030, ensure that all learners acquire the knowledge and skills needed to promote sustainable development, including, among others, through education for sustainable development and sustainable lifestyles, human rights, gender equality, promotion of a culture of peace and non-violence, global citizenship and appreciation of cultural diversity and of culture’s contribution to sustainable development. (United Nations, 2015)

The more recent UNESCO initiative, *Reimagining our futures together: A new social contract for education*, the 2021 report from the International Commission on the Futures of Education, is probably even more related. This report recognises the need for transformation of the education system and argues that “Teaching should be further professionalized as a collaborative endeavour where teachers are recognized for their work as knowledge producers and key figures in educational and social transformation” (p. 4).

This volume presents the voices of scholars that span a range of cultural, geographical, and political contexts and draws on a great wealth of experience across a diversity of practices. It is this diversity that makes this volume attractive. While some chapters discuss programs and concepts that will be familiar from other writings – such as Bruce Johnson’s focus on Earth Education, Karen Malone’s discussion of childhood nature, and Bob Jickling, Marcus Morse and Sean Blenkinsop’s discussion of wild pedagogies, and Paul Bocko, Simon Jorgensen, and Aziza Malik’s discussion of place-based pedagogies, in Part II. The case studies in Part III describe projects that may not be so familiar to readers, but whose narratives have the potential to create the space for readers to negotiate and reflect deeply on the nexus between theory and practice.

It is increasingly being recognised, as the UNESCO Future of Education website asserts, that “With accelerated climate change the fragility of our planet is becoming more and more apparent” (<https://en.unesco.org/futuresofeducation/initiative>). Such recognition makes the need for outdoor environmental education in formal education more urgent. The arguments presented in this book provide a sound base for engaging in making the dream a reality.

RMIT University  
Melbourne, VIC, Australia

Annette Gough

La Trobe University  
Melbourne, VIC, Australia

Noel Gough

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# Contributors

**Iris Alkajer** Center of Environmental and Sustainability Education, Kibbutzim College of Education, Technology and the Arts, Tel-Aviv, Israel

**Nirit Assaf** Center of Environmental and Sustainability Education, Kibbutzim College of Education, Technology and the Arts, Tel-Aviv, Israel

**Rosemary Aviste** The Pennsylvania State University, State College, PA, USA

**Nélida Barajas-Acosta** CEDO Intercultural Center for the Study of Deserts and Oceans (CEDO), Puerto Peñasco, Sonora, Mexico

**Robert D. Bixler** Clemson University, Emeritus Faculty, Clemson, SC, USA

**Sean Blenkinsop** Simon Fraser University, Burnaby, BC, Canada

**Paul Bocko** Antioch University New England, Keene, NH, USA

**Jelle Boeve-de Pauw** University of Antwerp, Antwerp, Belgium  
Utrecht University, Utrecht, The Netherlands

**Yun-Hsuan Chiu** Friendly Seed, Taipei City, Taiwan

**Jan Činčera** Masaryk University, Brno, Czech Republic

**Debra Colodner** Arizona-Sonora Desert Museum, Tucson, AZ, USA

**Jon Cree** Forest School Association, Institute for Outdoor Learning, Warwick Mill Business Centre, Cumbria, UK

The Institute for Earth Education, Greenville, WV, USA

**Christine Flanagan** CEDO Intercultural Center for the Study of Deserts and Oceans (CEDO), Puerto Peñasco, Sonora, Mexico

**Dafna Gan** Center of Environmental and Sustainability Education, Kibbutzim College of Education, Technology and the Arts, Tel-Aviv, Israel

**Daphne Goldman** Beit Berl College, Kfar Saba, Israel

**Naama Gur-Lavie** Center of Environmental and Sustainability Education, Kibbutzim College of Education, Technology and the Arts, Tel-Aviv, Israel

**Sofie Heyman** University of Antwerp, Antwerp, Belgium

**J. Joy James** Appalachian State University, Boone, NC, USA

**Toon Jansen** University of Antwerp, Antwerp, Belgium

**Bob Jickling** Lakehead University, Thunder Bay, ON, Canada

**Bruce Johnson** University of Arizona, Tucson, AZ, USA

The Institute for Earth Education, Greenville, WV, USA

**Simon Jorgenson** University of Vermont, Burlington, VT, USA

**Hans Keune** University of Antwerp, Antwerp, Belgium

**Michael L. Lengieza** Durham University, Durham, UK

**Naama Lev** Center of Environmental and Sustainability Education, Kibbutzim College of Education, Technology and the Arts, Tel-Aviv, Israel

**Jodi MacQuarrie** Maple Ridge Environmental School, Maple Ridge, BC, Canada

**Clayton Maitland** Maple Ridge Environmental School, Maple Ridge, BC, Canada

**Aziza Malik** Champlain Elementary School, Burlington, VT, USA

**Karen Malone** Swinburne University of Technology, Melbourne, VIC, Australia

**John McKillop (retired)** Halton District School Board, Burlington, ON, Canada

**Michal Medek** Masaryk University, Brno, Czech Republic

Czech Institute for Heritage Interpretation, Tišnov, Czech Republic

**Nele Michels** University of Antwerp, Antwerp, Belgium

**Marcus Morse** University of Tasmania, Hobart, TAS, Australia

**Michael Paulsen** University of Southern Denmark, Odense, Denmark

**Peter Van Petegem** University of Antwerp, Antwerp, Belgium

**Angeles Y. Sánchez-Cruz** CEDO Intercultural Center for the Study of Deserts and Oceans (CEDO), Puerto Peñasco, Sonora, Mexico

**Wanda Sass** University of Antwerp, Antwerp, Belgium

**Janet K. Swim** The Pennsylvania State University, State College, PA, USA

**Peggy Turk-Boyer** CEDO Intercultural Center for the Study of Deserts and Oceans (CEDO), Puerto Peñasco, Sonora, Mexico

**Paloma A. Valdivia-Jiménez** CEDO Intercultural Center for the Study of Deserts and Oceans (CEDO), Puerto Peñasco, Sonora, Mexico

# Chapter 1

## Introduction



Jan Činčera 

*Sometimes, interesting coincidences happen. When I was working on this book, I got a call. My friend from the Ministry of the Environment invited me to a policy meeting. An influential politician opened the meeting with the question of why we should support environmental education centers from public sources. Isn't it redundant, given that we have a strong network of well-functioning public schools? Why should we support teaching of subjects situated outside of the formal education structure?*

*In the Czech Republic, we have a long tradition of outdoor environmental education (OEE). Nevertheless, should this tradition be the main reason for providing continuous support? There must be other reasons as well.*

*When we started putting together this book, we felt that we need to examine the challenges for environmental education, and its branch, OEE in particular, in the dynamic twenty-first century. Meanwhile, global pandemic and a landgrab war shaking international stability and cooperation happened, adding more urgency to our efforts.*

*From our perspective, we have prepared a publication on the value of OEE and why it should be supported. Perhaps, we have also prepared a book on what needs to be discussed in our field so that we have more persuasive answers to the policy-makers like the one I mentioned. The text provides case studies reflecting how OEE succeeds, transforms, or fails.*

*We started as a team representing three countries: the Czech Republic, Israel, and the United States. Soon, seven other countries came onboard: Australia, Belgium, Canada, Denmark, Mexico, the United Kingdom, and Taiwan. The authors*

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J. Činčera (✉)

Faculty of Social Studies, Department of Environmental Studies, Masaryk University,  
Brno, Czech Republic

e-mail: [cincera@mail.muni.cz](mailto:cincera@mail.muni.cz)

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*live in different parts of the world, which have different traditions and conditions for OEE. However, the questions we have to deal with seem to be shared. How should OEE evolve to meet the needs of this new post-COVID-19 world? How can it learn from its tradition about what to keep and what to change? Together, we try to find at least some answers and stimulate thinking around ongoing questions.*

Reconnecting children and young adults to nature is a recurring theme of EE. Many authors emphasize the diminishing opportunities for children to experience nature and the importance of connecting to nature in learning to respect and care for the environment (Chawla, 2020; Harvey et al., 2020; Louv, 2008; Sobel, 2017; Gill, 2014).

The centrality of outdoor experiences in developing the cognitive, affective, and behavioral components that enable and motivate people to care for the environment has been repeatedly stressed (Chawla, 2020; Palmer et al., 1998; Ward Thompson et al., 2008). A large body of research supports the importance of educational programs that provide young students with the opportunity to experience outdoor settings. More and more frequently, outdoor environmental education programs (OEEPs) are being used in EE and offered in natural areas and open spaces around the world.

The benefits of OEEPs have been reported in numerous studies. According to these studies, OEEPs can have a positive effect on the students' connection to nature (Andrejewski, 2011; Frantz & Mayer, 2014; Braun & Dierkes, 2017; Mullenbach et al., 2019), concern for the environment (Chawla, 2020; Palmer et al., 1998; Stern et al., 2008), sense of place (Austin et al., 2009), and attitudes toward nature and wildlife (Dettmann-Easler & Pease, 1999; Smith-Sebasto & Cavern, 2006). In addition, residential OEEPs are likely to develop students' interpersonal skills, self-concept, self-confidence, and locus of control (Neill & Richards, 1998).

The pandemic situation in 2020–2021 and consequent lockdown in many countries all over the world have reignited the question of the future of OEE. Many programs were cancelled and a massive shift to online education was needed. Basic assumptions had to be questioned and OEE had to adjust to the contemporary situation. Rethinking the future possibilities within the OEE field has become unavoidable (Quay et al., 2020). In light of this, OEE must re-interpret both its current practices and its theoretical foundations to find ways to meet the challenges of the changing world. This book tries to fill this—still mostly unexplored—lacunae by providing insights from OEE scholars and practitioners.

In this edited volume, we explore some of these fundamental questions. What is the role of OEE in the contemporary society? The book analyzes, from theoretical and empirical perspectives, why OEE is important for developing students' environmental citizenship competences. It discusses the various approaches that exist in the field and identifies some of the opportunities and challenges of OEE, particularly in this time of growing digitalization and the accompanying distancing between people and nature. This is done by offering both cross-cutting overviews of the field and concrete case studies presenting particular approaches and programs. We invited a collection of international experts to meet diverse aspects of the theory and practice

of OEE as well as tried to reach a diversity of approaches and geographical perspectives.

The book is organized into three sections. The first section, “Outdoor Environmental Education in the Contemporary World” looks at OEE through the educational lens, critically exploring the different aspects related to OEE’s contributions to education. Within this frame, the section explores OEE as a means for enabling meaningful environmental and sustainability education (ESE). OEE’s cognitive, affective, physical, social, and behavioral educational benefits are considered both theoretically and based on insights gained from a growing number of research studies. Progressive educational pedagogies such as OEE have theoretical and practical implications for a variety of stakeholders, including policymakers and for multiple aspects related to the teaching–learning–evaluating process. Overall, as an opening for the following sections, this section aims to provide a critical view of OEE both as a current form of ESE and as a progressive form of teaching–learning.

In Chap. 2, Daphne Goldman and Iris Alkaber summarize the development of outdoor education (OE) and environmental education (EE) as initially distinctive but closely related educational movements. They discuss several social–environmental factors and educational theories laying the grounds for linking OE and EE. Moreover, the authors argue that the features of OEE contribute to its promise as progressive, transformative education for cultivating environmental citizenship.

In Chap. 3, based on a literature review of recent publications on OEE policy, Dafna Gan, Iris Alkaber, Nirit Assaf, Naama Lev, and Naama Gur-Lavie analyze international policies related to OEE. This chapter discusses the different motives and purposes of policymakers for embedding OEE in educational systems in different countries, such as developing students’ health and well-being. Additionally, the chapter identifies several gaps between the policies and their implementation as well as some of the differences among competing educational policies.

In Chap. 4, Michael L. Lengieza, Rosemary Aviste, and Janet K. Swim link OEE with psychological research. The authors focus on the concept of connectedness to nature. This chapter reviews relevant literature on the psychological understanding of the antecedents of connectedness to nature and points to potential applications of this knowledge in the context of OEE.

Chap. 5 deals with the assumed benefits of outdoor learning which make OEE attractive for teachers. Sofie Heyman, Toon Janssen, Wanda Sass, Nele Michels, Jelle Boeve-de Pauw, Peter Van Petegem, and Hans Keune analyze the effect of the outdoors on students’ health and learning. The authors summarize an extensive body of research, asserting that OEE has positive effects on students’ performance and well-being, including nature connectedness, mental health, stress reduction, and ability to concentrate.

In Chap. 6, Michael Paulsen seeks to explore and envision radical OEE that goes beyond the inside/outside distinction, and he re-situates and re-embeds education as such in the earthly life critical zone. This chapter provides a novel and fascinating perspective on OEE, the deconstruction of the distinction between indoor and

outdoor education, and between the inside and outside, which could profoundly change the theory and the practice of the field.

The second section of this book, “Approaches to Outdoor Environmental Education” compares various pedagogical approaches that exist in the field of OEE. The section provides theoretical explanations and insights gained from practice and empirical study in several pedagogies strongly associated with OEE: Earth education, place-based education, forest schools, wild pedagogies, childhoodnature, environmental interpretation, and environmental socialization. Each chapter includes a vignette of the approach in action.

In Chap. 7, Michal Medek presents an overview of environmental interpretation. The chapter then describes its distinctive methods and their development over time. The text also confronts the thematic approach with voices critical to its mechanical application in the process of program development that might take the participants out of focus.

In Chap. 8, Bruce Johnson describes the development of the Earth education approach. He examines its framework and structure, including a vignette of one program in action, and reviews the research literature. As this approach has been continuously developing for more than 50 years, Johnson also reflects on the changes the approach has experienced to meet the needs of the changing social context.

In Chap. 9, Paul Bocko, Simon Jorgenson, and Aziza Malik explore the place-based education approach that emphasizes linking schools with their communities. The authors provide multiple examples of how this approach is implemented in various settings, and they share the successes and challenges experienced by the practitioners in each setting.

Chap. 10 examines the concept of forest schools that can be considered both self-evident and confusing. In this chapter, John Cree tells the story of forest schools in the United Kingdom. He discusses the effects and the shortcomings of the approach and provides a case study illustrating its practice.

In Chap. 11, J. Joy James and Robert D. Bixler focus on the environmental socialization process. They investigate how people become comfortable in outdoor settings. Based on their research, they discuss the main principles of such a socialization to be implemented in OEE.

In Chap. 12, Bob Jickling, Marcus Morse, and Sean Blenkinsop introduce the relatively new wild pedagogies approach. They discuss its background and its influences, challenges, and considerations. Furthermore, they explore the key theoretical ideas upon which the wild pedagogies approach is based and the key ideas linking its theory with practice. They also include a vignette of practice that highlights how wild pedagogies can provide reimaged relationships within a more-than-human world.

In Chap. 13, Karen Malone introduces a sympoietic approach to outdoor encounters, the concept of childhoodnature. This approach is based on recognizing children as ecologically congruent and learning to live and die together with a host of others on a damaged Earth. The approach is underpinned by

post-human theories and post-anthropocentric pedagogical approaches that invite children, educators, and parents to think deeply about child–outdoor–nature encounters.

The third section of this book, “Outdoor Environmental Education as a Worldwide Phenomenon” presents case studies of selected OEEPs from around the world that deal with different socio-cultural and environmental settings. The selected examples provide a snapshot of OEE practice in the Czech Republic, the United States, Canada, Mexico, and Taiwan, thus offering a global perspective covering several continents.

In Chap. 14, Jan Činčera and Michal Medek describe a case study illustrating how OEE programs can develop students’ understanding of the nature of science, which is so essential in times of disinformation. Additionally, this chapter briefly touches on other topics, such as the application of digital technologies in outdoor programs and the use of the emancipatory approach that provides students with an opportunity to shape the program through their own decisions.

In Chap. 15, Sean Blenkinsop, Jodi MacQuarrie, and Clayton Maitland present a case study of a radical, buildingless, outdoor-all-the-time public elementary school on Canada’s West Coast, the Maple Ridge Environmental School. The question driving this initiative was how to ecologize education and change culture. This chapter starts with a short introduction to the school itself, its founding principles, goals, and continuing educative work. It points out several ongoing challenges and responses to those and a few key learnings and successes.

In Chap. 16, Paloma A. Valdivia-Jiménez, Peggy Turk-Boyer, Nélica Barajas-Acosta, Christine Flanagan, Debra Colodner, and Angeles Y. Sánchez-Cruz share their experience with OEE programs managed by The Intercultural Center for Study of Deserts and Oceans in Mexico’s northern Gulf of California. Their case is a success story of how their outdoor programs have evolved in step with worldwide trends in best practices, diversifying in method, audience, and focus.

Chap. 17 shares a similar story, but with a different ending. In this chapter, John McKillop describes a unique Canadian environmental leadership program for high school students, The Bronte Creek Project (BCP). Unfortunately, after 40 years of enormous success, the program was canceled. The chapter summarizes the reasons for establishing this project as well as for eventually canceling it and discusses the project’s broader context and implications for the OEE field.

In Chap. 18, on the example of a case study from the Republic of China (Taiwan), Yun-Hsuan Chiu describes how OEE may respond to the specific needs of animal protection. The case study provides an essential perspective on an area that represents the roots as well as the future of OEE: addressing peaceful coexistence between human and animal populations.

In Chap. 19, Jan Činčera returns the focus of the book to the Czech Republic. The chapter discusses an example of the Pulchra program that combines the traditions of place-based education, education for environmental citizenship, and inquiry-based learning. Additionally, the chapter deals with issues such as how to run an OEEP in lockdown times, how the outdoor, indoor, and online learning

environments may be merged, and how to find a balance between the emancipatory and teacher-centered approaches.

And finally, what is it all about? In the conclusion: New ways for outdoor environmental education in the post-COVID world. We harvest the themes that have emerged throughout the book. We attempt to answer the question we are often asked, which is the same question we often ask ourselves: What is the place and role of OEE in the twenty-first century?

We wish you an interesting and inspiring read.

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**Part I**  
**Outdoor Environmental Education in the**  
**Contemporary World**

# Chapter 2

## Outdoor Environmental Education: Grounding a Tradition Within Environmental Education



Daphne Goldman  and Iris Alkaber 

### 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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D. Goldman (✉)

Faculty of Education, Department of Environmental Studies and Agriculture,  
Beit Berl College, Kfar Saba, Israel  
e-mail: [dafnag@beitberl.ac.il](mailto:dafnag@beitberl.ac.il)

I. Alkaber

Center of Environmental and Sustainability Education, Kibbutzim College of Education,  
Technology and the Arts, Tel-Aviv, Israel

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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 *for* the environment (preserving the environment). More currently, the definition of OE was expanded to include *through* (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, multiculturalism, 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