



SPRINGER NATURE
Sustainable Development Goals Series

SDG: 4
Quality Education

Margaretha Häggström
Catarina Schmidt *Editors*



Relational and Critical Perspectives on Education for Sustainable Development

Belonging and Sensing in a Vanishing World

 Springer

Sustainable Development Goals Series

The **Sustainable Development Goals Series** is Springer Nature's inaugural cross-imprint book series that addresses and supports the United Nations' seventeen Sustainable Development Goals. The series fosters comprehensive research focused on these global targets and endeavours to address some of society's greatest grand challenges. The SDGs are inherently multidisciplinary, and they bring people working across different fields together and working towards a common goal. In this spirit, the Sustainable Development Goals series is the first at Springer Nature to publish books under both the Springer and Palgrave Macmillan imprints, bringing the strengths of our imprints together.

The Sustainable Development Goals Series is organized into eighteen subseries: one subseries based around each of the seventeen respective Sustainable Development Goals, and an eighteenth subseries, "Connecting the Goals," which serves as a home for volumes addressing multiple goals or studying the SDGs as a whole. Each subseries is guided by an expert Subseries Advisor with years or decades of experience studying and addressing core components of their respective Goal.

The SDG Series has a remit as broad as the SDGs themselves, and contributions are welcome from scientists, academics, policymakers, and researchers working in fields related to any of the seventeen goals. If you are interested in contributing a monograph or curated volume to the series, please contact the Publishers: Zachary Romano [Springer; zachary.romano@springer.com] and Rachael Ballard [Palgrave Macmillan; rachael.ballard@palgrave.com].

Margaretha Häggström
Catarina Schmidt
Editors

Relational and Critical
Perspectives on
Education for
Sustainable
Development

Belonging and Sensing
in a Vanishing World

 Springer

Editors

Margaretha Häggström
Department of Pedagogical, Curricular
and Professional Studies
University of Gothenburg
Gothenburg, Sweden

Catarina Schmidt
School of Education
and Communication
Jönköping University
Jönköping, Sweden

The content of this publication has not been approved by the United Nations and does not reflect the views of the United Nations or its officials or Member States.

Sustainable Development Goals Series

ISSN 2523-3084

ISSN 2523-3092 (electronic)

ISBN 978-3-030-84509-4

ISBN 978-3-030-84510-0 (eBook)

<https://doi.org/10.1007/978-3-030-84510-0>

© The Editor(s) (if applicable) and The Author(s), under exclusive license to Springer Nature Switzerland AG 2022

Color wheel and icons: From <https://www.un.org/sustainabledevelopment/>

Copyright © 2020 United Nations. Used with the permission of the United Nations.

This work is subject to copyright. All rights are solely and exclusively licensed by the Publisher, whether the whole or part of the material is concerned, specifically the rights of translation, reprinting, reuse of illustrations, recitation, broadcasting, reproduction on microfilms or in any other physical way, and transmission or information storage and retrieval, electronic adaptation, computer software, or by similar or dissimilar methodology now known or hereafter developed. The use of general descriptive names, registered names, trademarks, service marks, etc. in this publication does not imply, even in the absence of a specific statement, that such names are exempt from the relevant protective laws and regulations and therefore free for general use.

The publisher, the authors and the editors are safe to assume that the advice and information in this book are believed to be true and accurate at the date of publication. Neither the publisher nor the authors or the editors give a warranty, expressed or implied, with respect to the material contained herein or for any errors or omissions that may have been made. The publisher remains neutral with regard to jurisdictional claims in published maps and institutional affiliations.

This Springer imprint is published by the registered company Springer Nature Switzerland AG
The registered company address is: Gewerbestrasse 11, 6330 Cham, Switzerland

Foreword

How to create a pedagogy of hope when living in a culture of fear? How to regenerate socio-ecological cultures on a dying planet? How to re-imagine the world when our imagination is hijacked by commercialization? How to be attentive and mindful in times of perpetual distraction? How to build trust when distrust and doubt seem intentionally cultivated? How to find common ground in a polarized and divisive world?

These kinds of existential questions represent a huge challenge for humanity, but they are critical if we are to overcome the systemic global dysfunction that amplifies and normalizes disconnect between people, and between people and planet and all the material, immaterial and life of which Earth is made of and upon which it depends.

While many books have been written about ‘what is wrong “in” and “with” the world’ and ‘what is wrong with “us” people’ – often from a somewhat homogenous or singular perspective (as in white, male, ‘Western’ and comfortable) – far fewer books have been written on generative possibilities of breaking with dysfunction and of re-imagining alternatives. This is no surprise since it is often easier to analyse and to critique than it is to disrupt and transform. Nowadays, 50 years after the first major United Nations conference on humans and the environment held in Stockholm in 1972 and after the appearance of the infamous report from the Club of Rome ‘Limits to Growth’, also in 1972, the analysis can be short: the human species finds itself on a trajectory of self-destruction misguided by a range of ‘isms,’ including: reductionism, managerialism, capitalism, sexism, racism, individualism, colonialism, extractivism and species-ism. The main driver of this ill-advised trajectory lies in the commodification of virtually everything – nature, air, land, water, space, our ‘eye-ball attention’ – with the aim of expanding the economy, creating shareholder value and ‘sustaining’ growth.

Even our schools and universities have become an extension of the globalizing economy as the focus increasingly lies on preparing young people for the world of work and developing the competences of so-called twenty-first-century skills that they will need to become flexible, diligent and resilient workers and life-long learners who can survive in a highly competitive world and will generate an income that can be spent, 24/7, on so-called consumer products. This preparation and qualification mode occurs at the expense of certain key qualities that constitute the essence of a meaningful life that does not compromise the subjectification (autonomous development and becoming in the world) of self, of others and of the Earth. Such qualities include, but

by no means are limited to, solidarity, having empathy, an ethic of care and justice, sensing and feeling, belonging and connecting.

As I am writing these words, my mind drifts to the closing of UNESCO's Education for Sustainable Development towards 2030 conference. In the closing session, I was given a few minutes to share my impressions from the 3-day online event in which over 2800 people from more than 160 countries participated. I started by sharing an often-used quote by Greta Thunberg: 'I should be back in school on the other side of the ocean. Yet *you* all come to us young people for hope. How *dare you!* *You* have stolen my dreams and my childhood with your empty words'.

Words matter, language matters, intentions matter. After 3 days of sharing, advocating, to a lesser extent, critiquing and reflecting, a main closing question was: are there any signs in the outcomes of yet another conference on ESD (most notably the Berlin Declaration and the 'roadmap towards 2030') but also in the way presenters and participants speak during sessions, that the words are fuller, the language has become richer, and the intentions are more sincere? I realize that we as academics and scholars who engage in writing articles and anthologies, like this one, should be asking the same question. There has been an avalanche of studies, reports and articles about human-nature interactions, the importance of aesthetics, the need for holistic ways of seeing and being in the world, the socio-critical stance required to question unhealthy patterns, and so on. It is fair to ask: what does this anthology offer, or perhaps open up, that justifies all the effort that went into its creation by so many people?

Fortunately the answer is hopeful as this volume brings together neglected and emerging perspectives on cultures and practices that facilitate belonging and sensing, transgressing, and acting in the face of despair and anguish. Furthermore, the critical artful relationality that is highlighted in many of the chapters troubles binary thinking and a pathological pre-occupation, if not obsession, with measurement, management and control, and drawing boundaries and making distinctions that penetrates much of education, research and governance. Instead, as the editors note in their concluding chapter, this volume makes clear that educators, but also researchers, policymakers and citizens, have to embrace the complexity, the sharp edges, the fuzziness and the contradictions which constitute their shared situation. Doing so will allow sustainability to become an emergent property of the relations that are formed between humans, non-humans and all matter for that matter. Doing so will also create spaces for disrupting what keeps us from establishing such relations, and help us question and re-calibrate the moral compass that guides us in reimagining, restor(y)ing and regenerating healthier relationships than the ones people are nudged into at the moment.

Perhaps two movements can be found in the collective work, both essential in moving to a more sustainable world. One movement implies connecting and becoming *in* and *with* inevitable entanglement in multiple worlds that aspire to live to the fullest, while the other one implies disconnecting from the globalizing commodifying grid that leads to a suffocating 'enstranglement'. The latter stands in the way of the former. Disconnecting in order to connect. The disconnecting requires a transgressive movement, a pedagogy of

resistance and space for counter-hegemonic action, while the connecting requires sensing, becoming with and caring. Agency can be viewed then as a relational property of both connecting and disconnecting, while arts-based approaches can open up spaces for both.

Transformation against all odds in a vanishing world seems to be a rather doomy quest for humanity, but there is no point in being in denial, naive or complacent. Rather, as many authors show, the point is that there are vast possibilities for opening up spaces, through arts, drama, lived-experiences, body-time-space-scapes, inquiry-based learning, critical eco-pedagogy, place-based learning, and many others, that, in one way or another, invite transgression and transformation. These niches might be seen as marginal but they pop-up all over the world and together can lead or at least contribute to a growing movement of counter-hegemonic and regenerative practices that ultimately might coalesce into a mindful and meaningful transition, one that is not naive of power imbalances and colonizing forces but rather seeks to resist and counter them.

In the end, this anthology calls for a convergence of the holistic and the critical – in a similar vein as critical eco-pedagogy before but with much more attention to being, existing and learning as a human being on a dying planet that demands both our attention and action. The editors, and I suspect most, if not all, of the contributing authors too, call for, as stated in the closing chapter, a holistic pedagogy that intertwines ‘...belonging, sensing, hoping, critical thinking, social justice and action competence, and the existential stance of creating hope in a vanishing world’. When schools at all levels in all places are given the freedom, space and trust to centre on our entanglement with the world with our full minds and bodies, on our ‘disentanglement’ from suffocating oppressive structures that accelerate unsustainability and destroy lives of all kinds, and, lastly, on experimenting with new practices and creating regenerative cultures that are sensitive to multiple ways of knowing and being in the world, then the odds for a transformation towards a more sustainable world will greatly improve and all these words won’t be empty.

Professor of Transformative Learning for
Socio-Ecological Sustainability/UNESCO Chair
Wageningen University,
Wageningen, The Netherlands
May 28th, 2021

Arjen E. J. Wals

Introduction: A Holistic Perspective on Futures Literacy and Education for Sustainable Development



Fig. 1 Introduction. (Photo Catarina Schmidt)

Introduction

We are facing a challenging and demanding time, which has been declared a climate emergency (CEDAMIA, 2020). A climate emergency (and thus the present state of affairs) is described as ‘a situation in which urgent action is required to reduce or halt climate change and avoid potentially irreversible environmental damage resulting from it’ (Oxford Dictionaries, 2019). The impact of climate change and pollution of water, air and land is affecting human and non-human lives all over the world. Environmental activists and climate scientists have continued, persistently and diligently, the work of bringing evidence-based arguments to the public. Their efforts, unfortunately, do not seem to be convincing enough; they are not relevant or do not get through to people. The sustainability rhetoric may have had its day, and new ways of communicating climate issues are called for. Raising awareness and

discussing environmental issues do not directly result in behavioural change or policy action, as Moser and Dilling (2011) point out. Nor does providing more and improved facts, nor inculcating fear. Communication for social change must, they claim, entail efforts to increase the *motivation* to make a change, and efforts to lower the barriers to realizing it. In line with Moser and Dillon, we argue that people, in a democratic spirit, ought to be actively committed to environmental and/or social issues, making their voices and values heard, and not least to be able to contribute to the making of collective responses. In other words, environmental education needs to reach the hearts of students within various levels of education. Accordingly, the challenge is to acknowledge our emotions, which are responses to an uncertain situation: fear, anger, anxiety, desperation but also hope, optimism, faith, confidence and expectation. Acknowledging these feelings may be a powerful beginning of an essential conversation, which can open up possibilities for new understandings, new actions and new connections between people, and between people and more-than-humans. Actions – or inactions – we take today will make a difference in the future.

Along with the UN's Sustainable Development Goals, and the critical call for action and engagement in making changes to ensure the protection of the planet's resources, we would like to contribute to the discussion about the crucial role that education could play in this. Every goal in the 2030 Agenda requires education to empower students, now and for the future, so that they can live in dignity, build their lives and contribute to their societies. For this to happen, we need a drive for new perspectives on education at different levels, along with coherent approaches to reducing inequalities (Wals, 2015; Orr, 2017; Jickling et al., 2018; Taylor & Pacini-Ketchabaw, 2018). As we have seen, more scientific evidence and information from the environmental movements do not seem to 'do the trick'. So, how then can we encourage people in general, and young students in particular, to be interested, engaged and care about the environment, the more-than-human-world and biodiversity? Here, we chose to widen our horizons and learn from colleagues who discuss these topics from somewhat different angles and who dig deep into artistic, philosophical and psychological perspectives, in addition to pedagogical and didactic viewpoints. By doing so, we want to learn from people who are concerned, dedicated and critical regarding the climate and environmental rhetoric in relation to education. They are not only critical and concerned, but also enthusiastic, energetic, passionate and hopeful. That is what we would like to bring into schools, to transform the core of education into, and to inspire young students to be. We claim that such aspects of education must be based on a holistic pedagogy.

Holistic Pedagogy and Art-Based Environmental Education

In the work of major educational theorists like Comenius, Rousseau, Pestalozzi, Key, Dewey and Freire, the idea of tying knowledge and learning together with the learner's own experiences has been repeatedly stressed.

From such a point of view, education is not about passive assimilation of facts, but about challenging the mind, so that students can start to act, feel and think in a complex world. Such a transformation, as a consequence of education, relates to qualitative aspects of teaching and learning, where dialogue and active participation (Alexander, 2008) are in focus, which leads to learners integrating the actual learning with themselves as human beings. Holistic pedagogy, or holistic learning theory, hence aims at developing the intellectual, emotional, social and physical aspects of learning, in which identity and meaning-making are enhanced through an individual's connections to the local community as well as to the natural world (Comber, 2016; Mahmoudi et al., 2012). In higher education, holistic pedagogy is often referred to as deep learning (Bentz, 1992; Miller, 1999; Grauerholz, 2001), in which dialogue and active participation are closely connected to content, in terms of a place. Although there are several pedagogical approaches to engaging in the topics of sustainability, climate change and other environmental concerns, few are based on the use of explicit learning theories to explain the connection between learning processes and education for sustainability. Reasons for that can be the complexity of teaching and learning, or the neglect of complexity in favour of reductionist and so-called effective learning strategies and subject-focused education, with little flexibility regarding the use of cross-curricular activities rather than isolated instruction and learning. This complexity may also be elusive and hard to describe, and very often, when publishing academic articles, scholars are asked not to include too many perspectives or too many concepts, which in turn makes it very difficult to describe complicated learning processes and the complexity of teaching. Nevertheless, a holistic perspective on pedagogy and learning processes in relation to environmental education needs to include several concepts, angles and theoretical points of departure (Häggeström & Schmidt, 2020; Häggeström & Djurstedt, 2020). We believe that affective learning theory could serve as an overarching theoretical lens since it per se starts from a holistic point of view.

Affective learning theories emphasize the importance of sensory experience and emotional connection with nature (Cobb, 1977; Gurewitz, 2000). One assumption regarding environmental and sustainability concerns is that the learner's actions are underpinned by emotional values. Aesthetic qualities of natural environments are emphasized in both Cobb's and Gurewitz's texts, as are relational and critical perspectives on education. Relationships with natural environments involve both emotions and reason, Gurewitz argues. It is essential to let students develop emotional connections with nature before approaching environmental and ecological problems. Artistic pedagogical approaches are often described as ways to facilitate affective learning, for both their communicative aspects, and for their ability to evoke emotions, as well for their provocative attitude (Curtis, Reid & Ballard, 2012). Art-based environmental education has similar objectives (Mantere, 1992; van Boeckel, 2013; Häggeström, 2017). A foundation for art-based environmental education is that art-based activities support sensitivity to the environment; it aims at encouraging students to open up and to be more receptive, and thus to develop the ability to persist and to feel hope and confidence, despite a changing,

turbulent and troubled world. Place-based collaborative experiences are essential in this pedagogical approach, as are critical thinking and self-reflection. In his thesis, Jan van Boeckel (2013) explores the impact of art-based environmental education, and whether such education really reaches the students' hearts and minds, and thereby helps them to understand ecological relationships. And if it does, could we say that this leads to a change of attitude or even a change of behaviour? According to van Boeckel, artists and art can open doors and invite the unfamiliar, unknown and unforeseen, as opposed to starting environmental education from a science-informed perspective. Through art-based environmental education, 'the existential boundary between the self and the world may start to blur' (van Boeckel, 2013). Such fusion of object and subject, or rather of the human and the more-than-human-world, occurs in all meaningful artistic work and experience, Pallasmaa (2009) claims. Studies have shown that embodied learning through art can help students in moving from one-sided, cognition-centred and sometimes narrow-minded conceptions to a sense of wonderment, recognition and awareness (van Boeckel, 2013; Häggström, 2020). In these studies, the students have been given the opportunity to move beyond learning *about* nature to learning *with* and *through* nature, as Lipsett (2009) puts it. This is also described as inside-out learning, as opposed to a traditional teaching situation, which intends to reach an individual's inside by means of outside information and stimuli. In addition, the teaching and learning events in these studies were designed to encourage students to explore and to find their own solutions.

A Need for Change in Thought Patterns and Education

The terms of Education *for* the Environment and Education *for* Sustainable Development have long been criticized (e.g. Wals & van der Leij, 1997; Payne, 1997; Jickling & Spork, 1998). Bob Jickling (Jickling & Wals, 2012) contends that education *for* any reason is not proper education, which should strive to prepare students to create new ideas, not follow a doctrine. He argues that as long as we don't have solutions to sustainability, we should encourage students to create them. One concern amongst scholars was that environmental 'slogans', such as 'strive for betterment' or 'incorporate green responsibility', have had an impact that limited educators' possible understandings of what such educational approaches could entail. Ideas of 'sustainability' and the 'greening' of various practices have impoverished the concept of sustainability, which has led to 'green washing' and a kind of 'feel-good sustainability', Wals (Jickling & Wals, 2012) claims. This has unfortunately, as Jickling and Spork (1998) anticipated, encouraged non-educative activities. The criticism started an ongoing discussion, which has led to a lively and creative discourse (ref). One recurring issue relates to the anthropocentric nature of the concepts. Gough's (1987) hope that we may one day live in harmony and 'live to learn with environments' (p. 50) has evidently not yet come true. Today, as part of the discourse of education in the time of the *Anthropocene*, i.e. our current epoch, in which humanity has been

acknowledged as a geological force (Crutzen & Stoermer, 2000), it is stated that the modern western way of living cannot continue (Head, 2016). This applies to a change in lifestyle as well as a remaking of education. This will be demanding and strenuous emotionally, as well as intellectually and practically. Jickling and Sterling (2017xiii) say: ‘the task at hand is not to add new bits to the curriculum, or to invent new adjective-driven education, but rather to frame a “vision for education” aligned to our extraordinary times’.

There is no doubt that there is a need for change, both in people’s lifestyle in western society and in environmental education. But, to paraphrase Einstein, we cannot solve our problems with the same mindset that created them; we need new ideas, new approaches and new methods. For that, we need a future-oriented focus, including social, scientific, psychological, philosophical, aesthetic and ethical aspects, but as far as education is concerned, we need a pedagogical perspective.

Learning for New Environmental Vision

Theories of futures literacies, as a pedagogical framework, can support such an approach. With the aim of contributing to the formation of the epistemologies of futures literacies, based on the assumption that education is transformative and entails critical thinking, we have previously developed a rough draft of a plan to incorporate futures literacies as a key aspect of a holistic view on environmental education (Hägström & Schmidt, 2021). In addition to the outcome from *Global Futures Literacy Design Forum*, hosted in December 2019 by UNESCO in Paris, which highlights the ability to imagine and anticipate, we suggest that fantasizing is one of the driving forces for developing futures literacy. Fantasizing will also be the driving force behind overcoming crises, combating climate change, and development actions in the field of sustainability. One important aspect of sustainability within education is emphasizing sense-making capabilities, i.e. the ability to discover, create and construct the surrounding world. Participating in practices that support meaning-making means creating meanings from a broad variety of resources, forms of expression and cultural performances. Powerful resources that are highlighted in this anthology are communication and art.

This anthology offers various perspectives relating to different geographic areas, as well as different philosophical positions and pedagogical viewpoints. The chapters also provide challenging and perhaps provoking thoughts and approaches rather than guidance on ‘how to’ teach about sustainability. Worldwide, efforts are proceeding to develop and transform education in the field of sustainable development, to meet the demands of the globalized cultures and international policies of the twenty-first century. Educators prepare young students to counter the challenges and opportunities of globalization and mobility. They prepare the students for the difficulties of environmental and social issues, and an insecure future. Simultaneously, they have to be involved with these entangled processes themselves. There is no quick fix for this, and no easy short cut for teachers to take, which is why a guiding formula would fall flat. In many countries, educational policies are influenced by

globalized values and principles, which have led to new curricula. This places demands on today's pedagogy and new requirements on both educators and learners of tomorrow. Consequently, educators need new input, new influences and new perspectives that have the potential to push education to unexplored territories. These may be grounded in ancient traditions, present research or futures literacy, as well as in art and aesthetic work and visions, in proven or undiscovered pedagogy and didactics or be based on philosophical thoughts and considerations. As editors of this anthology as well as teacher educators, we suggest that most education benefits from the influence and energy of different and combined educational fields where interdisciplinary methodologies are applied in teaching and learning processes. In particular, we emphasize relational and critical perspectives on Education for Sustainable Development.

Both of us have highlighted the need for a pluralistic perspective on education and sustainability in previous articles and presentations (Häggström & Schmidt, 2020; Häggström, 2019, Häggström, 2020; Schmidt, 2017). We have also stressed the delicacy of and tension between, on the one hand, eschewing instrumental and prearranged behavioural change and, on the other hand, encouraging environmental understanding and commitment (Häggström & Schmidt, 2020). The idea of the chapters included in this anthology is to move beyond this, to question the core of Education for Sustainable Development.

The Content and Organization of This Anthology

In this anthology, we have assembled scholars who together form a group that has the capability of looking at sustainability from various angles, with the purpose of challenging preconceptions about what sustainable education might entail and how it could be conducted. These authors are willing to be at the cutting edge regarding sustainability and education. Creating this book as a multi-author anthology enables a range of creative, critical and constructive interdisciplinary settings, which can serve as starting points for continuing discussions and inquiry, which is the main purpose of this book.

The anthology is based on three interrelated aspects, which are dependent on one another in various ways, bringing theory and practice together, and focuses on education more or less explicitly. These aspects are touched upon to differing degrees throughout the anthology. They are *belonging and sensing*; *critical thinking*; *social justice and action competence*; and *creating hope in a vanishing world*. Belonging and sensing emphasizes a sense of belonging in the world as a whole, in significant places, in the more-than-human world and with other humans in the present, past and future. Including the arts and environmental education could be one way for teachers to work with these aspects and urge students to ask critical questions.

In Chap. 1, Vicki Kelly examines people's pathways of becoming, by sensing and making sense, by being and doing as a way to find one's way home. In particular, Kelly explores a way that honours Indigenous people's longing for belonging, and the Indigeneity itself. This chapter places an emphasis on

the question of *how*, and the process of how we live and engage in the world, and the transformative act of being and becoming in the world. Kelly stresses that if we want to create a different future, we need to live a different present.

Chapter 2, by Mark Wilson and Bryndís Snæbjörnsdóttir, examines how contemporary art can function to facilitate the process of transforming thought patterns in respect of ecology and the environment. An important aspect of ‘belonging’ in the world is the sense of completeness and empowerment that comes with recognizing and following the connection between things, beings and behaviours, Wilson and Snæbjörnsdóttir propose. This also applies to those opportunities for connection which at first might seem contradictory or unrelated, disparate and alien. The chapter is based on pertinent case studies from the authors’ portfolio of international projects, addressing matters of interspecific relations, extinction, conservation and environmentalism.

In Chap. 3, Jan van Boeckel investigates what it may mean for people to understand issues of sustainability through art, through a pedagogy aiming at developing a sense of belonging in the world as a whole, especially in times of rampant fear of future developments with the ecological emergency. Van Boeckel states that fostering a sense of place is crucial if we want new generations to care for the natural environment and their cultural heritage. The chapter is based on an artistic group activity and workshop led by the author.

In Chap. 4, Kathryn Paige, Bernadette Haggerty and Barbara Comber focus on transdisciplinary pedagogy, and how to make connections between the self, community and the natural world through hands-on learning and reflection. The key context for the learning observed in the study presented in this chapter was connecting students to the natural world as a way to develop activist attributes to protect the natural environment. The authors propose that there is a need for a pedagogy that more closely connects students to real issues, real communities and ways in which to take positive action to turn things around. The chapter is based on a collaborative study between school-based teacher researchers, student researchers and university researchers.

In Anna James’ Chap. 5, the sense-making processes of high school learners involved in environmental education organizations are studied. A critical ecopedagogy is applied to ask questions such as ‘What environmental learning is taking place?’, ‘What is not being learned?’ and, importantly, ‘What are the reasons behind this distinction?’. Critique is always a process in context, which should be acknowledged as a form of praxis that has ideological consequences, James suggests. Critical thinking is a form of resistance to reproducing the present, which is more crucial in these times and in a world calling for change. The chapter is based on young people’s experiences, opinions and feelings towards understanding how this can be enabled.

In Chap. 6, Catarina Schmidt and Margaretha Häggström advocate a holistic approach to education concerning socio-ecological literacies. The authors argue that place is an essential aspect of teaching and learning practices that needs more consideration. Language, meaning-making, and socio-ecological literacy and identity building are intertwined with place. Student agency, emancipation and empowerment may be enhanced when teachers trust the

process of learning rather than the content of a syllabus. The chapter is based on two case studies.

In Chap. 7, Phillip G. Payne discusses environmental education and environmental education research, and the philosophy informing them. Payne aims to restore the aspiration towards a critical eco-pedagogy, by laying out how the critical social sciences might inform environmental studies of the lived body, i.e. lived experiences of humans, their embodied perspectives and possibilities regarding their relationship with more-than-humans. He employs a critical eco-phenomenological perspective on and praxis within eco-pedagogy, and advocates an experience-rich education that is 'eco-pedagogically meaningful to children's immersion in various body-time-space scapes in, and with, a still vibrant nature' (Payne, 2017).

Chapter 8, by Margaret J. Somerville and Theresa McGavock, explores young children's inquiry-based learning and creative productions in a project connected to a bushfire recovery, after the huge bushfire in Australia in the summer of 2019–2020. This project investigated the children's learning with regard to how they are part of their worlds, and how they could learn to support planetary well-being. The authors contend that planetary literacies develop when young children learn about their role in planetary well-being through understanding how trees and plants recover from bushfires. The chapter is based on teachers' reflections on the project's result and processes.

In Chap. 9, Sam Mickey discusses ecological existentialism and the notion of *doing nothing*. Ecological existentialism reveals possibilities for addressing feelings of hopelessness, despair and meaninglessness through educational practices. Mickey suggests that by bringing *nothing* into a teaching and learning context, ecological existentialism facilitates a renewed sense of commitment and belonging in the world. If doing nothing is inseparable from a place-based sense of self, it preserves the integrity of humankind and the wildness of the world, in which case it is the most sustainable kind of education. The chapter is a philosophy-based text.

Maria Ojala's Chap. 10 explores how young people obtain hope and a sense of action competence as well as how these aspects can be promoted in both formal and informal learning contexts. Ojala points out that if sources of hope are included in education, and are based in meaning-focused ways of dealing with climate change, they can support students in facing difficulties, and being active despite these difficulties. Critical emotional awareness can be transformed from individualized agency work to a collective process where people support each other. This chapter is based on an empirical study with emerging adults who all were experiencing a high degree of ambivalence concerning energy saving in the home.

In Chap. 11, Julia Fries examines the role of the clown as a transgressive mediator for a sustainable future. Fries explores this through an auto-ethnographic study in the field of transgressive learning, in order to use clowning as a resource to master distress and anxiety when facing issues of sustainability. This can also be a way of processing sustainability with a sense of commitment, passion and even joy. Using the clown in educational settings which integrate sustainability is a way to take a playful approach to a difficult

subject. However, it is simultaneously a way to handle fear and to put vulnerability into practice. Bringing the clown into the classroom is one of many possible creative and artistic teaching methods for dealing with sustainability issues.

To conclude this anthology, in Chap. 12, Catarina Schmidt and Margaretha Häggström summarize the previous texts. Here, the authors discuss how to facilitate students' decision-making, agency and empowerment in order to allow them to gain a sense of belonging. Critical thinking, social justice and action competence will be parts of futures literacies. The environmental threats we face today force us to act, and we need to discuss how, who, when and where, and for whom and in what direction, in line with critical literacy approaches (e.g. Freire, 1968/2001; Janks, 2010; Vasquez, Janks & Comber, 2019). Children will need action competence for transforming the world and stemming the climate crises. Action competence relies on creatively designed spaces within educational practices, where dialogic approaches to thinking, talking, listening, arguing and negotiating play a crucial role. The chapter ends by discussing how to create hope in a vanishing world, which includes learners' existentiality, at the individual as well as the cultural level. Altogether, the concluding chapter addresses and deals with children's environmental anxiety and despair, and discusses how to encourage a sense of belonging, hope and faith in spite of the condition of the world, and the critical and challenging topics arising from this. The chapter further discusses how to educate for uncertainty (Blenkinsop & Ford, 2018). These discussions are challenging, and both teachers and students will need support to deal with these issues. Education therefore has to include questions about allowing feelings in sustainable education, and about confirming and dealing with these feelings.

University of Gothenburg
Gothenburg, Sweden

Margaretha Häggström
margareta.haggstrom@gu.se

Jönköping University
Jönköping, Sweden

Catarina Schmidt
catarina.schmidt@ju.se

References

- Alexander, R. (2008). *Essays on pedagogy*. Routledge.
- Bentz, V. M. (1992). Deep learning groups: Combining emotional and intellectual learning. *Clinical Sociology Review* 10:71–89.
- Blenkinsop, S. & Ford, D. (2018). The relational, the critical, and the existential: three strands and accompanying challenges for extending the theory of environmental education. *Journal of Outdoor and Environmental Education* 21(3):19–330.
- CEDAMIA. (2020). <https://www.cedamia.org/global-ced-maps/>
- Cobb, E. (1977). *The Ecology of Imagination in Childhood*. Routledge and Kegan Paul.
- Comber, B. (2016). *Literacy, place, and pedagogies of possibility*. Routledge.
- Crutzen, P. J. & Stoermer, E. F. (2000). The “Anthropocene”. *Global Change Newsletter* 41:17–18.

- Curtis, D. J., Reid, N. & Ballard, G. (2012). Communicating ecology through art: what scientists think. *Ecology and Society* 17(2):1–15.
- Freire, P. (1968/2001). *Pedagogy of the Oppressed*. Penguin Education.
- Gough, N. (1987) Learning with environments: Towards an ecological paradigm of education, in: I. Robottom (Ed.) *Environmental education: practice and possibility*. Deakin University Press.
- Grauerholz, L. (2001). Teaching holistically to achieve deep learning. *College Teaching* 49(2):44–50
- Gurevitz, R. (2000). Affective approaches to environmental education: Going Beyond the imagined worlds of childhood? *Ethics, Place and Environment* 3(3):253–268.
- Head, L. (2016). *Hope and Grief in the Anthropocene. Re-conceptualising human–nature relations*. Routledge.
- Häggeström, M. (2017). An Aesthetic and Ethical Perspective on Art-based Environmental Education and Sustainability from a Phenomenological Viewpoint. In O. Franck & C. Osbeck, *Ethical Literacies and Education for Sustainable Development. Young People, Subjectivity and Democratic Participation*. Palgrave Macmillan.
- Häggeström, M. (2020). *Aesthetical experiences in direct nature meetings. A phenomenological study on experiences of forest, plants and education*. [Estetiska erfarenheter i naturmöten. En fenomenologisk studie av upplevelser av skog, växtlighet och undervisning]. Doctoral thesis. Gothenburg: Acta Universitatis Gothoburgensis.
- Häggeström, M., & Schmidt, C. (2021). *Futures literacy – to belong, participate and act!* (Submitted).
- Häggeström, M., & Schmidt, C. (2020). Enhancing children’s literacy and ecological literacy through critical place-based pedagogy. *Environmental Education Research* 1–17.
- Häggeström, M. (2019). Students being transformed into trees: inverted anthropomorphization in order to enhance connectedness to natural environments and plants. In J. Reiss (ed). *Art, theory and practice in the Anthropocene*. Vernon Press. Series in art.
- Häggeström, M. & Djurstedt, L. (2020). Take action! Encountering disorienting dilemmas in order to include the more-than-human world – an act of sustainable thinking. In K. Høeg Karlsen & M. Häggeström, *Teaching through Stories. Renewing the Scottish Storyline Approach in Teacher Education*. Waxmann
- Janks, H. (2010). *Literacy and Power*. Routledge.
- Jickling, B., & Spork, H. (1998). Education for the Environment: a critique. *Environmental Education Research* 4(3):309–327.
- Jickling, B., & Wals, A. (2012). Debating Education for Sustainable Development 20 Years after Rio. A Conversation between Bob Jickling and Arjen Wals. *Journal of Education for Sustainable Development* 6(1):49–57.
- Jickling, B., and S. Sterling. (2017). *Post-sustainability and environmental education. Remaking education for the future*. Palgrave Macmillan.
- Jickling, B., S. Blenkinsop, N. Timmerman, and M. De Danann Sitka-Sage. (eds.) (2018). *Wild Pedagogies Touchstones for Re-Negotiating Education and the Environment in the Anthropocene*. Palgrave MacMillan.
- Lipsett, L. (2009). *Beauty muse: Painting in communion with nature*. Salt Spring Island, BC: Creative by Nature Books.
- Mantere, M.-H. (1992). Ecology, environmental education and art teaching. In L. Piironen (red.), *Power of images* (pp. 17–26). INSEA Research Congress, Association of Art Teachers.
- Miller, J. P. (1999). Making connections through holistic learning. *Educational Leadership* 56:46–8.
- Moser, S.C., & Dilling, L. (2011). Communicating Climate Change: Closing the Science-Action Gap. In: John S. Dryzek, Richard B. Norgaard, & David Schlosberg (eds.). *The Oxford Handbook of Climate Change and Society*. Oxford Handbook Online.
- Orr, D. (2017). “Foreword.” In: B. Jickling & S. Sterling (eds.). *Post-Sustainability and Environmental Education: Remaking Education for the Future* (pp. vii–x). London: Palgrave Macmillan.
- Pallasmaa, J. (2009). *The thinking hand: Existential and embodied wisdom in architecture*. Wiley.
- Payne, P. (2017). Early Years Education in the Anthropocene: An Ecophenomenology of Children’s Experience. In M. Fleer, B. van Oers (eds.), *International Handbook of Early Childhood Education*, (pp. 117–163). Springer.

- Payne, P. (1997). Embodiment and environmental education. *Environmental Education Research* 3(2):133–153.
- Schmidt, C. (2017). Thrown Together: Incorporating Place and Sustainability into Early Literacy Education. *International Journal of Early Childhood* 49(2):165–179.
- Taylor, A. & Pacini-Ketchabaw, V. (2018). *The common worlds of children and animals: Relational ethics for entangled lives*. Routledge.
- Van, Boeckel, J. (2013). *At the heart of art education. An exploration of practices in art-based environmental education*. Doctoral thesis. Aalto University.
- Wals, A., & van der Leij, T. (1997). Alternatives to national standards for environmental education: process-based quality assessment. *Canadian Journal of Environmental Education* 1:7–27.
- Wals, A. (2015). *Beyond unreasonable doubt. Education and learning for socio-ecological sustainability in the anthropocene*. Wageningen: Wageningen University.
- Vasquez, V.M, Janks, H., & Comber, B. (2019). Critical literacy as a way of being and doing. *Language Arts* 96(5):300–311.

Contents

Part I Belonging and Sensing

- 1 **Resonance as an Act of Attunement Through Sensing, Being, and Belonging: *Returning to the Teachings*** 3
Vicki Kelly
- 2 **Art, Belonging, and Sense and to Whom Nonsense Belongs** 19
Mark Wilson and Bryndís Snæbjörnsdóttir
- 3 **The Landscape of the Lines of the Hand Imagining the Storied Memories of Sensorial Experience of Place** 33
Jan van Boeckel

Part II Critical Thinking, Social Justice and Action Competence

- 4 **Water Literacies: Co-researching, Learning, and Acting for the Wetlands** 53
Kathryn Paige, Bernadette Haggerty, and Barbara Comber
- 5 **Socio-ecological Justice Informed Curriculum Inquiry: Transformative Potentials of Critical Water Pedagogy** 67
Anna James
- 6 **Sensing, Naming, and Narrating About the Lived World: Places as Textual Resources** 81
Catarina Schmidt and Margaretha Häggström

Part III Creating Hope in a Vanishing World

- 7 **Environmental Education and the Critical Social Sciences** 95
Phillip G. Payne
- 8 **Learning Planetary Literacies Through Multiple Bushfire Deaths and Hope Through Recovery and Regeneration** 113
Margaret Jean Somerville and Theresa McGavock
- 9 **Hope Through Learning to Live with Ambivalence: Emerging Adults' Agency Work in the Face of Sustainability Conflicts** . . . 129
Maria Ojala