



The BERA Guide to Environmental and Sustainability Education

Creating Just Futures in Educational
Research and Practice

EDITED BY

Elizabeth Rushton
Lynda Dunlop

The BERA Guide to Environmental and Sustainability Education



The BERA Guides

Critical Insights into Educational Research and Practice

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Elizabeth Rushton

University of Stirling, UK

and

Lynda Dunlop

University of York, UK



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About the Editors

Elizabeth Rushton is Professor of Education at the University of Stirling and Deputy Chair of the Scottish Council of Deans of Education. A former geography teacher, her research interests are in climate change and sustainability education, with a focus on curriculum making, teacher agency and youth participation in environmental decision-making.

Lynda Dunlop is Senior Lecturer in Science Education at the University of York and Director of Education for Environmental Sustainability at York. Her research interests are in climate change and environmental education, environmental activism and youth participation in environmental decision-making. She enjoys collaborating with artists, game designers and writers on environmental communication.

Elizabeth and Lynda are Co-founders and Convenors, along with Amanda Anderson and Loz Hennessy, of the BERA Special Interest Group in Education for Environmental Sustainability. They co-led the 2021 BERA Research Commission in Education for Environmental Sustainability.

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About the Contributors

Amanda Anderson is a Senior Lecturer at Anglia Ruskin University where her research focuses on Faith-based Environmental and Sustainability Education, taking an ethnographic approach. She is Co-convenor of the BERA Special Interest Group in Education for Environmental Sustainability.

Maya Brakovic-Thomas is a former Teacher and doctoral Researcher at the University of York, investigating domains of environmental literacy with a focus on cognitive empathy and justice sensitivity. She develops dialogic, role-play-based interventions and has contributed to research projects, including Thinking Doing Talking Science and SAMHE.

Sarah Clayton is a doctoral Researcher at the University of York, investigating expert perspectives on climate change in secondary science education. A former science teacher and middle leader, she also facilitates climate and biodiversity workshops, including Climate Fresk, and has contributed to research projects, including Wales's Net Zero 2035 Challenge as secretariat.

Sarah K. Foster is an Artist, Teacher, and Researcher at the Stockholm Environment Institute and the University of York. A final year candidate, her PhD focuses on the use of arts-based methods in climate change and sustainability education with young people to aid in eco-emotions and gain agency and autonomy of learning and future climate actions.

Ceri Holman is a Senior Research Associate at the JUST Centre, University of Manchester and a doctoral Researcher at the University of York researching place-based deliberative pedagogy. A qualified librarian with secondary school experience,

she has coordinated regional children's climate summits for a sustainability charity, contributed to EU youth citizen science projects (YouCount), and serves as trustee for environmental charity Another Way.

Sophie Perry is a Research Fellow in the Centre for Food Policy at City St. George's University. She is a social scientist with particular interest in research on socioecological system change in ways that foreground participation and justice. Her research explores food and farming systems, environmental education and socioecological change and food sovereignty.

Denise Quiroz-Martinez is a Lecturer in Education at the University of Stirling and has worked as a teacher and teacher educator in Chile and Scotland. Her research interests are focused on integrating sustainability into educational spaces and the role of teachers and teacher educators in this work.

Jennifer A. Rudd is a Senior Lecturer at Swansea University. Her research seeks to answer the question 'Can we teach climate change in a way that changes people's behaviour?' Her research is multidisciplinary, stemming from her background in chemistry, lecturing in the business school and education research focus.

Smriti Safaya is a Geologist, Teacher and a Research Associate, currently based at the Stockholm Environment Institute in York, and has grasped that the best place to learn is 'where the action is'. She uses participatory approaches and experiential and inquiry-based pedagogies with a 'local hook and global outlook' for learning about sustainability across geographies, cultures and ages.

CHAPTER 1

Introduction

Elizabeth Rushton

University of Stirling, UK

This book is rooted in the idea that education has a central role in the large-scale change that is needed to transform people and cultures to more environmentally, economically and socially sustainable ways of being. If educational research and practice is to achieve environmentally just futures for all children and young people, we argue that engaging with environmental and sustainability education is the responsibility of the whole education community, including formal settings (e.g. schools, universities) and informal and community settings. In recent times, it is young people who have been at the forefront of calls for education which better equips them to live with futures which are climate-altered, uncertain and unjust. While terms such as climate justice education, learning for sustainability and greening the curriculum are frequently used in policy and practice, still environmental and sustainability education is not an integral part of the practice of many educators and education researchers. Through this *BERA Guide to Environmental and Sustainability Education*, we aim to engage and inspire educators and education researchers to (re)engage with environmental and sustainability education and reflect on the intersections between their own areas of expertise and practice. This BERA Guide has been developed through the collaboration of 11 authors, working together to bring varied experiences, ideas and approaches to explore a diverse and vibrant field of environmental and sustainability education and research. Each chapter offers insight

into a broad range of theories and methodological approaches which pay particular attention to themes of justice and futures in environmental and sustainability education research and practice. These chapters draw on research from across a range of geographical and educational contexts and through reflective questions and provide opportunities for you as a reader to consider these ideas individually and/or as part of your own communities of practice. In these ways, our aim is that this BERA Guide supports and fosters the development of environmental and sustainability education which is orientated towards action to achieve a just future for all. We begin by reflection on ideas of justice in the context of environmental and sustainability education.

Exploring Ideas of Justice and Futures

In the context of education, ideas of justice are frequently rooted social justice theories which explore and consider issues of inequality, fairness and inclusion in the past, present and future (Fraser, 1997, 2010). In the broad field of environmental and sustainability education, ideas of justice are increasingly visible in two distinct areas, namely, environmental justice and climate justice.

Environmental justice has been understood as fundamental to achieving justice for all species and more-than-human dimensions, now and in the future (Acselrad, 2010; Schlosberg, 2013). Environmental justice means considering environmental and sustainability issues, concerns and questions through an intersectional approach which foregrounds the unequal impact of environmental degradation on communities already marginalised by (neo)colonial exploitation of land, minerals, labour and knowledge (Acselrad, 2010). Environmental justice in the context of educational research and practice requires us to address the restrictions imposed on peoples and cultures across neo-colonial societies, such as connections to land, water, plants and air (Braverman, 2021). Over the past 40 years, ideas of environmental justice have developed from a broad concern with the exposure certain communities have to environmental hazards in their communities and regions, to a more transnational

understanding of the nature of environmental harms which requires international cooperation in response (Vanderheiden, 2016). In recent times, there has been greater recognition that those communities experiencing vulnerability to environmental harms now and in the future have limited causal responsibility and that environmental justice requires responses which are ethically, legally and temporally complex (Vanderheiden, 2016). These themes of complexity, ethics and intersectionality are also visible in ideas of climate justice in the context of education.

Consistent with ideas of social justice and environmental justice, climate justice education aims to centre the expertise and respond to the needs of groups disproportionately impacted by climate-driven inequalities (Sultana, 2022; Trott et al., 2023). Kagawa and Selby (2010, p. 242) argue that ‘there can be no ethical and adequately responsive climate change education without global climate justice education’. In the context of climate justice education in England, and drawing on the work of Faharna Sultana (2022) and Arathi Sriprakash (2023), I have argued with colleagues that climate justice education requires ‘detailed attention to the colonial and racial capitalist legacies and futures which sustain intersectional climate injustices and ideas of reparative education which takes seriously the righting of past and present educational wrongs’ (Rushton et al., 2025, p. 4). Education with a climate justice lens requires educators and researchers to ask questions such as where and how do climate injustices exist in the past, present and future? How can we disrupt climate injustices and create reparative futures? (Rushton et al., 2025).

Across these themes of social, environmental and climate justice, the temporal dimension, especially ideas of the future are integral. At the same time, ideas of futures are widely considered in education and the social sciences, as valuable ways of understanding societies including the ideas they have about themselves (Finnegan, 2023). In the context of educational and social science research, ideas and framings of the future have provided valuable ways to understand the visions, imaginations and narratives individuals and groups hold about social and natural systems now and in the future, including climate futures (Finnegan, 2023). For example, futures workshops provide a

constructive framing for groups of people to generate ideas in response to social problems (Alminde & Warming, 2020). Typically, this involves moving through phases of critique – identifying problems with the status quo; fantasy – thinking creatively about ways to solve these problems; and implementation – considering how to transform ideas into change. These futures-focused framings are increasingly used in participatory environmental and sustainability education research (e.g. Dunlop et al., 2022).

The Contents

This BERA Guide is formed of two main parts. Following this introduction, the first part provides an overview of the main theories and ideas which relate to and have informed environmental and sustainability education and how scholarly thought, and practice have evolved over time. In Chapter 2, Sophie Perry outlines the various ancestries which have contributed to the current landscape of environmental education research and practice and considers how we as a community can shape the future of the field, with a concern for enabling just and liveable futures. In Chapter 3, Denise Quiroz-Martinez examines the paradigms, policies and practices shaping sustainability education, highlighting its entanglement with economic, political and social priorities. Finally, in Chapter 4, Sarah Clayton draws on contemporary research to examine how climate change education is conceptualised and the challenges it faces across research, policy, and practice.

Part 2 of the BERA Guide outlines varied approaches to researching environmental and sustainability education. Through Chapter 5, Lynda Dunlop introduces systematic review methods, using examples to illustrate the types of research questions a systematic review can answer, and in Chapter 6, Jennifer A. Rudd explores the use and purpose of surveys and experimental studies in environmental and sustainability education. Participatory methods and dialogic approaches are explored in Chapter 7 and Ceri Holman and Maya Brakovic-Thomas underline the transformative potential of these approaches in education research and practice. In Chapter 8, Smriti Safaya focuses on

participatory approaches of co-creation and co-authorship as ways to conduct research which challenge typical power dynamics in environmental and sustainability education research and practice. Through Chapter 9, Sarah K. Foster explores creative and arts-based approaches which are a vital and vibrant part of environmental and sustainability education research. Finally, in Chapter 10, Amanda Anderson reflects on the ways in which ethnographic approaches provide rich understandings in the context of research which considered environmental and sustainability education. In closing this BERA Guide, in Chapter 11, Lynda Dunlop draws together some reflections on justice-oriented and futures-focused environmental and sustainability education research and practice. Over the course of writing this guide, we recognise that this is very much a step along the journey, and we hope that our readers will join us along this vital path.

References

- Acselrad, H. (2010). Ambientalização das lutas sociais-o caso do movimento por justiça ambiental. *Estudos avançados*, 24, 103–119.
- Alminde, S., & Warming, H. (2020). Future workshops as a means to democratic, inclusive and empowering research with children, young people and others. *Qualitative Research*, 20(4), 432–448.
- Braverman, I. (2021). Environmental justice, settler colonialism, and more-than-humans in the occupied West Bank: An introduction. *Environment and Planning E: Nature and Space*, 4(1), 3–27.
- Dunlop, L., Rushton, E.A.C., Atkinson, L., Ayre, J., Bullivant, A., Essex, J., Price, L., Smith, A., Summer, M., Stubbs, J., Turkenburg-van Diepen, M. & Wood, L. (2022). Teacher and youth priorities for education for environmental sustainability: A co-created manifesto. *British Educational Research Journal*, 48(5), 952–973.
- Finnegan, W. (2023). ‘It’s beautiful, living without fear that the world will end soon’ – Digital storytelling, climate futures, and young people in the UK and Ireland. *Children’s Geographies*, 21(5), 898–913.
- Fraser, N. (1997). *Justice interruptus: Critical reflections on the ‘postsocialist’ condition*. Taylor & Francis Group.
- Fraser, N. (2010). *Scales of justice: Reimagining political space in a globalizing world*. Columbia University Press.
- Kagawa, F., & Selby, D. (Eds.). (2010). *Education and climate change: Living and learning in interesting times* (Vol. 30). Routledge.

- Rushton, E. A. C., Walshe, N., & Johnston, B. (2025). Towards justice-oriented climate change and sustainability education: Perspectives from school teachers in England. *Curriculum Journal*. <https://doi.org/10.1002/curj.322>
- Schlosberg, D. (2013). Theorising environmental justice: The expanding sphere of a discourse. *Environmental Politics*, 22(1), 37–55.
- Sriprakash, A. (2023). Reparations: Theorising just futures of education. *Discourse: Studies in the Cultural Politics of Education*, 44(5), 782–795.
- Sultana, F. (2022). Critical climate justice. *The Geographical Journal*, 188(1), 118–124.
- Trott, C. D., Lam, S., Roncker, J., Gray, E. S., Courtney, R. H., & Even, T. L. (2023). Justice in climate change education: A systematic review. *Environmental Education Research*, 29(11), 1535–1572.
- Vanderheiden, S. (2016). Environmental and climate justice. In T. Gabrielson, C. Hall, J. M. Meyer, & D. Schlosberg (Eds.), *The Oxford handbook of environmental political theory* (Vol. 1, pp. 321–332). Oxford University Press.