

Contents

Foreword	xi
Acknowledgments	xiii
1 Introduction: An Orientation to Environmental Education and the Handbook <i>Robert B. Stevenson, Arjen E.J. Wals, Justin Dillon, and Michael Brody</i>	1
Part A. Conceptualizing Environmental Education as a Field of Inquiry	
Section I. Historical, Contextual, and Theoretical Orientations That Have Shaped Environmental Education Research <i>Annette Gough</i>	
2 The Emergence of Environmental Education Research: A “History” of the Field <i>Annette Gough</i>	13
3 Socioecological Approaches to Environmental Education and Research: A Paradigmatic Response to Behavioral Change Orientations <i>Regula Kyburz-Grabner</i>	23
4 Thinking Globally in Environmental Education: A Critical History <i>Noel Gough</i>	33
5 Selected Trends in Thirty Years of Doctoral Research in Environmental Education in <i>Dissertation Abstracts International</i> From Collections Prepared in the United States of America <i>Thomas Marcinkowski, Jennifer Bucheit, Vanessa Spero-Swingle, Christine Linsenbardt, Jennifer Engelhardt, Marianne Stadel, Richard Santangelo, and Katherine Guzman</i>	45
6 Transformation, Empowerment, and the Governing of Environmental Conduct: Insights to be Gained From a “History of the Present” Approach <i>Jo-Anne Ferreira</i>	63
Section II. Normative Dimensions of Environmental Education Research: Conceptions of Education and Environmental Ethics <i>Bob Jickling and Arjen E.J. Wals</i>	
7 Probing Normative Research in Environmental Education: Ideas About Education and Ethics <i>Bob Jickling and Arjen E.J. Wals</i>	74
8 Self, Environment, and Education: Normative Arisings <i>Michael Bonnett</i>	87
9 A Critical Theory of Place-Conscious Education <i>David A. Greenwood</i>	93

- 10** Learning From Hermit Crabs, Mycelia, and Banyan: Schools as Centers of Critical Inquiry and Renormalization 101
Heesoon Bai and Serenna Romanycia
- 11** Why We Need a Language of (Environmental) Education 108
Lesley Le Grange
- 12** Environmental Ethics as Processes of Open-Ended, Pluralistic, Deliberative Enquiry 115
Lausanne Olvitt

Section III. Analyses of Environmental Education Discourses and Policies

Ian Robottom and Robert B. Stevenson

- 13** The Politics of Needs and Sustainability Education 126
Lesley Le Grange
- 14** Languages and Discourses of Education, Environment, and Sustainable Development 133
Tom Berryman and Lucie Sauvé
- 15** Researching Tensions and Pretensions in Environmental/Sustainability Education Policies: From Critical to Civically Engaged Policy Scholarship 147
Robert B. Stevenson
- 16** Changing Discourses in EE/ESD: A Role for Professional Self-Development 156
Ian Robottom
- 17** Connecting Vocational and Technical Education With Sustainability 163
Alberto Arenas and Fernando Londoño
- 18** Trends, Junctures, and Disjunctures in Latin American Environmental Education Research 171
Edgar González Gaudiano and Leonir Lorenzetti
- 19** EE Policies in Three Chinese Communities: Challenges and Prospects for Future Development 178
Lee Chi Kin John, Wang Shun Mei, and Yang Guang

Part B. Research on Environmental Education Curriculum, Learning, and Assessment: Processes and Outcomes

Section IV. Curriculum Research in Environmental Education

Heila Lotz-Sisitka

- 20** Traditions and New Niches: An Overview of Environmental Education Curriculum and Learning Research 194
Heila Lotz-Sisitka, John Fien, and Mphemelang Ketlhoilwe
- 21** Environmental Education in a Cultural Context 206
Albert Zeyer and Elin Kelsey
- 22** Place-Based Education: Practice and Impacts 213
Gregory A. Smith
- 23** Getting the Picture: From the Old Reflection—Hearing Pictures and Telling Tales, to the New Reflection—Seeing Voices and Painting Scenes 221
Tony Shallcross and John Robinson
- 24** Moinho D'Água: Environmental Education, Participation, and Autonomy in Rural Areas 231
João Luiz de Moraes Hoefel, Almerinda B. Fadini, M.K. Machado, J.C. Reis, and F.B. Lima

Section V. Research on Learning Processes in Environmental Education

Justin Dillon, Joe E. Heimlich, and Elin Kelsey

- 25 Environmental Learning: Insights From Research Into the Student Experience 243
Cecilia Lundholm, Nick Hopwood, and Mark Rickinson
- 26 Conventional and Emerging Learning Theories: Implications and Choices for Educational Researchers With a Planetary Consciousness 253
Arjen E.J. Wals and Justin Dillon
- 27 Belief to Behavior: A Vital Link 262
Joe E. Heimlich, Preethi Mony, and Victor Yocco
- 28 Landscapes as Contexts for Learning 275
Carol B. Brandt

Section VI. Evaluation and Analysis of Environmental Education Programs, Materials, and Technologies and the Assessment of Learners and Learning

Michael Brody and Martin Storksdieck

- 29 Research on the Long-Term Impacts of Environmental Education 289
Kendra Liddicoat and Marianne E. Krasny
- 30 Advancing Environmental Education Program Evaluation: Insights From a Review of Behavioral Outcome Evaluations 298
Michaela Zint
- 31 National Assessments of Environmental Literacy: A Review, Comparison, and Analysis 310
Thomas Marcinkowski, Donghee Shin, Kyung-Im Noh, Maya Negev, Gonen Sagy, Yaakov Garb, Bill McBeth, Harold Hungerford, Trudi Volk, Ron Meyers, and Mehmet Erdogan
- 32 Geospatial Technologies: The Present and Future Roles of Emerging Technologies in Environmental Education 331
Michael Barnett, James G. MaKinster, Nancy M. Trautmann, Meredith Houle Vaughn, and Sheron Mark
- 33 Sustainability Education: Theory and Practice 349
Sarah Holdsworth, Ian Thomas, and Kathryn Hegarty
- 34 Learning From Neighboring Fields: Conceptualizing Outcomes of Environmental Education Within the Framework of Free-Choice Learning Experiences 359
Lynn D. Dierking, John H. Falk, and Martin Storksdieck

Part C. Issues of Framing, Doing, and Assessing in Environmental Education Research

Section VII. Moving Margins in Environmental Education Research

Constance L. Russell and Leesa Fawcett

- 35 Researching Differently: Generating a Gender Agenda for Research in Environmental Education 375
Annette Gough
- 36 The Representation of Indigenous Knowledges 384
Soul Shava
- 37 Educating for Environmental Justice 394
Randolph Haluza-DeLay

38	Indigenous Environmental Education Research in North America: A Brief Review	404
	<i>Greg Lowan-Trudeau</i>	
39	Three Degrees of Separation: Accounting for Naturecultures in Environmental Education Research	409
	<i>Leesa Fawcett</i>	
Section VIII. Philosophical and Methodological Perspectives		
<i>Paul Hart</i>		
40	(Un)timely Ecophenomenological Framings of Environmental Education Research	424
	<i>Phillip G. Payne</i>	
41	Children as Active Researchers: The Potential of Environmental Education Research Involving Children	438
	<i>Elisabeth Barratt Hacking, Amy Cutter-Mackenzie, and Robert Barratt</i>	
42	Collaborative Ecological Inquiry: Where Action Research Meets Sustainable Development	459
	<i>Hilary Bradbury-Huang and Ken Long</i>	
43	Critical Action Research and Environmental Education: Conceptual Congruencies and Imperatives in Practice	469
	<i>Robert B. Stevenson and Ian Robottom</i>	
44	A Feminist Poststructural Approach to Environmental Education Research	480
	<i>Bronwyn Davies</i>	
45	Suited: Relational Learning and Socioecological Pedagogies	487
	<i>Marcia McKenzie, Kim Butcher, Dustin Fruson, Michelle Knorr, Joshua Stone, Scott Allen, Teresa Hill, Jeremy Murphy, Sheelah McLean, Jean Kayira, and Vince Anderson</i>	
46	Greening the Knowledge Economy: Ecosophy, Ecology, and Economy	498
	<i>Michael A. Peters</i>	
47	Preconceptions and Positionings: Can We See Ourselves Within Our Own Terrain?	507
	<i>Paul Hart</i>	
Section IX. Insights, Gaps, and Future Directions in Environmental Education Research		
48	The Evolving Characteristics of Environmental Education Research	512
	<i>Robert B. Stevenson, Justin Dillon, Arjen E.J. Wals, and Michael Brody</i>	
49	Identifying Needs in Environmental Education Research	518
	<i>Alan Reid and William Scott</i>	
50	Handbooks of Environmental Education Research: For Further Reading and Writing	529
	<i>Alan Reid and Phillip G. Payne</i>	
51	Tentative Directions for Environmental Education Research in Uncertain Times	542
	<i>Arjen E.J. Wals, Robert B. Stevenson, Michael Brody, and Justin Dillon</i>	
	Author Index	549
	Subject Index	563
	The Editors	571
	The Contributors	573