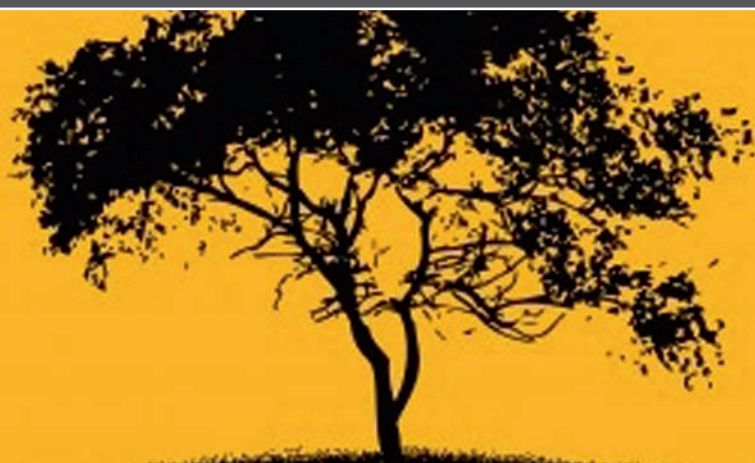


Engaging Environmental Education: Learning, Culture and Agency

Robert B. Stevenson and Justin Dillon (Eds.)



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INTRODUCTION

ROBERT STEVENSON AND JUSTIN DILLON

1. INTRODUCTION TO ISSUES IN LEARNING, CULTURE AND AGENCY IN ENVIRONMENTAL EDUCATION

INTRODUCTION

The idea for this book emerged from a symposium at the Annual Meeting of the American Educational Research Association (AERA) in San Francisco in 2007. The title of the symposium was 'International Perspectives on Environmental Learning, Participation and Agency'. Not only were we, as discussants at that symposium, impressed by the quality of the papers presented, but we noted a common and important theme that was highly consistent with the perspectives on learning and learners embedded in the international goals and discourse of environmental education (EE) and education for sustainable development (ESD).

That theme, and the rationale for this book, emphasizes the importance of engaging learners as active agents in thinking about and constructing knowledge about the need for and the ways of developing a more sustainable and equitable quality of life on a global scale. Rather than treating students and adults as passive recipients of other people's knowledge, environmental learning and action are viewed as proceeding hand-in-hand and are viewed as holistic, collaborative, and democratically participative. The chapters in this book are intended to examine efforts - in formal, non-formal and informal educational settings in a wide range of international contexts - to create environmental learning that matches this rhetoric.

The title of this book is intended to reflect the dual challenge of the need for individuals, institutions and communities to engage with environmental education and for environmental education and learning itself to be engaging. The subtitle represents our recognition, as we read the first drafts of chapters that came in and with the benefit of hindsight, that an additional important theme was evident, namely the role of culture. Participation is still an important dimension of the book, as readers will discover for themselves, but the impact and effect of culture on learning and agency seems, to us at least, to be an even more fundamental theme.

We have tried to highlight the value and importance of culture by organising the chapters into pairs according to their context. So, for example, the first pair of chapters focuses on learning and agency in formal education contexts whereas the next are set in the contexts of communities. Within each pair, we hope that there will be sufficient contrast to enable readers to see the value of both perspectives and sufficient overlap to justify them being put in tandem.

In collections such as this one, the job of the editors is multi-faceted. The first task is to recognise the potential for a collection of contributions to add something to colleagues' work beyond cataloguing related studies. The idea to put together this book emerged within a very short time after the AERA symposium. However, on reflection, we decided that to tell a/the whole story, we should invite more contributors to add their perspectives and wisdom.

HOW THE BOOK IS ORGANISED

The book has five major sections with each section containing two chapters, as well as a concluding chapter.

Learning and Agency in Formal Education Contexts

In 'Exploring student learning and challenges in formal environmental education', Mark Rickinson and Cecilia Lundholm report on findings from two studies that focused specifically on learners' experiences of and responses to environmental curricula. The first study focused on students' learning within environmental geography lessons in three English secondary schools (Rickinson, 1999a; 1999b). The other looked at Swedish university students' learning about environmental issues within undergraduate engineering and biology (Lundholm, 2003; 2004a; 2004b). Through an integration of key aspects of these two studies' findings, this chapter seeks to highlight the complexity of the learning experience within formal environmental education and to draw attention to the need for improved research-based understandings of environmental learning processes. The authors present an integration of the studies' findings in terms of four kinds of learning challenges experienced by students in environmental education courses. The chapter ends by considering emerging issues for environmental education practice and research. Four emerging issues for research on environmental learners and learning are identified, but most importantly, the authors conclude that the major implication of their two empirical studies for environmental education theory and practice is the need to treat learners as active agents rather than passive recipients of environmental learning.

In 'Rainbow warriors: The unfolding of agency in early adolescents' environmental involvement' Natasha Blanchet-Cohen explores the nature of environmental agency of 10–13 year old children from many diverse cultures around the world who are involved in extra- or co-curricular environmental activities. Her study reveals that there are multiple ways in which these children engage with the environment and six forms through which they express their environmental agency are identified. Blanchet-Cohen observes that the way they position themselves in relation to environmental problems suggests they are "ready and open to engage in the complexity of environmental issues." Thus, she argues that teachers should embrace rather than avoid complexity. The data from her study offer an important counter to teachers' claims, reported in a number of studies, that they avoid discussing environmental issues in their classrooms because of their concern that it will create a sense of despair in children (Cross, 1998; Hicks, 2002, 1998).

Learning and Agency in Community Contexts

In ‘Civic engagement in sustainability: The (trans)formation of an urban community’, Arjen Wals and Leonore Noorduyn reconstruct the making of a ‘sustainable’ neighborhood as a social learning process of civic engagement in sustainability. This reconstruction is based on a study carried out five years after the initiators found a strong enough support base to start the creation of Eva-Lanxmeer in the Dutch town of Culemborg (Noorduyn and Wals, 2003). As the chapter progresses the authors increasingly mirror the outcomes of this study with recent thinking on social learning in the context of sustainability (Wals, 2007). First, the unique features of the neighborhood are presented, and then they focus in on the process of interaction that took place when the first people had moved in and collaboratively had to design the community garden that forms the heart of the neighborhood. Finally, some key principles or stepping-stones are drawn from the Culemborg experience that might be useful elsewhere. Perhaps the most notable of which is the precautionary recommendation that all those involved should be informed of the uncertainty and risks involved in participating in an interactive process of civic engagement in sustainability.

In ‘Peer mediated environmental learning’, Charlotte Clark draws on her doctoral work to look at the process by which voluntary collective actions form in communities. Clark’s research described and characterized the formative process of learning and collective action in one U.S. community with a focus on issues with environmental implications. Clark followed the community’s process of developing a policy on whether or not to allow domestic cats to roam freely outdoors (where they can prey on native wildlife). This narrative illustrates (a) the process by which a collective action agreement was formed, (b) the challenges faced during its formulation, (c) the potential changes to learning and behaviour that may have resulted within the community during its formulation, and (d) the corollary issues that proceed such a policy agreement, such as the need to orient newcomers, the need to document and reinforce information for all those to whom the policy applies, and the realization that consensus on a policy does not necessarily mean consensus on action.

Learning and Agency in Workplace and Informal Contexts

In ‘If the public knew better, they would act better? The pervasive power of the myth of the ignorant public’, Elin Kelsey and Justin Dillon argue that museums, aquariums, science centres, zoos and other informal science institutions (ISIs) are increasingly committed to engaging the public in issues connected to environmental conservation and sustainability. Although ISIs around the world may hold different views about what information the public should possess, they appear to share the belief that ‘if the public knew better, they would act better’. They operate within a common discourse about the power of education to transmit information from those who are knowledgeable to those who are not (Kelsey, 2001). Kelsey and Dillon explore the implications of this particular discourse on environmental learning, participation and agency within informal science institutions.

More specifically, they examine a case study of conversational learning between guests (visitors) and volunteer guides in the galleries of a major US aquarium. This is a particularly timely topic, as the interaction between ISIs and the public has undergone significant change in the past decade. Throughout the 1980s and 1990s, environmental public participation programs operated in a type of ‘decide-announce-defend’ mode based on a ‘one way’ transfer of information from experts to the public (Duffield Hamilton & Wills-Toker, 2006). Such programs echoed the Public Understanding of Science (PUS) rhetoric, with its tacit assumption of public ignorance and its adherence to a deficit model (Lehr *et al.*, 2007).

In ‘Participatory approaches to workplace learning for sustainable development in the hotel industry’, Jeppe Laessoe and Monica Carlsson examine participatory learning projects on sustainable development at three conference centres in Denmark. The focal point of the chapter is the shaping of, and experiences with, employee involvement related to generating energy savings and addressing other environmental issues at these conference centres. The authors discuss examples of learning and participation in relation to sustainable development and subsequently identify potentials, constraints and dilemmas that influence the process of participatory learning. After a brief introduction to the topic and the concepts of participation and sustainable development, the authors present four thematic analyses: approaches to participation, power and participatory learning, key elements and concerns in sustainable development, and approaches to sustainable development. In particular, they describe a number of conflicts that illuminate the persistent role of power even in participatory processes. The chapter concludes with a discussion and an epilogue on educational research in the public interest.

Learning and Agency in a Media Culture

In ‘The role and influence of mass media on learning about environmental issues’, Martin Storksdiack and Cathlyn Stylinski examine the public’s ability to respond to environmental challenges or contribute to current science debates. They note that the testing of “public knowledge” or “public understanding” by a set of multiple-choice questions has been likened to a “deficit model” of knowledge and understanding since it does not allow an individuals to express what that they do know, and it does not provide a learning context (for example, Falk, Storksdiack & Dierking, 2007). The alternative asset-based model of knowledge and understanding (for example, Falk *et al.*, 2007) suggests that much can be learned in adult life through informal, or free-choice, learning and that tests of what an individual knows or understands should be tied to the way we construct our knowledge and understanding outside of formal schooling. Free-choice learning is the basis for this knowledge construction; it is voluntary, non-assessed, self-directed and under the control of the learner. It is based on an individual’s own interest and motivation and builds on his/her prior knowledge. It occurs wherever a person encounters information: in a conversation with others, during a museum visit, and while watching TV, reading the newspaper or surfing the Internet. We know little about what people learn from these sources or the degree to which this information is corrects or enforces misconceptions.

Various studies indicate that news media plays an important part in this type of learning, especially with regard to science and the environment (for example, National Science Board, 2008; Falk *et al.*, 2007; European Commission, 2001). However, few authors have attempted to determine the direct influence of the news media on learning about environmental topics and issues. Storksdieck and Stylinski try to indirectly assess environmental learning from the news media by examining the way in which environmental stories enter the news (including the forces that shape how they are reported) and then relating this reporting to national surveys and case studies of public understanding of environmental issues.

In “Popular media, intersubjective learning and cultural production,” Marcia McKenzie, Connie Russell, Leesa Fawcett and Nora Timmerman explore a diverse range of media-based examples of pedagogical practices for engaging students in socio-ecological learning. They argue that engagement with media can involve pre-existing artifacts, products in creation, and/or interactive spaces. Examples or forms of media that they examine include “fiction and non-fiction, zines and comics, photography and visual art, film and documentaries, various web-based fora, and a range of other forms that cross-over or join these and other genres” (p. 147) These examples are presented within a framework which treats “engagements with media as intersubjective experiences that involve both the sensory and the cognitive, and suggest that a collective context can support or intensify this learning” (p. 147).

Learning Research and Research as Learning

In ‘Understanding others, understanding ourselves: Engaging in constructive dialogue about process in doctoral study in environmental education’, Jutta Nickel, Kelly Teamey, Seyoung Hwang, Benjamin Alberto Pozos-Hernandez with Alan Reid and Paul Hart attempt to stimulate debate about the processes and effects of undertaking a doctoral study, and being a doctoral student in this field. This chapter is based on a collaborative thinking and writing process, rooted in a common interest to promote critical and reflexive dialogues amongst doctoral students and their supervisors about understandings and experiences of carrying out doctoral work. Key to their exploration is the importance and opportunity of engaging in a constructive interpretive dialogue about process whilst focusing simultaneously on various personal and academic experiences at different stages during those selfsame processes.

Following an introduction to the academic context and research and debate in the area of doctoral studies in Higher Education, the authors propose three heuristics. These heuristics generate different reflections into the multitude and diversity of doctoral research experiences within and across personal, institutional, cultural, academic and discursive contexts and boundaries. The heuristics have been developed and revised in the course of reading literature and from abstracting shared and diverse elements and notions from their own stories and discussions. They then each share their own story to illustrate their points

surrounding the importance of interrogating and problematising the doctoral process, illuminating and fleshing out complexities of identity, agency, power relations and career progression associated with doctoral research. As members of the research community, their ongoing engagement with the current discourses and practices of the field of environmental education research and converging fields related to environmental education have been shaped and continue to be informed by mundane, transformative, and often painful learning experiences and encounters during the doctoral process. While the chapter title suggests 'understanding others' and 'understanding ourselves' as important constituents to supervisory discussions or conference interactions, both are understood as important processes servicing additionally wider goals: those of academic progression, professional growth, and progress in the field and balancing process and product within discussions of doctoral studies.

In 'Researchers as learners: Participatory approaches to researching environmental learning', Rob O'Donoghue and Heila Lotz-Sisitka propose attending to the ways in which environmental education research might engage with new forms of, for example, mediation structure and agency, culture and power, and experience and rationalization. They begin by exploring how a cultural turn in research is creating a stronger focus on literacies and agency within socio-historical contexts which has been accompanied by the emergence of educational research for the public good. They further note a new form or genre of educational research which they speculate may herald novel manifestations of reflexive mediation in the context of post-colonial Africa. This leads the authors to advocate, as a logical extension, the inclusion of local participants as researchers and to introduce the concept of research-as-pedagogy as embracing these new forms and genre.

Conclusion

In the concluding chapter, 'Environmental learning and agency in diverse educational and cultural contexts', Bob Stevenson begins with an overview of different conceptions and theories of learning before relating them to the particular context and challenges of environmental learning. A process of critical inquiry is identified and examined as a central learning process of EE/ESD/EfS, while real or authentic environmental issues are treated as the substantive content. A tripartite framework for critical inquiry of the dialogical, the dialectic and the deliberate (Sirotnik, 1991) is analysed, along with the need for deep reflection on one's own experiences, assumptions, beliefs and values, as well as on the contextual factors that shape ideas, values and practices, concerning human-environment relationships. Besides critical inquiry and reflection, imagination and action are discussed as necessary components of environmental learning: imagination to generate possibilities for creating more sustainable socio-ecological practices; and action to ameliorate current environmental concerns. The need for developing the capacity for appropriate and effective action raises the issue of learner agency which is framed as involving the three distinct forms of reflective, relational and transformative agency. Finally,

in the last section of the chapter, Carolyn Stirling, examines the important role of research in learning and knowledge creation and how learning to research is a personal, professional and political project in complex and often culturally challenging contexts.

We hope that the following case studies offer significant insights into the challenges and complexity of engaging youth and adults in meaningful learning about and informed action on environmental issues, and most importantly, suggest ways in which these challenges might be addressed. Of course, we expect that they also will raise further questions for researchers, policymakers and practitioners. Beyond posing such questions, however, the success of this book might best be determined by the extent to which the contributing authors stimulate readers' ideas and actions for building the learning capacities of individuals and organizations for creating ecologically (and economically and culturally) sustainable communities and societies.

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