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ECO Schools

trends and divergences: a Comparative Study on ECO-school development processes in 13 countries

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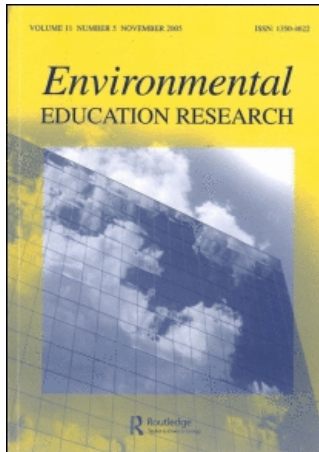
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BOOK REVIEWS

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BOOK REVIEWS

ECO-schools: trends and divergences—a comparative study of ECO-school development processes in 13 countries

Finn Mogensen and Michela Mayer (Eds), 2005

Vienna, Austrian Federal Ministry of Education, Science and Culture

360 pp.

ISBN 3 85031 062 0

Quality criteria for ESD-schools. Guidelines to enhance the quality of education for sustainable development

Soren Breiting, Finn Mogensen and Michela Mayer, 2005

Vienna, Austrian Federal Ministry of Education, Science and Culture

26 pp.

ISBN 3 85031 048 5

Both books are available on the ENSI web site (www.ensi.org) free of charge.

The comparative research that inspired these two related volumes forms part of SEED (School Development through Environmental Education), a research programme launched by Comenius III. SEED is in turn part of the work of ENSI (Environment and School Initiatives), an international network of environmental and research organisations. These books are the outputs of a SEED comparative research project. The first and larger of the two, edited by Mogensen and Mayer, is titled *ECO-schools: trends and divergences* and its smaller companion, authored by Breiting, Mogensen and Mayer, is *Quality criteria for ESD-schools*. The volumes offer a set of 'quality criteria'—which, importantly, are described as being quite different to 'performance indicators'. These criteria, the authors suggest, can be used as starting points for discussion and action at school level. The generation of these criteria and their proposed use are the main contributions of the research.

This work comes at a time when there continues to be some shifts in the nature and scope of education for sustainable development (ESD). This sociocritical perspective on the field of ESD or education for sustainability (EfS) brings the debate on another step, bringing together issues and ideas from complexity theory, personal and environmental health, citizenship and participation, and theories of learning and social change. As a result, there is something old and something new here—the main book does not seek to pin things down once and for all however. Taking a critical and socially situated view, this heady mix presents elements-in-flux in the debate on what ESD looks like in practice in schools which will vary in time and place.

The strategy of the research is that by looking across approaches to ESD within different 'eco'-type programmes, we might think broadly about what an ESD-school

is for and how it might develop. Of course, this is a tricky practice: not every eco-school is working for the same form of ESD and not every ESD-school will outwardly look like an 'eco' school. Some recognition of this problem is reflected in both the content of the chapters and the differences in the titles of these volumes—respectively 'ECO-schools' and 'ESD-schools'.

The smaller companion volume offers the *non-exhaustive* list of 'quality criteria' as starting points for policy-makers, teachers, head teachers, parents and students. The proposed use of the quality indicators makes the entire research process understandable, once you take the time to digest what they are about—the research outputs are really tools to be used in locally sensitive ways; understanding this is key to understanding the potential of the criteria. The authors recommend using indicators as discussion starting points—here it is clear they are different to performance indicators—schools could work towards developing their own philosophy and thereby reorient themselves towards their own version of ESD. There is a challenge here: on the one hand the criteria arose out of the comparison between countries and therefore can be employed as generic in some way, while on the other hand they can locally catalyse something very specific and situated. There is a danger that teachers, in some countries perhaps more than others, would read the criteria as performance criteria despite the recommendations—or defensively lay claim to the view that they 'are doing that already'. The real examples from practice go some way to countering this danger.

The larger text provides a more expansive exploration of the comparative study of 13 countries' approaches to ESD, running to 360 pages. As well as containing a set of reports on each country's eco-school initiative (good reads in themselves), there are the more overarching chapters on trends, issues related to evaluation, and narratives about the images in play in different approaches. The broad aim of the research was that by looking at eco-schools' approaches comparatively the researchers might derive some implicit and explicit quality criteria applicable in some way to all schools. To understand how the researchers use the term 'quality criteria' requires a foray into the epistemological and philosophical foundations of different paradigms of evaluation practice. The position being taken up with respect to evaluation and the use of criteria is described as 'socio-critical'. Within this view, criteria are not fixed in stone, not ever complete as a list and not solely imposed by outsiders but are co-specified with stakeholders in an ongoing process. Criteria are also seen as *value-laden general descriptions* of characteristics—an indication of the presence of a certain kind of reality. By this view, the approach is neither positivistic nor relativistic/interpretative. Readers should be aware that understanding this position is central to understanding the research and its utility.

One critical comment here perhaps: these books are limited perhaps by the way they eke out these implicit and explicit criteria in a second-hand manner. This is achieved via the authors' reading of reporters' interpretations of official documents. Despite being sensitised to the importance of sociocultural perspectives on culture, they perhaps fail to acknowledge that the evidence is possibly limited by not being ethnographically collected in real times and places in these different countries. Neither are young people's own 'voices' used as evidence because it was understand-

ably beyond the scope of the study. These limitations aside, the criteria are quite powerful and there is much 'meat' here for readers who are familiar with the field of ESD/EfS. However, the flow of the book and the different chapters make getting one's head around all of this not an easy matter. There are also quite a few smaller editorial issues that were not all ironed out.

These two texts offer much to a wide range of potential readers. I did benefit from reading them but I felt these are texts that are not easily understandable separately nor am I convinced they are as user friendly as they could be. Understanding the epistemological arguments around their use of quality indicators seems central to their use and this is not readily available to readers without a bit of careful reading. The slim volume summarises the indicators but could be read in a way that loses the sociocritical perspective that is so central. That aside, these books deliver on most fronts: they set out to offer a powerful sense of different visions of the future world as embedded in eco-school programmes, different images of teaching and learning, and different images of school development. Chapter 6 summarises these different 'extreme' (their words) images seen to be operational in different approaches to ESD in various combinatory ways. (These images are called 'scenarios', a term which seemed not quite to capture what was meant here I felt.) In addition, it sets out what sociocritical evaluation might look like for those in school-based ESD, it brings some new and some old issues such as complexity, democratic participation and school–community relations into relief in useful ways and it sets out a range of topics that are now in need of further exploration via the action research approaches advocated or in tandem via ethnographically conducted research, to see if there is evidence that these or different criteria are emerging in school cultures.

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Embedded case study methods: integrating quantitative and qualitative knowledge

Roland W. Scholz and Olaf Tietje, 2002
 Thousand Oaks, CA, Sage Publications
 £36.99 (pbk), 408 pp.
 ISBN 0761919465 (pbk)

This well-organised book provides an explanation of embedded case study methodology. Included is an example of urban planning to illustrate the theoretical and conceptual ideas that are developed in its 20 chapters. Instantly, correlation with a broad range of potential environmental and educational research ventures is recognisable.

Scholz and Tietje explain the proper use of case study methods, and present 11 different techniques:

1. Formative Scenario Analysis;
2. System Dynamics;
3. Material Flux Analysis;
4. Multi-Attribute Utility Theory;
5. Integrated Risk Management;
6. Life Cycle Assessment;
7. Bio-Ecological Potential Analysis;
8. Area Development Negotiations;
9. Future Workshops;
10. Experiential Case Encounter;
11. Synthesis Moderation.

Relevant literature from many disciplines is explored to establish an integrated approach to problem framing, option generation and managing stakeholder encounters. All of the methods defined are seen as having the potential to develop collaborative solutions and, in the process, unify quantitative and qualitative approaches.

There is increasing emphasis on enabling learners to work independently and through real-world problems. To do so they need to develop strategies that allow them to integrate a broad range of knowledge, skills and abilities and to determine the relevance of available data. Working through well-resourced case studies offers students the opportunity of increasing their capacity for critical thinking, analysis and drawing conclusions. Significant is the authors' emphasis on case studies requiring an interdisciplinary approach 'because problems do not usually end at disciplinary borders' and variables being gathered 'at least partially' by personal observation (p. 5). Teamwork is highlighted. Such strategies and activities have major implications for the organisation of education, curriculum and timetabling in particular.

Embedded case study methods is divided into four parts: Case study design and synthesis; Methods and knowledge integration; The methods in detail; Validation perspectives. Boxes within the text offer examples or further clarification and sections within a chapter are summarised as 'Lessons to be learned'. Chapter 3 deals specifically with environmental sciences. Scholz and Tietje introduce the concept of 'groundbreaking cases' to provide insights into variables that are not well known, 'such as sustainability' (p. 26).

Part II of this book will probably be the most useful for students and lecturers because in chapter 7 the methods are described briefly and key questions are posed when applying each. Chapter 8 looks at the critical question of how to choose the right method.

The authors provide a table of key questions for methods of knowledge integration in embedded case studies (Table 8.1, p. 72), which I have indicated here.

They also provide a 'road map' of methods of embedded case studies (Figure 8.1, p. 74) showing the relationship between these different methods.

Part III is an exposition of each of the 11 methods. Any team embarking on a technically complex, multi-issue and multi-party situation for the first time will find chapter 14 helpful because it outlines the planning process with suggested timings. There

Table 1.

Chapter	Method	Key Questions
Case Representation and Modelling Methods		
9	Formative Scenario Analysis	What are the variables crucial to the state of a system and its change?
10	System Dynamics	What can be? What ought to be? What can happen? What variables are the most decisive in temporal dynamics? Which (counterintuitive) outcomes result from the dynamic interactions of the variables?
17	Material Flux Analysis*	What are critical fluxes in materials for the case? What are the sources and sinks of the system/case?
Case Evaluation Methods		
11	Multi-Attribute Utility Theory	How can different evaluation criteria be integrated? Which misperceptions are inherent in an integral evaluation?
12	Integrated Risk Management	In a set of different alternatives, which are the least risky ones? Which alternative is the best according to my evaluation?
18	Life Cycle Assessment*	How can/shall I cope with uncertainty?
19	Bio-Ecological Potential Analysis*	How can the main environmental impacts (on a global level) be evaluated? How can the bio-ecological quality of a case site be evaluated?
Case Development and Transition Methods		
13	Mediation: Area Development Negotiations	What causes the conflicts between the principal agents/key players of the case? What misperceptions do the case agents have? How can we attain Pareto-optimal solutions?
14	Future Workshops	Which ideas may guide the question of 'What can be?' and 'What ought to be?'
Case Study Team Methods		
15	Experiential Case Encounter	What does the case look like from the case member's perspective?
16	Synthesis Moderation	How can I optimize teamwork to improve the synthesis process? How can I find the right method of synthesis?

*These methods are specific to environmental science methods

is an element too of involving those who may have to live with the decisions made and individual creativity is acknowledged as an essential part of the case study.

Part IV confronts the major criticism of case study: validation. There is a review of 'how validity is addressed in qualitative and quantitative sciences after considering reliability and objectivity issues' p. 332. The authors then consider how validity can be addressed in the embedded case study and acknowledge that a specific case is often affected and changed after a case study is performed. Six practical evaluation criteria

are discussed but the last is perhaps the most significant. If a new, groundbreaking idea emerges from a case study it isn't possible to say that it would not have been born without it. The converse is nevertheless relevant because there is still a strong argument that the source of deep understanding is contextualisation.

I recommend this book to all environmentalists who work with complex problems and educators who are hoping to generate and develop students' argumentation skills. It is likely to become an indispensable handbook in higher education whatever the subject domain.

Teachers of case study methodology will find this book a constructive guide that informs their own study of the huge quantity of case studies available within all research fields. It can also contribute to their skill in creating case studies or enabling them to help students to design more effective and informative case studies.

By promoting cross-discipline integration and sophisticated approaches to integrating a range of case studies methods, this book has the potential to influence teaching practice and cooperation within educational organisations. Real-world issues will also require collaboration with outside agencies to make the outcomes applicable in the real world. In the long term, changed practice of this nature may open the way to better decision making, especially in complex environmental situations.

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***Action Research*, 3(2), Special Issue on Sustainability**

Hilary Bradbury and Peter Reason (Eds), 2005

Thousand Oaks, CA, Sage Publications

£14.00 (single issue)

ISSN 1476-7503

This is the first Special Issue the editors of the journal have put together, and they should be commended on the range and quality of the contributions. The five articles present ideas and evidence arising from four continents; each provides an extensive overview of current literature on the issues of action research and sustainable development, as well as offering fascinating in-depth case studies that have been the basis of the authors' research. The editors 'wanted to draw attention to the human dimensions of sustainability and social change', and the cumulative impact of the articles certainly achieves that. Each in its own way demonstrates the complexity of 'building bridges' (a frequently used metaphor here) between theory, policy and practice. The contributions make clear that, as the editors surmise, sustainability only emerges from a nexus of sustainable human relationships.

David Ballard from the UK addresses how learning processes are able to support change, and develops the three key notions of awareness, agency and association.

Without all three, he claims, sustainable change will not take place, and he backs this up with detailed discussion of an example from a ‘public infrastructure company’. Much of the discussion is focused on how we can bring large questions down to a small-scale issue—for example with graduate students—through action and reflection. However, I found that here, as in other later pieces, there was a tendency to generalise from a specific context to a wider ‘target’ audience that was not clear; for example, would these insights apply to working with school-age young people also?

Kurt Nielsen from Denmark then addresses sustainability and democracy in food production using a case study from Danish bread production. He too proposes new ideas for ‘bridging everyday life experiences with production experiences’ to improve the quality of life of those engaged in production, and to help overcome ambivalence. However, he acknowledges like others that ‘developing potential is a complex question’ and sees his study as opening up avenues for enquiry rather than providing solutions.

Dewulf, Craps, Bouwen, Abril and Zhingri, based in Ecuador, then examine how indigenous farmers and engineers create ‘actionable knowledge’ for sustainable irrigation. The challenges discussed here include the acknowledged difficulty of a development project being entirely community led. The role of action research in knowledge creation is raised: ‘Participatory Action Research’ (a development of participatory rural appraisal, I suspect, though this strand of research is not alluded to) is said to be better than NGO expert-led research, though the authors accept that the latter has a bridging role. I felt sometimes that the conceptual language (for example the notion of a ‘multi-directional interaction process’) might in some ways work against the widening of participation, especially if this is to be ‘embedded in shared practice’. Hence it did not surprise me that the outcome was less sustainable than hoped.

Roger Attwater and Chris Derry then describe a water recycling scheme for urban water management in Australia, involving ‘Total water cycle management’. They base their process on Kolb’s learning competencies, and like the previous authors, find that the stumbling block is a lack of co-constructed strategies. Nevertheless, the process of using action research, they claim, can provide ‘hubs for research and outreach engaging multi-faceted examples of sustainability’.

Finally, Francis Meynell from the UK asks ‘how can NGOs evaluate their influence?’ and posits a second-order approach to evaluating and facilitating organisational change. This, it is claimed, is to overcome inadequacies in theorising about communication and learning. The proposed approach, based on organisational learning for sustainable development, develops the idea of change via ‘conversational lineages’—discernible inherited and recurring distinctions—that lead to ‘cooperative ecological enquiry’ involving researcher and active practitioners. Again, the notion of building bridges between the organisational learning literature and that of sustainable development is stressed as crucial.

What stood out for me from this collection of related studies was first, the complexity of the issues at both macro- and micro-management levels and the concomitant need for time by which to proceed slowly and keep everyone on board. Sustainability, by its very name, has to attract research that can be sustained. Each in its own way reinforced Aikenhead’s idea of researchers as ‘culture brokers’ between differing

stakeholders, referred to here as their ‘bridging’ role, though it concerns me that a bridge implies a structure linking two banks of a river that stay separate, whereas the notion of ‘brokerage’ at least holds out the possibility of creating some entirely new working context. The complexity is also reflected in many of the diagrams, which I found largely unhelpful and off-putting.

And finally, it would have been helpful to have had at least one piece addressing the issues in relation to a younger target audience. My own experience of evaluating sustainable programmes with school-age children is that ‘the earlier the better’ is a valuable maxim, in terms of attitude formation and the development of good habits. Perhaps trying to change adult practices is leaving things too late?

Alan Peacock, Honorary Research Fellow, University of Exeter

Sustainability on campus: stories and strategies for change

Peggy F. Barlett and Geoffrey W. Chase, 2004

Cambridge, MA, The MIT Press

\$23.95 (pbk), 344 pp.

ISBN 0-262-52422-8 (pbk)

As the alert reader will surely have already gathered from the title, this book is a collection of stories about change and sustainability in educational institutions. They are mostly written by academic staff and administrators. What is not clear from the title is that the stories are all drawn from USA tertiary-sector institutions, which the publisher’s blurb says are ‘a diverse group of institutions ranging from two-year community colleges to famous research universities’. This diversity is a considerable strength of the book although it probably means that, for some readers based outwith the USA, a number of the stories may seem to have little direct purchase because of the distinctive cultural niches represented by some of the institutions featured in the book. However, I say *direct* here because, as all the stories relate to change and *changing* higher education and sustainability, they may all be of interest to everyone who is caught up in tertiary-sector change strategies relating to environmental protection and social justice. And the sole (and broad) focus on the USA might well be seen as a helpful complement to other recent books of stories about sustainability and universities which have attempted a more global perspective.

The book begins with a quote from Leslie Silko about Pueblo culture (p. 1):

Through the efforts of a great many people, the community was able to piece together valuable accounts and crucial information that might otherwise have died with an individual.

The editors then begin their own introduction by drawing on this idea, writing:

We have collected narratives from many colleges and universities around the country to preserve the ‘valuable accounts and crucial information’ about the unfolding of a national movement towards campus sustainability. These stories inspire and delight—and instruct.

They give us hope and remind us of our human failings; they bind us together in a discernable pattern within the chaos of everyday history. Most of all these accounts of leadership illuminate the efforts of students, faculty, staff, funders, and administrators committed to a more sustainable future. In these chapters, we see the unfolding of an institutional transformation as our nation begins to rethink how to live sustainably and in closer harmony with the natural world. (p. 1)

This neatly captures what the editors were setting out to do. Almost inevitably, they fall short of this lofty goal, and the reality doesn't always match the rhetoric; however, it would be a very world-weary reader who couldn't find something here which is interesting, informative and even inspirational, maybe.

Following the extended introduction by the editors, the book is then divided into five sections: I. Laying the cornerstones (three papers); II. Redesigning the curriculum (four papers); III. Building buildings, building learning communities (two papers); IV. Engaging communities, engaging students (three papers); and V. Building system-wide commitment (four papers). In the end, however, I thought there was a chapter missing—a view from the editors of what they themselves distilled out of all these stories. I wanted to know what they thought of it all as I think that the book needed a reflective endnote which addressed the function and purpose of the university in a society facing up (or not) to the challenge of sustainability. It's all very well to leave it to the reader, but it seems a bit of a dereliction of editorial duty in so nascent an area not to help the field try to understand where it is. Personally, I really don't think it's good enough, especially in a book that has no entry in the index for 'learning', to write:

The way forward in the transformation of higher education is not always clear, nor the steps easy, but hearing the voices of those who have gone before enables us to create new stories of how we might envision a sustainable world. Widening the circles of involvement, change unfolds, and the future stories are written. (p. 24)

There would have been ample room for a reflective review had one of the more familiar institution-grounded stories, just for once, been omitted. Although this is a relatively minor caveat, it is an important one.

Every reader will have their favourite stories from this book. Mine are, first, Richard Norgaard's essay on 'Transdisciplinary shared learning' (pp. 107–119), which charts the evolution of Berkeley's interdisciplinary graduate programme over the last 30-odd years—because of its clear analysis of the steering of academic and scholarly endeavour, grounded in Enlightenment values, within an unpredictably shifting and turning institutional culture; and, second, Debra Rowe's account, 'Building political acceptance for sustainability: degree requirements for all graduates' (pp. 139–155), which tells of how global environmental awareness, social responsibility and interpersonal skills were made required components of all Oakland Community College's degrees—because of the quite admirable devious (but completely legitimate) playing of committee and process games; this is a story that all budding course leaders should read.

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ECO-schools – trends and divergences A Comparative Study on ECO-school development processes in 13 countries September 2005
ISBN 3-85031-062-0 Authors: Finn Mogensen, Michela Mayer. Publisher: Austrian Federal Ministry of Education, Science and Culture,
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Ministry of Education, Science and Culture, in collaboration with the COMENIUS III European network programme: – School
Development through Environmental Education™ (SEED) and the international network – Environmental and School Initiatives (ENSI), 2005, 360 pp. ISBN 3 85031 062 0. Eco Clubs are one way to encourage interest and involvement and can be very rewarding,
especially when children are given responsibility to make their own decisions about the changes they want to see and the opportunity to
improve their own school environment. Here, we have recycled 25 ideas for your school or Eco Club: 1. Rather than cartons, which
contain foil and are not recyclable, encourage the use of glass milk bottles. These can be sterilised and re-used time and time again. In
2019, Eco-Schools celebrates 25 years of excellence in the field of Environmental Education (EE) and Education for Sustainable
Development (ESD). It is, to date, the largest school network globally, implemented in over 68 countries, more. This robust
pedagogical process empowers students with the drive and confidence to continue to have a positive impact in their bid to make the
world a better place to live in. The first section also includes a chapter with a literature review of more than 68 research reports from
multiple countries. ECO-schools: trends and divergencies, Austrian Federal Ministry of Education Science and Culture 2005, Vienna,
Austria pp 42-52 more. Published in: Mayer, M and Mogensen, F. (eds) (2005).