



REVIEW

Teaching and Learning for Change: Education and sustainability in South Africa

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Achieving environmental education within the current South African school system feels akin to putting eggs into a beer crate. But such is the difficulty, delicacy and discomfort of the project of system change we are struggling within, to remake and reimagine our relationships in and with the world. South African environmental educators and researchers have been involved in this task over the past 40 years. As the book *Teaching and Learning for Change: Education and sustainability in South Africa* shows, the school system is an important place to start, as a meeting point of knowledge and learning and as a site in which young South Africans spend much of their time. This book not only tells a story of efforts towards realising environmental learning within the school system over the last 10 years of the Fundisa (learning) for Change Programme but it distills the significant lessons for the context of environmental education practice, going forward.

The book has four distinct sections which are as necessary as the four legs of a table: curriculum development, pedagogies, assessment and teacher professional development. The book can be read right through, but it also stands as a kind of reference book into which practitioners and researchers may dip for the most relevant and up-to-date thinking on an aspect of environmental education. Most significantly, it is grounded in a South African experience drawing on “small-scale empirical case studies from South Africa that are nested within a coherent national teacher professional development programme” (p. 4). Edited and predominantly authored by Southern African scholars, many of whom I have read and learned from over the years of my PhD study, it is a significant contribution to our times. In this review, I walk through the four sections drawing out the elements that have stood out for me as significant for educational practice today.

The introduction of the book sets the stage with a politically rigorous notions of education, Environmental Education (EE) and Education for Sustainable Development (ESD), “rethinking education in terms of its development intentions” (p. 4), calling our attention to how sustainability concerns now explicitly feature within high profile international documents such as the UN Human Development Report and the 2030 ESD roadmap. For example, it problematises a development agenda underpinned by the assumption that environment and society are pitted against each other. It also suggests

“a fundamental shift in the purpose and direction of education” (p. 8), expanding beyond learning about environmental devastation towards fostering hope through ‘transformative’ and ‘connective’ learning approaches. The introduction demonstrates a bigger picture conceptualisation of education and development, underpinned by a directive that is responsive to people’s freedom to decide and achieve what a meaningful life is for them. This introductory framing is significant as environmental education is at risk of being depoliticised and undermined. The rest of the book presents how these ideas are struggled with in contexts of practice.

Section A: Environmental content knowledge in the curriculum

The first section outlines the journey that environmental and sustainability knowledge takes from relatively new academic fields (environmental and sustainability sciences) and into the curriculum. This journey requires a transformation of the knowledge produced in higher education contexts and is named “recontextualisation” (described on page 26). This chapter usefully makes visible the often invisible mechanisms that shape environmental education curricula, enabling us to analyse the issues that emerge in this process.

Environmental education practice contains five tensions or ‘problems of recontextualisation’. These tensions should be part of the reflective tool kit of any environmental educator. I rephrase them as questions below:

- How do we ensure that environmental problems are understood holistically and do not get lost in the disciplinary separations of school subjects?
- How, when teaching across subjects, do we ensure conceptual coherence, that what individual disciplines offer us is used taking care of the learning process as well as content?
- How do we avoid disconnecting knowledge from lived experience and context?
- How do we hold onto visionary knowledge, such as alternatives to mainstream economics that are not yet present in established curricula?
- How do we ensure that the radical political values of change contained in the broader environmental education project, some of which might be found in environmental social movements, get transferred into school cultures which privilege notions of status quo, shallow inclusivity and ‘objectivity’?

The discussion of these five problems of re-contextualisation speaks to a real need for educational cultures to break open and grapple with the contradictions that are contained within discipline dividedness and technocratic approaches. Chapter 5 demonstrates this struggle in the context of teacher training and the concept of socio-ecological systems thinking while Chapter 6 takes a deeper dive into climate change education noting the absence of socio-emotional elements of climate change pedagogy.

Section B: Transformative pedagogies for environment and sustainability learning

Throughout this book, there is a commitment to “theory and practice in practice” (Lotz-Sisitka, 2016 referencing Bhaskar) and this section’s contribution is not only to describe case studies and examples of ‘transformative pedagogies’, but to think about them critically and take care of how they have fallen short, specifically in Chapter 8 (a historical analysis of active learning).

The comprehensive discussion of the complex and multifaceted elements involved in action learning in Chapter 8 critically points out the pitfalls and problematic assumptions emergent over the time “active learning” has been in Environmental Education discourse. The chapter draws on the work from four programmes on sustainability and environmental education in South Africa for real grounded and empirical examples. The framework on three meta-areas for action learning include aspects we would not automatically consider ‘action’. These are figuring out what we know, what we need to know – information work, and reflexive deliberation reflecting on the values at play in our we engage action and, critically, building capacity to reflect on how our practices unfold in the complexity of the world. In our attempts to embrace this complexity and the complexity of our learning practices, we cannot accept that action alone is an effective mode of learning. These three areas are situated, action oriented and reflexively deliberative pedagogy. Action for the sake of action is not necessarily the way, but action accompanied by a situatedness and reflective practice enables transformative shifts.

Chapter 9 elaborates on facilitating active learning through the authors’ reflection on mediating Life Science teacher practices in two classrooms, to inform and strengthen the teaching of Grade 11 Life Science content. Chapter 10 demonstrates a similar intention but in a different encounter of a course-supported design research intervention process in which teachers lead their own inquiry into how to include environmental and sustainability knowledge. Chapter 11 considers what is needed to assist learners to take up agency and develop ‘higher order learning’ in their research on renewable energy inquiry projects. The three chapters wrestle with active learning across theory, practice time and space.

Of course, it is essential that transformative environmental learning be more than simply transmitting information: “Exploring human-environment relationships and alternative practices in the context of learner’s own lives was necessary to help them deal with the everyday reality of environmental risks and concerns” (p. 129).

The framing chapter for this section, Chapter 8, gracefully articulates the challenges when environmental issues are not well situated in the lives of learners. Firstly, the necessity of drawing on situatedness to capture the complexity of environmental issues, to avoid “over-simplification of and hasty judgements about, environmental issues – thus giving rise to solutions reflecting idealistic responses to negativity. This idealism results in learners having to deal with ‘real contradictions in the world’ but without the power to changer them” (p. 134). And on the other end of the spectrum, that ‘situating’ environmental

education in the lives of learners does not mean unconnected from phenomena on a global scale, but of course, the local is part of the global and these connections must be made, pedagogically.

I end this discussion with a mouth-watering example from this book used to communicate high quality situated active learning, connecting cultural heritage to food security.

“A participant in the Schools and Sustainability course – examined how indigenous knowledge of wild vegetables (*imifino*) was integrated into the primary school curriculum by inviting wise grandmothers (*gogos*) to share their knowledge about the health and ecologically friendly benefits of imifino with younger learners”...knowledgeable and experienced generations are significant dynamo in mobilizing ‘unique [African] histories of knowledge practices that have sustained its peoples over many generations of living in, and creating, habitable landscapes.” (p. 134)

Section C: Assessing environmental learning

Environmental education is complex and open-ended, proving challenging for mainstream approaches to assessment which rely on linear measurement scales. As someone who works with arts-based inquiry in environmental learning, I have learned the importance of frames to reflect on my educational practice. Arguably, the more open-ended a learning process, the more rigorous the frame to reflect should be. Especially in the case of arts-based environmental learning, one is at risk of rendering arts processes more ‘fringe’ and unimportant than they already are in educational priorities, if they are not worked with critically and consciously. Of course, we are not using the same assessment frame as we would for a maths class, and this is where much resistance to the notion of assessment comes in. But we need assessment in the form of a practice that considers the particularities of the learning process in order to consider how it enables or not, the educational goals.

The reflective assessment practice described in this third section of the book is a continuation and extension of the learning process itself, ideally feeding back into teaching practice. This is summed up in the phrase ‘formative assessment’ (p. 208) – it is not an end but a means towards further learning and shaping of teaching practice.

Assessment as learning necessarily means we have discerning ways to look at our educational processes and understand what is happening and it helps to have the details spelled out as they are in this book. Drawing on UNESCO, Weik’s famous competencies, creative adaptations to Bloom’s taxonomy, this section of the book offers us ‘dimensions’ for reflecting on our educational processes. On pages 207-208 there is a critical list of competencies, which speak directly to the socio-ecological world we are trying to portray in our environmental education encounters:

- Intrapersonal
- Interpersonal

- Future thinking
- Systems thinking
- Disciplinary and interdisciplinary
- Normative and cultural
- Strategic

As much as some of us may glaze over at the word ‘assessment’, we cannot get away from the reality that assessment is a necessary part of our educational, social, economic and political worlds. The ‘glaze over’ has a good explanation – assessment instruments in the world today actively order and rank children according to a narrow model, insensitive to differences in class, race, culture amongst others. This chapter explains assessment as a practice that can be reappropriated for deep educational accountability and continued reflexivity. The assessment section in this book does a thorough job in highlighting this and sharing examples, frameworks and ideas about how to keep the ‘good parts’ of assessment alive.

Section D: Teacher professional development

There is arguably no more important site for the project of environmental education than the continuous education of a teacher and this notion has been implicit in the book prior to section D. Teachers are at the coalface, working in complex social contexts, orienting learners into the world. Indeed, teachers have played critical roles in change projects including within the anti-apartheid resistance movement (Weider, 2003), and they have significant potential to make the shifts we need to a more life-affirming world system.

I approached the notion of ‘professional development’ quite cautiously but I was won over with the phrase in the opening of Chapter 15: “Teacher professional development is not an event, it is a process” (p. 258 with reference to Harwell, 2003). This chapter reviews cultures of teacher professional development, noting the problem with ‘black boxes’ of professional development programmes that do not examine their main assumptions in relation to the contexts of teaching practice. The chapter lands on a model that is most appropriate to the work of a teacher. Through reflection on Southern African teacher professional development efforts, the authors introduce ‘professional learning communities’; critically these are underpinned by an orientation to what teachers feel as meaningful learning, (valued beings and doings). The possibility of a teacher being able to continue their own learning process in the world, is a critical element of ESD in the world today.

Closing remark

This work must be celebrated for its significant contribution to resourcing environmental educators and environmental education researchers! Its authors are well established in the environmental education research field - an open and importance space to play and innovate as the world moves to increasingly dangerous times. I urge environmental education practitioners and researchers to take some time, perhaps even form a study group and to use this research forwards in building ethically, politically, scientifically rigorous teaching practice.

Notes on the Contributor

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