

THE ECOLOGICAL AND ENVIRONMENTAL DIMENSIONS OF THE HOLISTIC CURRICULUM

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Summary

From a holistic perspective, the conventionally fragmented and modernist approach to the inclusion of ecology within the curriculum – what is termed here ‘the learning of ecology’ - is seen as limited and inadequate. Rather, a holistic view sees ecology as foundational to a relational view of education and learning – what is termed here “the ecology of learning.” Such an approach embraces a more extended and integrative sense of curriculum. In this article, a distinction is made between the dominant view of curriculum as ‘product’ and the more holistic interpretation of curriculum as ‘process’. This difference is traced to contesting reductionist/mechanistic and holistic/ecological cultural paradigms influencing education, and a series of associated curriculum tensions are outlined. A spectrum of different curriculum responses to the idea of environment and ecology are then discussed, and an argument for ‘ecology as worldview’ stressing transformative learning - and a constructivist view of learning (yet which embraces ecological realism) -is briefly presented. A number of holistic ecological curriculum frameworks are briefly reviewed. The idea of systemic coherence, emphasising the idea of extended curriculum touching all aspects of an institution’s culture and operation is then addressed. Sustainable change in curriculum is seen as involving a participative process of visioning, designing, development and implementation that shifts the emphasis in an institution from being a teaching system towards becoming a learning system. To end the article, a connective pattern between the ecological view of

curriculum and learning on one hand and of sustainable development on the other is suggested.

1. Introduction

Let's start with a simple scenario. Supposing a particular educational institution wanted to acknowledge the importance of the environment in its curriculum. It might be expected to research or develop a list - probably based around environmental science - of some key environmental ideas, concepts and issues, and maybe values. It would then be likely to conduct a curriculum audit to see how far this list was already covered, and then seek to remedy any gaps by infusing these ideas into appropriate subjects. 'We cover the environment in our curriculum', it might then say.

So far, so good, perhaps. This is a conventional response, which has some claims to validity. But if the question of an environmental and ecological curriculum is posed from a holistic viewpoint, then inevitably deeper considerations arise. Such considerations go beyond the norms of conventional wisdom, and into the questioning and rethinking of general views and definitions of knowledge, of environment and of curriculum. In this article, it is argued that in the current context of the challenge of sustainability, the conventional response to 'integrating environment' into a curriculum, which otherwise remains unchanged, is inadequate. Although 'the learning of ecology' is important, the prior concern needs to be 'the ecology of learning'. Such a holistic and ecological response necessitates a learning process in the total educational community that would enable a sufficient revisioning of the meaning of curriculum towards ecology and relationship.

The logic of this viewpoint derives from ecology itself. 'Ecology' is still a science of course, but more significantly it is a powerful idea. It is no longer an exclusive subject in university-based departments of biology. In many respects, ecology has turned into a worldview. As such, it presents a holistic challenge to the current modern worldview that reduces and fragments reality into its distinct parts in order to understand. In short, ecology holds out the promise and hope of caring for the whole. From the sustainability perspective, this whole is the entire earth.

This is an essentially relational view: curriculum is seen in relation to the wider context of educational purposes and policy; this latter context is seen in relation to the encompassing context of social change and culture; and this in turn is seen in relation to the ultimate context of the state of the environment and biosphere which supports all life. This is a holistic or systemic view of nesting systems which, in order to gain insight on an issue, increases the level of abstraction or overview, rather than taking the conventional reductionist route of examining detail and dividing the issues into smaller parts. From this viewpoint, curriculum is less about an imposed course of study than the emergence from a given learning situation, less about control than participation, less about prescribed learning outcomes than about design for meaningful experience and empowerment.

This raises a difficulty, however. If we take the discourse of education for sustainability, there are widespread assumptions that global trends are on a road towards greater

unsustainability and a troubled future, and that education has a key role to play in ameliorating this situation and perhaps redirecting it. This role clearly implies a need for “ecological literacy” and behavioural change amongst the population. Accompanying these challenges is also a keen awareness of urgency.

The difficulty arises from an apparent conflict between this ‘change agenda’ interpretation of education for sustainability on the one hand, and a view of curriculum based on emergence and process on the other. The first view holds that people need to achieve ecological literacy to live well and responsibly in an ecologically threatened world. The second position holds that curriculum should not be directed towards given ends or be imposed. The first view is a primarily instrumental and behaviourist view of education, (seeing education as a means to developing environmental awareness, understanding, skills and responsible action), while the second is a constructivist view that stresses the intrinsic value of education and the experience of the learner. This tension between a so-called ‘destination view of education’ and ‘education for its own sake’ has been a running theme in the education for sustainability debate. In this article, clarifications and a suggested resolution to this tension will be presented. Furthermore, the article will outline how a holistic view of an ecological curriculum differs from the conventional reductionist view.

2. The nature of curriculum

What is meant by “curriculum?” The original Latin word *curriculum* itself means a racecourse or course for running (the verb being *currere* – to run). It was first used in an educational sense to mean a course of study in the 16th century, and it is this interpretation that has ever since been dominant in educational policy and debate. Hence, *curriculum* is usually taken to mean no more than an agreed upon set of goals, content and practices that a national policy or an institution develops or adopts.

To explore the idea of a curriculum, however, it is useful to make a distinction between conceptual and cultural approaches, and between viewing curriculum as product and as process. A conceptual approach to curriculum looks at the structure and content of any particular curriculum. This is the conventional approach, reflected in reductionist approaches to knowledge and managerialist approaches to pedagogy and educational purposes. A cultural approach, on the other hand, is primarily concerned with understanding the rationale, ideological foundations and context of any curriculum, as these platforms significantly influence the purposes, structure and content of curriculum. Understanding curriculum at this level then opens the door to alternatives.

Thus, a conceptual approach to the question “what are the environmental and ecological dimensions of a holistic curriculum?” might simply list those ideas and elements that are considered desirable. Rather, it is more important –since interest in a deeper response to sustainability has become both vocal and urgent- to first look at the underlying shifts and changing context that inform how curriculum is conceived in the first place.

Allied to the distinction between conceptual and cultural approaches to curriculum is also a distinction between curriculum as product, and curriculum as process. The

difference is a view of curriculum as being no more than an agreed upon set of educational goals, content and practices – or as a multi-faceted expression of an institution’s (and perhaps the wider society’s) ethos where the total learning experience or process is the prime focus. Curriculum as product tends to specify goals, objectives, pedagogy, and evaluation strategies that lead to predicted learning outcomes. The curriculum is often written down as a set of documents to be followed and delivered to achieve pre-defined ends. By contrast, curriculum as process and praxis puts the emphasis on developing meaning with students through collaborative inquiry, teaching, and research. Learning outcomes are deliberately approximate and open-ended, rather than narrowly prescribed.

The importance of this distinction between the conceptual/product approach, and the cultural/process approach is underlined by returning to the roots of the term *curriculum*. The product approach emphasises curriculum, the noun, as a course to be run, and this has been the dominant norm in educational thinking and practice for hundreds of years--even when the focus of curriculum concern might be the environment. It has been argued elsewhere, as it is here, that the emphasis should rather be put on *currere*, the verb, thereby focussing more on the quality of the experience of the runners. This view of “curriculum as lived experience” puts more weight on the process view of curriculum.

This distinction regarding these two fundamentally different views of curriculum is clarified by looking at underlying tensions in the cultural paradigm or worldview that give rise to the differences outlined above.

3. Paradigm Tensions

Following the lead of various writers, it is useful to make a distinction between two fundamental worldviews or cultural paradigms. The dominant paradigm is often characterised as being reductionist, positivist, and mechanistic and is associated with modernist thought; the emerging paradigm is often described as holistic, participatory and ecological and is associated with postmodern or revisionary thought. Those advocating the latter maintain that the fundamental issue at stake is a “crisis of perception” which affects everyone, and that a change of cultural worldview based on some form of holistic or systems thinking is both necessary and emerging, if still fragile. This involves a shift of emphasis from relationships based on fragmentation, control and manipulation towards those based on participation, appreciation and self-organisation. The ontological assumptions about the world then shift from certainty and linear determinism to uncertainty and complexity.

Increasing numbers of writers are pointing to the emergence and nature of this ecological worldview, predicated on the notion of a non-linear and co-created or participative reality. Evidence of this emergent paradigm can be seen in aspects of ecological and integrative thinking, particularly ecophilosophy, social ecology, ecopsychology and creation spirituality, as well as more practical expressions in major areas of human endeavour such as holistic science, ecological economics, sustainable agriculture, holistic health, adaptive management, ecological design and architecture, and efforts to develop sustainable communities.

In this sense, ecology is not just a subject for the curriculum but a metaphor inspiring deep cultural change. Much of Western humanity's way of knowing – its epistemology – which underpins dominant views of education, is in question. Against a background of real world unsustainability, uncertainty and complexity, the paradigm of certainty and fragmented knowledge is no longer adequate. The required shift, from modernism to postmodernism, involves a change of emphasis from reductionism towards holism, from objectivism towards critical subjectivity, and from relativism to relationalism.

While it is acknowledged that in the education for sustainability debate, writers often map out three or four paradigm positions in education (for example, positivist-behaviourist, interpretive-liberal, reconstructionist -critical, and participatory-holistic), here the bi-polar tension between underlying mechanistic and ecological cultural worldviews will be concentrated on. This analysis and discussion tends to be overlooked, even in the education paradigm debate.

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Biographical Sketch

Dr Stephen Sterling is a founder member of the Bureau for Environmental Education and Training (BEET), and an independent consultant in environmental and sustainability education, working in the academic and NGO fields in the UK and internationally. He was a founder of the Education for Sustainability Programme at London South Bank University (LSBU), London, where he is an Associate Fellow of the Centre for Cross-Curriculum Initiatives and an academic tutor, and is an associate of the Centre for Research in Education and the Environment at the University of Bath. He is a member of the IUCN Commission on Education and Communication.

He has an extensive publications record, including *Good Earth-Keeping: Education, Training and Awareness for a Sustainable Future* (UNEP UK 1992), *Education for Sustainability* (Earthscan 1996), *Education for Sustainable Development in the Schools Sector* (Sustainable Development Education Panel, 1988), and *Sustainable Education – Re-visioning Learning and Change*, (Green Books, 2001). His interest lies in the interface between systemic thinking, ecological thinking, learning and sustainability and this was the subject of his doctoral research.