Is there a Future for Education Consistent with Agenda 21?

John Smyth, University of Stirling, Scotland

Abstract

This paper is largely based on recent experiences in developing and implementing strategies for education consistent with the concept of sustainable development at two different levels, the international level characterised by Agenda 21 along with the efforts of the UN Commission on Sustainable Development to foster its progress, and at the level of a small country—Scotland—with its own individual problems and interpretations. There are, however, parallels between the difficulties and approaches, which these different levels present. Tensions have developed, and need to be resolved, particularly around the differential rates of change to which society is being subjected and the stresses, which these generate. Further sources of tension arise from the scope of the word "environment," the interpretations given to other critical words used to describe what is being attempted and their implications, the poor preparation of people even in high and critical positions, to deal with complex systems, and the status accorded to education as a part of the natural dynamics of the systems in which policy makers are operating. There may be little prospect, as yet, of simple treatments to reduce these conditions, but it is at least important that they should now be part of the thinking of educators and their managers at every level, and that some basic principles be developed for future progress.

Résumé

Cette communication est principalement basée sur de récentes expériences dans l'élaboration et la mise en œuvre de stratégies d'éducation conformes au concept du développement durable à deux niveaux : le niveau international caractérisé par Action 21 ainsi que les efforts de la Commission des Nations Unies sur le développement durable en vue d'en favoriser les progrès; et au niveau d'un petit pays, l'Écosse, qui a ses propres problèmes et

interprétations. Il existe cependant des parallèles entre les difficultés et les interprétations de ces divers niveaux. Des tensions ont surgi et doivent être résolues, notamment en ce qui concerne les rythmes différentiels du changement auxquels est assujettie la société et les tensions qui en découlent. De nouvelles sources de tension entourent la portée du mot " environnement ", les interprétations données à d'autres mots critiques utilisés pour décrire les tentatives qui sont faites et leurs répercussions, la piètre préparation de personnes dans des postes élevés clés pour aborder des systèmes complexes, ainsi que le statut accordé à l'éducation dans le contexte de la dynamique naturelle des systèmes dans lesquels les décideurs travaillent. Il existe en ce moment peu de chance de trouver des traitements simples pour réduire ces conditions, mais il importe au moins qu'elles fassent désormais partie de la réflexion des éducateurs et de leurs gestionnaires à tous les échelons et que des principes fondamentaux soient élaborés pour les progrès futurs.

If we are to look critically at the present state of environmental education and how it might progress, we should first make sure of our base-line; familiar ground as it may be, many promoters of environment and education have not absorbed its implications.

At the heart of environmental education lies a variable but indissoluble relationship between an animal (in this case a human being) and its interactive surroundings, what Cooper (1992) called its "field of significance," "not something a creature is in but something it has," not sharply delineated but pervasive in people's lives and thus rarely articulated (p. 168-169). "Core" and "field" form an inseparable and inter-dependent unit of a sort that the ecologist Patten (1982) described as the "fundamental particle" of ecology. It is a relationship of give and take: the core of the unit receives from around it the energy and material necessities of life and the information to locate them in a varied and fluctuating environment; and, it returns the products of its activity along with a degree of interference occasioned by these processes, from which recovery is normal. The health and viability of the core element depends on how well this relationship works. The primary reward is the maintenance of an individual within a system in a state of autopoiesis (Fox, 1994).

Part of the environment will be other, similar core/field units. They will share much of their respective environments with each other so the health, or otherwise, of each relationship is part of a community state. Since both individual and community health are bound up with the health of the environment, this becomes a shared responsibility. Communities are located among other communities and are nested within a sequence of progressively larger structures with which they interact and share to diminishing degrees. The whole is the product of a history extending through family, genealogical, historical, archaeological, anthropological, biological, geological and astronomical scales to the beginning of time, whatever that may be; it is also the starting point for the future.

The relationship of the core element to its field is not simple. Perception of environmental signals is constrained by sensory factors, selection influenced by past experience, appetites and expectations, interpreted in the light of memories, capacities and intentions. Far from being an objective record the perception is absorbed into an "inscape" (Gerard Manley Hopkins' word, used by Dansereau, 1975). The result is a construct, and the responses to the perception are likely to be similarly structured. Since individuals vary in both capacities and experience, the perceptions and resultant actions of different individuals may vary significantly, so that communications between them should be received and, indeed, transmitted critically.

For humankind, the range of sensory capacities extended by instrumentation, the ability to form ideas and to communicate them through both space and time, the ability to call up visions of the future and to devise devious means of realising them, and the scale and complexity of resulting actions especially in a time of technological explosion, make the relationship a complex one indeed. Every animal goes through a process of learning during which its inborn potential is adjusted to the conditions of its habitat and lifestyle, but for humankind this requires quite unparalleled guidance to be adequate to the needs. Education provides this guidance with widely varying results, formally and otherwise. But, in a time of such rapid change is it generally adequate to the need? Environmental educators are among those who answer "no" and try to adapt or transform existing structures and methods to a new concept of what is necessary. Whatever title is applied to it, this is the system, together with many deficiencies which the explosion of humankind has introduced into its functioning, for which education is entrusted to prepare people.

This is all intended to make clear why tinkering with current educational practice will not suffice to bring it in line with human/environmental change, and why efforts to control the processes of change will

not succeed if learning processes, suitably guided, are not integrated into the control program. The article is based primarily on experiences of promoting environmental education in a small, culturally distinctive, industrialised country (its education system different and separately administered from that of the rest of the United Kingdom, as is its environment). To these are added experiences from the international scene, mainly involving IUCN, UNESCO, the assembly of Chapter 36 for Agenda 21, and its treatment at meetings of the UN Commission on Sustainable Development. These experiences were all founded in a belief that the educational response appropriate to our current condition cannot be assembled piece-meal from fragments of existing practice however good, but demands a critical reappraisal of education as a whole in relation to the lives we now lead as components of complex and global systems, and a commitment to make it consistent with their rapidly changing state. The objective of the article is to explore from this standpoint the current condition of environmental education (by whatever title is fashionable), and consider what approach may now be needed to carry it forward more effectively.

The Scottish Perspective and its Relationships

Environmental education in Scotland provides a useful point of departure. Its development was described recently (Scottish Environmental Education Council, 1998) and its background comprises the same events which have now been drawn together by many writers, including Orellana and Fauteux's very thorough review in the on-line colloquium *The Future of Environmental Education in a Postmodern World?* (1998). From the Scottish point of view this history may, however, be worth summarising in five phases:

- Focus was on the natural environment and the damage being done to it: humankind was treated as a separate system in interaction with the natural system, people figuring as the causes of problems, sometimes as their victims, and always as the stewards who should put things right (e.g. Pritchard, 1968; Stapp, 1969; IUCN, 1970).
- At the Stockholm Conference (UN, 1972) the poorer countries made it clear that human quality of life must be part of the solution, so UNESCO and UNEP emphasised at Belgrade (1975) and Tbilisi (1977) that the environment is total, including the human environment, social, cultural, economic, political, and that this is a necessary component of environmental education. In practice there was still much reference to problems.
- The World Conservation Strategy (IUCN, UNEP, & WWF, 1980) was based on three unifying principles: maintenance of life-support systems,

maintenance of biodiversity and sustainable use of renewable natural resources. It took humankind fully into the system to be conserved and was proactive rather than reactive, at its best moving people from problem-orientation towards a positive vision of a healthier environmental future.

- Sustainable Development, introduced as an objective of environmental policy and education, was further developed by the Brundtland Commission (WCED, 1987) and became the key objective of the Earth Summit in Rio in 1992 and its action plan Agenda 21, to which governments signed up. Although environmental education remained unclear to many in government, education for sustainable development as set out in Chapter 36 was now something to which they were committed.
- Post-Rio, the number of excellent projects grew but with little growth of international support. UNESCO reported to the Secretary General of the Commission on Sustainable Development, set up by the UN to monitor the implementation of Agenda 21 (UN Economic and Social Council, 1996), that education is "the forgotten priority of Rio." Many in both governments, and NGOs, were still confused about education, expecting it to produce rapid changes in public behaviour, and about sustainable development—as were some educators. Influencing fundamental thinking of both educators and environmentalists became critical.

The sequence exhibits great progress especially in the integration of the system, the perception of its global dimensions and the proactive view of its treatment. It also reveals growing interest of the human establishment but continuing difficulty in understanding it. The concept of education contained in Chapter 36 was an attempt to spread it beyond conventional constraints into society at large. Of course its recommendations could never entirely conform with those of everyone concerned for improvement. In any case ideas have continued to evolve during the eight years since it was drafted. But we also have to remember that this is what governments signed up to. Until it is replaced by something else with comparable international authority, we shall do well to keep governments in mind of their commitment and use it as a base from which our own ideas can continue to develop. In other words make the most of what we have: we might have done much worse.

In Scotland we were working on our strategy at the same time as Agenda 21 was taking shape, and the processes were not unconnected. Scotland's approach to environmental education had been a little atypical.

Many of the prime movers were people active not in the rural environment nor in nature conservation, but in planning and education associated with inner city problems and urban regeneration. When Tilbury (1995) described environmental education for the 1990s as being associated with relevance to society and students as much as to ideas of environmental quality—holistic in terms of both environment and humanity, values-orientated, issue-based, action-orientated and critical—she was identifying qualities which were already current in the Scottish discussions of the 1970s and 1980s. The report (Scottish Office Environment Department, 1993), which led to a Scottish National Strategy in 1995, was built on a series of objectives—awareness, literacy, responsibility and competence—to some extent growing from each other and aiming for a state of environmental good citizenship. It drew together a more detailed list of desirable qualities close to those selected for sustainability by others such as Sterling (1996).

Not that active discussions and publications meant practical action—predictably that developed much more slowly. The 1993 report benefited from the advanced thinking of a pioneering document, produced by Her Majesty's Inspectors of Schools in 1974. It was built on a concept of environmental education comprising empirical, synoptic, aesthetic and ethical elements, lifelong, holistic, permeating, critical and more, which was quietly shelved by the government. It did, however, have some influence abroad on the international definition of environmental education, and stimulated non-governmental organization activity at home to keep the ideas alive.

Scottish developments were relatively independent of those elsewhere but they were in sympathy with the international events of the 1970s and 1980s, and made constructive use of the *Principles of Sustainable Living* (IUCN, UNEP, & WWF, 1991) in the preparation of the Scottish strategy document of 1993 (Scottish Office Environment Department). Accounts of the strategy process and factors contributing to its relative success can be found elsewhere (Smyth, 1996; Scottish Environmental Education Council, 1998).

There were many lessons to be learnt from this experience: for example it demonstrated that environmental education, as originally conceived, could be developed without undue stress into a form consistent with the objectives of Agenda 21, and that these objectives matched those of many other contributors to the debate. But it also showed up some difficulties which are reflected in international experience and which will have to be addressed successfully by the environmental education community if the educational ambitions of Agenda 21 are to be realised.

Developing Tensions

Sustainable development attracted social scientists to the scene, with new political agendas related to equity—between generations but also between genders, ages, cultures, north/south and more. This was consistent with post-Stockholm definitions of environmental education but common practice may not have been sufficiently influenced by the UN lead. In spite of the 1977 definition, environmental education was now being perceived as essentially "green," a usage encouraged by the popular application of the word to any initiatives for protecting the biophysical environment, but deemed not to be inclusive of sustainable development in its socio-economic and political contexts. At Rio it was felt necessary to refer to "Environment and Development Education" to cover the field but this was later replaced by a medley of variants on the Sustainable Development/Future, Sustainability theme. This distinction was reinforced by the preference of governments and funding bodies for a term to which they were committed by Agenda 21 over one which they had not hitherto taken very seriously, and also perhaps by the retention of "development" as an acknowledged environmental activity. The growing variety of titles, however, suggested unease among users about their meanings.

As these ideas expanded some tensions began to develop at both international and national levels, in addition to the obvious one between conservationists and developers; these were summarised for the recent Scottish review of progress (Scottish Environmental Education Council, 1998; Smyth, 1999) and include tensions between:

- environmental conservationists and social reformers, the resource system and the consumer system;
- environmentalists who are issue-based with priorities for quick changes in people's behaviour, and educators who are people-based, whose priorities are longer term, and whose focus is on the development of competence (in this case environmental competence);
- environmental policy-makers and education professionals reluctant to be told what to do by amateurs, however well-intentioned;
- proposals for change and the vested interests of established academic disciplines and professional institutions, the constraints of finance, of administrative structures and of staff training, let alone an overworked and undervalued profession longing for peace to consolidate;
- the need for educational change and the stressful effects of change on a complex system: ironic, perhaps, when one reflects that it was the

damaging effects of stress on the human-environment system which gave rise to the concern in the first place.

Forward Steps

The following are among the constructive steps which might be taken in appropriate forms to relieve such tensions, at international, national or perhaps any level.

Consolidation of effort

- Polarisation in education between natural and social scientists, the latter usually with more political power, is being resisted but there is already some fragmentation of effort, as, for example, when natural scientists retreat to the leafier refuges of biodiversity education with no provision to reconvene with sustainable development educators to bring their findings together. The unifying concept of the World Conservation Strategy should not be allowed to fall apart.
- Members of the education community should now come together into a common front, which may include anyone actively involved in, or supportive of, education consistent with sustainable development: formal education at all levels and any relevant disciplines, together with supporters of many "adjectival educations" (e.g. development, health, energy, peace), teacher educators, community educators, social services, aid agencies, education and training officers from business and industry, education staff from statutory and voluntary conservation bodies, planners, countryside rangers and park management services, media people, parents' organizations and more (Smyth, Blackmore, & Harvey, 1997).
- Given a broadly common purpose, the diversity of experience, professional affiliations, training, and outlooks may not be as unmanageable as they look. There are precedents for drawing such diverse groups together successfully, for example the Environment and Development Education and Training Group in the UK, later renamed the Education for Sustainability Forum, which produced one of the most constructive submissions to the Rio Summit (*Environment and Development Education and Training*, 1992). In Scotland we are now following up an initiative proposed in the recent review (Scottish Environmental Education Council, 1998) to assemble a similar consortium to take forward a joint education venture linked loosely to the Local Agenda 21 initiative and Education 21 (see below). In this kind

of environment the mutual suspicions of quite widely different environmentalists can be dispersed.

- The principles, which all the participants hold in common, need to be identified as a platform on which to start building. This is an exercise which each group should do for itself: the process here is at least as important as the product, and worries about "re-inventing the wheel" are irrelevant. However an example of the kind of statement which is currently being aired in Scotland is given by Smyth (1999). It also helps to have (or to manufacture) a concrete objective for such a group to work for, e.g. a response to a government paper, a forthcoming event.

Names and titles

Such a group must call itself something, since its members represent such a diversity of systems of interest. Confusion about identity is evident at international gatherings of non-educator officials, such as the Commission on Sustainable Development, where it reduces confidence in educators and interest in their concerns to the detriment of future programs. At the Commission on Sustainable Development, the title "Education 21" has been promoted (Smyth et al., 1997; Harvey & Smyth, 1998), using the parallel with other international initiatives such as Local Agenda 21 and Capacity 21. This title, which avoids the constraints of "adjectival education," was floated by Harvey (1995) and offers a program within which activities consistent with the area of common agreement could be developed, benefiting from the relevant expertise of more restricted interest groups.

This might help to address another confusion—the conversion of popular phrases from meaningful expressions into mere symbols of "good" practice (see Jickling & Spork, 1998), and thereafter adaptable to a wide range of uses not necessarily consistent with their original intention. There are enough problems about the primary interpretation of terms like sustainable development and sustainability (not pursued in this article but a subject of countless others) without the addition of problems over secondary meanings. A halt of some kind has to be called—and has been (Jickling, 1997)—but how can it be made to stick? The title of this article tries the phrase "consistent with" rather than "for," a compromise between agreeing with Jickling's argument while recognizing the present preference of governments for supporting sustainable development, but it hardly makes a snappy title. Educators may sometimes have to sail under flags of political convenience.

Coping with complex systems

One of environmental education's greatest problems is the demands made on people untrained in the handling of large complex systems when they are invited to deal with issues involving geomorphological, climatic, ecological, social, cultural, economic, political and ethical aspects or more, in complex interaction. Even efforts to keep the environmental and the social wings together in a single system have probably been hampered by lack of skills in systemic approaches.

Our education is normally founded on a reductionist approach to complexity. This has served us well and will continue to do so, but it is no preparation for systems which are significantly greater than the sum of their parts. The resulting deficiencies hit us now at all levels, from delegates to the Commission on Sustainable Development sorting out world environmental policy, through local officials assessing an environmental impact statement, to members of a community trying to agree on a local service.

The implications of this, at the Commission on Sustainable Development's level, have recently been examined by Blackmore and Smyth (1998) and the need in education for appropriate preparation stressed by others such as Sterling (1996), but recognition of the deficiency is not new. The same colleague drew my attention to a paper written in 1980 by a former UK senior civil servant whose responsibilities had lain in economic intelligence: he appealed eloquently and cogently for the inclusion of systems approaches in education, citing water management as an example (Vickers, 1980). In the course of his argument he referred to the quality of the environment in which education is conducted, the ability to see alternative views of issues, and learning to be a member of a normative as well as a sustainable sociey. In discussion, all are systemic and relevant today as ever. An excellent model of what such a program might involve has now been provided by the United Kingdom Open University. Although at Master's level, its systems approach is one from which any educator would benefit (Blackmore, Carr, Corrigan, Furniss, Ison, & Morris, 1998).

The transmission of information is most effective when it supplies desired support for the pursuit of something which has engaged the imagination and raised commitment. Providing for that "something" should also have a higher priority in formal education. Formal education has also tended to underestimate the influence of surroundings in and out of school, including school management, peer group pressure, norms of community behaviour, examples set by public policy, and possibilities which exist for using these influences constructively. A systems approach to education would take in all these concerns.

Environmental education started off as a scissors-and-paste job, using the content of established disciplines; it became an issue-orientated approach to relevant topics deemed to be of local or global concern; now it should be approach-based, moving away from prescribed content and the promotion of approved values and solutions, and focusing on provision of opportunities for motivating experience and the skills needed by the student to address complex issues. The content will then come in its proper place as material relevant to what is being done, the values are more likely to develop from rewarding experience of activities to which the student is exposed, while the environment of learning—physical and social—can become a matter for critical discussion and action rather than being blindly accepted or hopefully ignored.

The idea of learning as a sustained lifelong experience is now returning but not always reflected in institutional structures. The model of education as a three-legged stool, based on personal, social and environmental competence is one which might be restored at a time when the first two appear to have priority (Scottish Environmental Education Council, 1998). Non-educators promoting environmental policies are still apt to expect education to deliver people who have been told what to do and obligingly do it, an ambition at which most educators will quietly smile. Nevertheless many educators are themselves happy to develop courses which are labelled as "for" something, a custom which should have been demolished by Jickling (1994, 1997; Jickling & Spork, 1998) but seems tenacious. Education is for students, not an external client. Understandably those who keep environmental education going under unfavourable conditions are likely to have strong convictions over some part of the field and may find it hard to pretend otherwise: a systems approach might protect them as well as their students.

A Future?

The title of this article ends with a question mark: governments should stand by their commitment to sustainable development so long as Agenda 21 carries any weight, and therefore to education consistent with it. But, are they yet able to recognize it when offered to them and will they move their education establishments enough to secure it? There are obstacles to be overcome, such as the well-known inertias in formal education systems, for a compound of reasons both understandable and unsatisfactory: the continuing dependence of many educators in the non-formal voluntary sector of lords and masters whose expectations of education are misplaced; the

social and industrial climate in which people shy off measures which incur short term losses (financial, status or whatever); the reluctance to acknowledge the educational influence of public policy towards environmental quality, of the media, advertising and entertainment industries; the lack of codes of practice which might help to prevent counter-education from such sources. Why not institute Educational Impact Assessment?

Some obstacles may lie deeper. We are in an age of accelerating change and change often acts as a stressor on both ecological and human systems (Smyth & Stapp, 1993). Complex structures and processes in systems break down, long term specialized functions, storage and other forms of future provision, information content, stratification and the like, give way to simpler relationships, short term outlooks, opportunistic policies, competitiveness and intolerance. The systems are too complex for these generalizations to be taken very far but educators function in a state of affairs beyond their ability to control. They must also continue to try, and not be so daunted by the prospect that they shut themselves off in esoteric research projects, cosy nature trails, and utopian strategy formulations to the exclusion of the real world.

But there may yet be one dilemma: how long can people tinker with the old machine when what is needed is a new design altogether, for a new age? Frustration with the slow rates of educational reform especially when it challenges vested interests, and the rapidly changing world for which it is entrusted to prepare people, lead some educators to call for very radical reforms of the education system. But will not changes add to the stress factors already operating and make matters worse? This will take delicate designing to resolve.

If environmental educators, from every kind of education committed to fostering environmental competence among people, can combine to raise the status of what they wish to do into a force which can no longer be ignored or patronised, if they can agree on a common concept of what to do and how to do it, if they try to develop capacity for systemic approaches to understanding environmental issues and reaching decisions on what to do, if they extend their pressure to insuring quality of educational experience and educational environment as well as environmental information, and fostering a climate of public support, then there may be a future for education consistent with Agenda 21.

Notes on Contributor

John Smyth is Emeritus Professor of Biology at the University of Paisley and an Honorary Professor in the Division of Academic Innovation and Continuing Education at the University of Stirling. He is President of the Scottish Environmental Education Council and chaired the Secretary of State for Scotland's Working Group on Environmental Education 1991-93. He was rapporteur to the Working Group which advised the UNCED Secretariat on the content of Agenda 21, Chapter 36 on Education, Training and Public Awareness, and has been a regular observer at the UN Commission on Sustainable Development set up to monitor its implementation.

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