

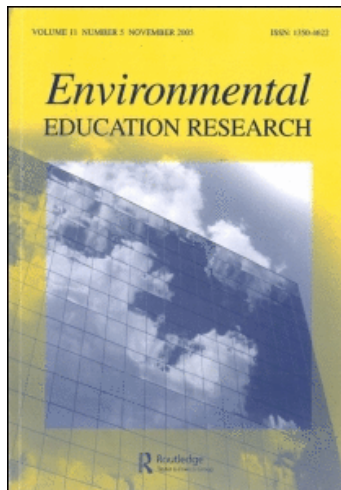
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### Environmental Education for Sustainability: defining the new focus of environmental education in the 1990s

Daniella Tilbury <sup>a</sup>

<sup>a</sup> University of Swansea, UK

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## *Environmental Education for Sustainability: defining the new focus of environmental education in the 1990s*

**DANIELLA TILBURY** *University of Swansea, UK*

**SUMMARY** *The history of environmental education reveals a close connection between changing concerns about the environment and its associated problems and the way in which environmental education is defined and promoted. In the 1990s, mounting concern over environment and development problems has meant greater support for an educational approach, which not only considers immediate environmental improvement as an actual goal, but also addresses educating for 'sustainability' in the long term. Although some education literature has embraced this new focus of environmental education for sustainability (EEFS), it has failed to outline the essence of this approach and has neglected questions about how it differs from the environmental education of the 1980s. No document exists to date which translates the goals of EEFS into guiding principles for its development in schools. Essentially, EEFS needs further definition. This paper is an attempt to engage the debate about what constitutes this new focus of environmental education and how it may differ from conventional approaches to environmental education.*

### **Introduction**

In the 1990s environmental education has taken a more clearly defined stance. Mounting concern over environment and development problems has meant greater support for an educational approach which not only considers immediate environmental improvement as an actual goal, but which also addresses educating for sustainability in the long term. This form of environmental education differs significantly from the apolitical, naturalist and scientific work that was carried out under the environmental education banner in the seventies and early eighties.

Although there is shared acceptance (amongst many academics) of the purpose of this form of contemporary environmental education, no documents exist

to date which bring together the various characteristics and elements of this different approach. Many reports which highlight the need for changes towards more sustainable lifestyles and acknowledge the role of education in achieving this have failed to specify how schools can contribute to such changes (Tilbury, 1993). Most significantly, environmental education literature (which has embraced this new focus) has overlooked the importance of clarifying what is meant by the term environmental education for sustainability (EEFS) and avoided questions about how it differs from the conventional approaches of education *about*, *in* or *for* the environment.

Explicit statements about its principles and objectives are required in order to develop programmes and materials that address the critical goals of EEFS (Sterling, 1990; UNESCO, 1993). Sterling (1990), who stresses the urgency of educating for sustainability, argues

The global issues facing us are crucial and if education has a role in addressing them, we need to be clear about what that role is ... It will pay to be clear if we want to translate them into the most appropriate and effective form of action. (Sterling, 1990, p. 2)

Essentially, EEFS needs further definition. This paper is an attempt to engage the debate about what constitutes this new focus of environmental education and how it may differ from previous approaches. In it, the author, through drawing on the contents of major international/national reports and literature, presents her interpretation of the components and principles of EEFS.

### **An Evolving Environmental Education**

Since environmental education was first introduced into the school curricula it has struggled to establish its own identity (Wheeler, 1975; Goodson, 1983; Gayford, 1991). A historical review reveals how up to the 1970s environmental education was not accepted as a concept in its own right, but instead was dispersed in a diversity of disciplines that use the environment as a vehicle for teaching (Tilbury, 1993).

In Britain, four linked yet distinctive movements played influential roles in the development of environmental education in the 1970s. These were, environmental studies, outdoor education, conservation and urban studies. They each evolved as quite distinctive movements with their own particular philosophies (Cooper, 1992), but together have promoted the introduction of an environmental dimension into the curricula. However, the existence of these differing traditions may also have served to detract from the prime goals of environmental education (i.e. environmental improvement), since efforts to develop these goals have dissipated into the overlapping disciplines and resulted in differing interpretations of the term 'environmental education' (Tilbury, 1993).

The 1980s were important years for environmental education, in that it was a decade in which public environmental concern continued to heighten, giving environmental education a stronger impetus in schools. This decade was also significant since environmental education's holistic philosophy began to take root. This was reflected in the broadening nature and scope of environmental education, marked by moves towards an inter-disciplinary dimension and from a more local to a global approach (Tilbury, 1993).

The history of environmental education reveals a close connection between the changing concerns about the environment and its associated problems and the way in which environmental education was defined and promoted. This is also the case in the 1990s, when mounting concern over environment and development problems shifted its focus to environmental education for sustainability. The new decade prompted environmental education to take a more clearly defined stance about the problems of contemporary society. The result was greater support for an educational approach which not only considers immediate environmental improvement as an actual goal, but which also addresses educating for sustainability in the long term. This form of environmental education is concerned with integration of the complementary disciplines of environmental and development education and requires reconciliation between environmental conservation and economic development.

Over recent years, there has been intense and critical debate at the national and international level, about the nature of environmental education. Emerging from this discussion is an agreement amongst scholars and researchers that environmental education in the coming decade must re-orientate itself towards improving the quality of life of all citizens under the focus of EEFS (see Orr, 1992; Sterling, 1992; Fien, 1993a, b, c; Tilbury, 1993).

### A New Focus for Environmental Education

Although the concept of 'sustainability' first emerged in the early 1980s, it was not until the 1990s that this term began to form part of the vocabulary of environmental education.

'Sustainability', which was first given currency by the World Conservation Strategy (IUCN/UNEP/WWF, 1980) and later reinforced by the Brundtland Report (World Commission on Environment and Development, 1987) refers to:

- (a) the need for reconciliation between economic development and environmental conservation;
- (b) the need to place any understanding of environmental concerns within a socio economic and political context;
- (c) the need to combine environment and development concerns.

The *World Conservation Strategy* (IUCN/UNEP/WWF, 1980), which gave fluency to the term 'sustainable development', primarily sought to protect essential ecological processes, life-support systems and genetic diversity, as well as the sustainable utilisation of natural resources. Most significantly, the *Strategy* explored the links between economic growth and environmental preservation. It linked poverty, development and the environment and described the dilemma of rural people in some developing countries destroying natural resources in order to free themselves from starvation and poverty. In the report, education is seen as playing a key role in remedying such matters.

It was the *World Conservation Strategy* which first redirected the goals of environmental education towards what it referred to as 'education for sustainable development'. This required a reconceptualisation of some aspects of environmental education, which would give greater prominence to the root social, political and economic causes of the environmental situation.

In 1991, the follow up to the *World Conservation Strategy—Caring for the Earth: a strategy for sustainable living* (IUCN/UNEP/WWF, 1991)—was launched. This document, like the *World Conservation Strategy*, also highlighted the role of education in bringing about changes towards sustainable lifestyles. It called for an environmental education that would enable citizens to understand, appreciate and implement sustainable practices. The document firmly established education for sustainability as the central goal of environmental education in the 1990s:

Sustainable living must be the new pattern for all levels: individuals communities, nations and the world. To adopt the new pattern will require a significant change in attitudes and practices of many people. We will need to ensure that education programmes reflect the importance of an ethic for living sustainably. (IUCN/UNEP/WWF, 1991, p. 5)

This new agenda for environmental education was firmly embraced by the 1992 Summit, which took place in Rio de Janeiro. The Summit, otherwise known as the UN Conference on Environment and Development (UNCED), highlighted the need to integrate the complementary disciplines of development education and environmental education:

Education is critical for promoting sustainable development and improving the capacity of people to address environment and development issues. (UNESCO, 1992, para. 36.3, p. 2)

Most significantly, *Agenda 21* of the Summit, called for the re-orientation of environmental education towards sustainability.

Environmental education literature around the world, influenced by these major documents, has also re-directed its focus towards EEFS. A large number of articles, books and reports now consider the ultimate purpose and justification for environmental education to be environmental education towards sustainability (see UNESCO, 1990a, b, 1993; Huckle, 1990; Orr, 1992; Sterling, 1992; Sterling & Cooper, 1992; Fien, 1993a, b, c; UNESCO, 1992; Queensland Department of Education, 1992, 1993; British Council, 1993; Council for Environmental Education, 1993; Education for Sustainability Forum, 1993; Local Government Management Board, 1994). Despite agreement about its aim, the literature reflects the varying interpretations of how 'sustainability' can be achieved. Implicit within these texts are differing assumptions about the nature of 'sustainability'. These variations reflect differing ideologies and capture the ongoing political debate about sustainable futures.

Although this literature has dealt with education for 'sustainability', it has failed to outline the essence of this new focus and has avoided questions about how it differs from previous environmental education approaches.

The next section analyses these documents in an attempt to develop explicit statements about the principles and components of EEFS. This task is necessary if environmental education programmes and materials are to address the critical goals of environmental education in the next decade.

## The Components of EEFS

### *Relevance: a central principle of EEFS*

However, environmental education has many important features which justify its place in the curriculum. Concerns about the environment are shared now by many people including school pupils. Environmental education can therefore be said to be highly relevant to both the needs of society and to the pupil's present needs. As a consequence, the inclusion of environmental concern adds relevance to the curriculum. (Gayford, 1991, p. 77)

Contemporary environmental education is an approach to education that seeks to interest and involve students in world problems. The mounting social concern over environmental matters makes it vitally important that education addresses this major contemporary issue and that the potential impact of environmental issues on the future is assessed.

Thus, underlying EEFS is the central principle of relevance. In order to contribute to EEFS, environmental work will need to be relevant to the student, through increasing their understanding of themselves and the world around them. It must encourage pupils to explore links between their personal lives and wider environmental and development concerns, by dealing with issues like consumerism and how the practices of business and industry influence their lives. In doing so, EEFS prepares students for contemporary reality.

### *Holism: the philosophical basis of EEFS*

Environmental education is learning to see the whole picture surrounding a separate problem like air-pollution—the history, the values, perceptions, emotions, techniques, traditional processes that cause, the problem and suggest action to cure it. (Meadows, 1990, p. 5)

EEFS uses holism as its philosophical basis. It is concerned with how people interact with their total environment and with addressing environmental problems holistically through the curriculum.

*A holistic approach to the study of environmental and development problems.* EEFS is based on the premise that environmental and development problems are not solely caused by physical and biological factors, but that an understanding of the parts played by aesthetic, social, economic, political, historical and cultural elements is required (UNESCO, 1992). It acknowledges that the investigation of any environmental issue must involve the study of the intersection and interaction of these elements. This focus within environmental work recognises that only such an approach will capture the interdependent and multi-faceted nature of the environmental situation. It goes beyond perceiving the environment as just nature or natural systems and instead recognises the totality of the surroundings and links between lifestyles and the use of nature.

EEFS is characterised by its use of 'synthesis' as an approach to the study of environment and development problems (UNESCO, 1992). Its methodology lays emphasis on the need for 'macroscopic' analysis, which is based on the assumption that studying interdependence and interactions leads to the emergence of

new properties. Its intentions are to reverse the process of 'Cartesian thinking'. By doing so, EEFS attempts to capture the complexity of environmental problems and encourage a higher level of thinking which cannot come about by separating the elements that constitute it. Specifically, EEFS requires that pupils comprehend how both ecological and socio economic systems are not merely the sum of the parts that constitute them and that consideration of their interaction is required (UNESCO, 1992).

A holistic approach to the study of environmental problems must also include an investigation of issues of different environmental scales. This entails the study of different local, regional, national and global environmental problems and an exploration of the links between them.

*A holistic curriculum approach.*

... (EE) cannot be claimed as a subject in itself, rather it must be treated as a 'whole' concept that requires inputs from all parts of the curriculum. (Worldwide Fund for Nature [WWF], 1990, p. 1)

*Agenda 21* (UNESCO, 1992) highlighted the need for the EEFS holistic outlook to be reflected in its curricular approach. It emphasised the need to integrate 'sustainability' into all areas of learning. EEFS needs to draw from all the disciplines if it is to achieve its goals, since each subject area:

... explores different aspects of human understanding and experience each subject can be mobilised to help young people develop their own coherent insight into human behaviour and the effect of this on people and the environment. (Worldwide Fund for Nature [WWF], 1988, p. 1)

EEFS does not attempt to replace any subject, but its success depends upon the holistic treatment of environment and development issues through all the areas of understanding and experience—aesthetic and creative, human and social, linguistic and literary, mathematical, moral, physical, scientific, spiritual and technological (Department for Education and Science, 1988). Each provides a unique contribution to a holistic understanding of the environment. These areas of experience are a useful planning and analytical tool for assessing an environmental education curriculum.

Such a holistic curriculum approach, characteristic of EEFS, combines and develops scientific enquiry, social science thinking and practical skills together with the creative and aesthetic sensibilities of the language and arts. As a result, EEFS also contributes to the education of the 'whole person'.

Meadows (1990) and Sterling (1990) have pointed to 'holism' as the guiding principle of environmental education curricula. It is environmental education's holistic outlook and treatment of issues that makes it a unique educational dimension in its own right. Its distinct contribution to learning results from the integration of problems and solutions in their wholeness and combining existing knowledge, perspectives and skills in new ways, as well as putting them to new uses (Meadows, 1990).

### *Values Education and EEFS*

A value is a certain belief, attitude or conviction that is consistently reflected in one's behaviour. Values determine decisions and actions and are thus of great consequence to environmental education. EEFS is not limited to teaching *about* values, but extends to the teaching *of* values required for sustainable living.

#### *Teaching values.*

No amount of preaching to the citizenry about the perils of a polluted environment, the dangers of irresponsible disposal of wastes or deforestation and the benefits to mankind of greening the environment will make people act to seek to forestall environmental degradation unless they are imbued with a deep concern for the common good, a sense of responsibility for maintaining a balanced and healthy ecosystem and a strong drive to achieve harmony with nature. (UNESCO, 1990b, p. 191)

In the past a '*laissez faire*' approach to teaching values in education has been based on the assumption that adequate knowledge and concern create appropriate values. However, research into the links between environmental knowledge and values indicates that there is 'little correlation between acquired knowledge, concern and value' (UNESCO, 1986, p. 2) and that it is not realistic to regard any environmental teaching as neutral or value-free (UNESCO, 1990b).

EEFS recognises that the decision to participate in environmental improvement is not stimulated by the cognitive realm, but is dependent on personal motivation and a sense of responsibility which results from the development of a personal environmental ethic.

Thus, central to the success of EEFS is the promotion of an environmental ethic which has sustainable living at its core (IUCN/UNEP/WWF, 1980, 1991; UNESCO, 1992). The ethic consists of developing the target values of social responsibility, concern for others and harmony with nature:

A new ethic, embracing plants and animals as well as people is required for human societies to live in harmony with the natural world on which they depend for survival and well-being. The long term tasks of environmental education is to foster or reinforce attitudes and behaviours compatible with this new ethic. (IUCN/UNEP/WWF, 1980, section 13)

This environmental ethic highlights the importance of valuing the interrelatedness of the web of life and promotes the principal value of concern for all life forms. It also promotes socially desirable values, similar to those central to gender and race education, and requires individuals to commit themselves to working with and for others in the interests of equality, equity and sustainability.

EEFS does not merely hope that learning activities will lead to the development of an ethic. Instead it sets out positively to develop environmental awareness and concern to a level which will result in the acquisition of a personal environmental ethic (IUCN/UNEP/WWF, 1991; UNESCO, 1992).

The process of developing an environmental ethic is a complex one. The nature of the debate about sustainability means that pupils will be faced with a number of diverse, but linked, issues such as poverty and consumerism.

Through EEFS pupils are encouraged to address these questions by initially helping them clarify their own values. Yet the development of an environmental ethic requires EEFS to go beyond environmental values clarification (associated with environmental education in the eighties) and commit itself to the values integration strategy (UNESCO, 1990a).

In the values clarification approach, teachers avoid outright judgements on the 'rightness' or 'wrongness' of the student's stance. Instead, the teacher is only required to find out which value position is supported by the pupil. Values integration requires that students understand the environmental consequences of their value positions, are aware of alternative values and express the rationale behind their particular viewpoints. Furthermore, teachers actively promote the consideration of values required for the development of sustainable lifestyles and do not uphold a neutral stance. Above all, the evolution of an environmental ethic is educational, in that it does not entail indoctrination (Gayford, 1991). This educational process requires that decisions are arrived at through discussion and consideration of the different value systems involved. This strategy has been well developed in the fields of gender and race education.

*Teaching about values.* The environmental ethic is based on the values of openness and sensitivity to differing beliefs and is dependent on a critical appreciation of the consequence of these differing beliefs on environmental quality.

The latter requires that pupils engage in the study of how a variety of factors, like religion, culture, socio-economic class and gender, influence values. EEFS also exposes pupils to a variety of environmental value positions, including those of marginalised groups, like indigenous people and women.

#### *Issue-based Learning with EEFS*

The primary goal of EEFS is to involve pupils in the issues surrounding environment and development problems. The major international reports have identified these issues as: climatic change; depletion of natural resources; land-use management; deforestation; desertification; waste disposal; water, air, land and noise pollution; mass extinction of species; population growth; poverty and famine (UNESCO, 1976; UNESCO, 1977; IUCN/UNEP/WWF, 1980; UNESCO, 1992).

EEFS is committed to involving pupils actively in the resolution of environmental and development issues. It uses issue investigation as a context for the exploration of moral, social and political values required for the development of an environmental ethic. Through issue-based learning, pupils consider matters of fact, values and morality.

EEFS engages pupils in the process of: (i) identifying issues; (ii) investigating issues; (iii) seeking solutions to issues; (iv) carrying out actions to address issues; (v) evaluating the impact of the environmental actions taken to resolve these issues.

### *An Action-orientated Approach: a crucial component of EEFS*

It is not merely about discussing solutions in order to enhance awareness. It is about active exploration of issues, about identifying potential solutions and acting upon them. (Oulton and Scott, 1992, p. 42)

The term 'action-orientated' refers to both the various modes of environmental participation developed by EEFS and the active learning styles employed in the study of environmental and development problems.

#### *Environmental action.*

... being informed about the environment and having a positive attitude towards the environment are, although essential, not sufficient in resolving environmental problems. In order for people to be able to act upon their knowledge and awareness they need to become acquainted with a variety of action skills. (Wals, 1990, p. 6)

*Agenda 21* (UNESCO, 1992) defined EEFS as a 'basis for action' (p. 2). Involvement with real problems and issues is seen as the most effective way of developing the action skills needed to investigate, evaluate and implement solutions to problems. EEFS recognises that it is not enough to encourage students to make judgements, they must be effectively equipped with a variety of action skills to participate in the resolution of these problems.

EEFS generates action by challenging pupils, on a personal level, to change parts of their lives, so that they are engaged in leading more sustainable lifestyles. At a public level, they are encouraged to take responsibility for the care and management of the environment, directly through participation in practical conservation projects or indirectly, as informed and concerned adults through the democratic process.

Action that is designed to solve environmental problems falls into six categories.

- (a) Negotiation: attempting to reach an agreement over an environmental issue, policy or practice through discussion.
- (b) Persuasion: attempting to modify other's viewpoints, through public debate, speech making, letter writing, pamphleteering or media campaigns.
- (c) Consumerism: discriminating through social action or boycotting goods and services; economic action aimed at changing business policy and products.
- (d) Political action: attempting by means of lobbying, voting or supporting candidates to persuade an electorate, a legislator or government to adopt a particular environmental policy.
- (e) Legal action: attempting to ensure the enforcement of a law or the constraining of certain behaviour by legal means.
- (f) Ecomanagement: maintaining or improving the landscape through physical action. (adapted from Hungerford and Litherland, 1986).

Before pupils embark on environmental action, EEFS requires that teachers ensure that the actors are well informed, have considered all action alternatives and have carefully considered the implications of their actions, especially those outcomes that might be unfair to some individuals and groups. Pupils must have a clear understanding of the values underlying what they are doing, can

defend them rationally and have considered openly the values of those which might differ from them.

*Active learning strategies.* Active learning strategies involve the participation of the learner in a way which generates an action orientation. It is a form of learning that empowers pupils to exercise responsibility for their own lives and for the environment.

Participatory learning creates a climate within the classroom that explicitly values and affirms each individual and encourages that pupil to take responsibility for their own learning. It promotes the dynamic readiness to accept responsibility and the creativity required for constructing a sustainable environment.

Games, simulations and role playing, as well as class and group discussion (in response to stimuli, e.g. photographs, media or personal experience), are a few of the active learning strategies associated with EEFS.

#### *EEFS Involves Critical Education*

A socially critical environmental education is now firmly established in theory and practice and in my view, offers the most effective contribution we can make to the realisation of sustainable development.  
(Huckle, 1991, p. 12)

Socially critical skills are essential for an understanding of the problematical concept of 'sustainability'. Furthermore, achieving 'sustainability' requires the development of politically literate individuals, who have the critical skills to understand the complexity of environmental problems and solutions and the ability to participate individually and collectively in the resolution of environmental problems.

*Socially critical skills.* Agenda 21 (UNESCO, 1992) argued that one of the challenges for environmental education in the coming decade was to prepare students effectively to be socially critical and engage them as agents of environmental protection and change. This orientation reinforced earlier claims (Huckle, 1990, 1992; Robottom, 1987; Pepper, 1986, 1990; Abraham *et al.*, 1990) that only critical education will improve the capacity of people to address environment and development issues.

Recent major national and international reports endorse critical education as a central component of EEFS (Tilbury, 1993). Huckle (1990) has argued that it is its integration with development education that has challenged environmental education to move towards this more socially critical role. It was the *Brandt Report* (Independent Commission on International Development Issues [ICDI], 1980) and the *Brundtland Report* (World Commission on Environment and Development, 1987) which initially placed development education on the agenda of environmental education. The reports argued that

If environmental education is to respond effectively to the challenges of presenting a global perspective on environmental issues and problems ... it must renew its philosophy, revitalise its process of understanding

and construct a pedagogy that is relevant to the nature and demands of the new concept of development .... (Williams, 1991, p. 1)

Reports such as *Our Common Future* (World Commission on Environment and Development, 1987), *Agenda 21* (UNESCO, 1992) and *Caring for the Earth* (IUCN/UNEP/WWF, 1991) have re-established the links between environmental and development education (Fien, 1993b). In them, critical education is seen as presenting a necessary understanding of the symptoms and root causes of environmental and development problems.

A number of environmental questions lie at the root of critical thinking. Who makes decisions affecting the quality of the environment? Why are they made? According to what criteria? Are long-term consequences considered? In order to answer these questions, pupils must embark on the task of critical appraisal through EEFS. This will include consideration of the different ideological value positions and their interpretation of environment and development issues. Through EEFS, pupils also engage in a critical review of their own developing environmental and political values.

EEFS promotes critical understanding and the skills required to challenge bias, support rational decision making and examine solutions and prospects for change. Ultimately, its objective is to develop politically literate individuals.

*Political literacy.* Political literacy provides pupils with the understanding and skills that empower them so that they can participate in a critically informed and active way (Crick & Porter, 1978) in the resolution of environment and development problems (Fien, 1993b). Huckle (1985), who has adapted the objectives of the British Hansard Society's *Programme for Political Education* (Porter, 1981) to suit environmental education needs, contends that the effectiveness of environmental education depends on the successful development of: (a) critical reflective knowledge about the environment; (b) democratic skills and values; (c) critical thinking skills; (d) experience of the processes of environmental politics. These key components can be further developed to include objectives more specific to EEFS (see Fig. 1).

EEFS can develop these objectives through considering environmental questions like: how over-consumption, waste and mis-use of resources may be reduced; how poverty that sometimes causes environmental exploitation can be eliminated; how economic activity may be altered to minimise environmental deterioration; how resources can be redirected to aid the poor or be conserved for future generations; which forms of social organisation best contribute to sustainable development (Beddis & Johnson, 1988).

Critical thinking skills and political knowledge and values, which underlie EEFS, are crucial to the achievement of individual involvement in decision making and action to improve and maintain environmental quality. Such involvement can range from personal lifestyle changes to active informed citizen participation in the resolution of environmental disputes.

Critical education constitutes a crucial foundation for EEFS. Although there is agreement about the aims of sustainability, there is dispute about paths to 'sustainability'. The ideological debate surrounding notions of sustainability make political literacy a significant component of environmental education in the 1990s.

|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>CRITICAL REFLECTIVE KNOWLEDGE</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| <p><i>(a) Critically examine the political systems of power and decision-making which influence environment and development concerns.</i></p> <p><i>(b) Critically examine how political decisions affect the production distribution and use of resources.</i></p> <p><i>(c) Critically examine different forms of social organisation and their impact on the total environment.</i></p> <p><i>(d) Critically examine how the media portrays and transmits images and beliefs about nature and the environment and help pupils detect bias.</i></p> <p><i>(e) Critically examine pupils lifestyles and identify practical ways in which they can contribute towards more sustainable relationships with the environment. Pupils develop a critical awareness of how everyday processes and events link with environment and development issues.</i></p> |
| <b>CRITICAL THINKING SKILLS</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
| <p><i>(f) Learn to critically examine the main political disputes over environment and development problems and the differing value positions which underlie these disputes.</i></p> <p><i>(g) Learn to think critically about issues and about their role in addressing these issues in a democratic society.</i></p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| <b>DEMOCRATIC SKILLS AND VALUES</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| <p><i>(h) Develop the insights, abilities and commitment to participate democratically in the prevention or resolution of environment and development issues.</i></p> <p><i>(i) Learn to be pre-disposed to solving environment and development issues in a way which is respectful of freedom of choice respectful of truth and reasoning, tolerant and fair.</i></p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| <b>EXPERIENCE OF THE PROCESSES OF ENVIRONMENTAL POLITICS</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
| <p><i>(j) Participate in a variety of real and simulated processes of environmental politics at a variety of levels.</i></p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |

FIG. 1. Critical education goals for EEFS (Tilbury, 1993).

### *A Three-fold Approach: the basis for EEFS*

There are three differing approaches to environmental education—education about/in/for the environment. Each of these approaches has distinct objectives.

Education about the environment is concerned with developing awareness knowledge and understanding about human–environment interactions (see Fig. 2).

This informative approach frequents the science and geography curricula, where the environment becomes a topic or theme of study. Through it pupils primarily develop ecological or environmental understanding, although at times environmental concern may also result. Education *about* the environment which is also referred to as environmental science or studies, is the prevalent form of environmental education in schools (Fien, 1992).

Education *in* the environment favours pupil-centred and activity-based learning. This approach usually takes the form of outdoor education. Whilst education *about* the environment could be interpreted as involving the 'head', education *in* the environment can be seen to be concerned with the 'heart'. The approach, mostly developed through fieldwork, has a strong experiential orientation, developing environmental *awareness* and *concern* by encouraging personal growth through contact with nature.

Education *for* the environment regards environmental improvement as an actual goal of education. Whilst the above approaches limit themselves to promoting understanding, appreciation and concern, education *for* the environment goes beyond this to develop a sense of *responsibility* and *active* pupil participation in the resolution of environmental problems. It adopts a holistic outlook to the study of environmental problems, reflected in its global and interdisciplinary approach. Education *for* the environment acknowledges the political elements that underpin any study of the environmental situation and thus incorporates critical education goals within an issue-based pedagogy.

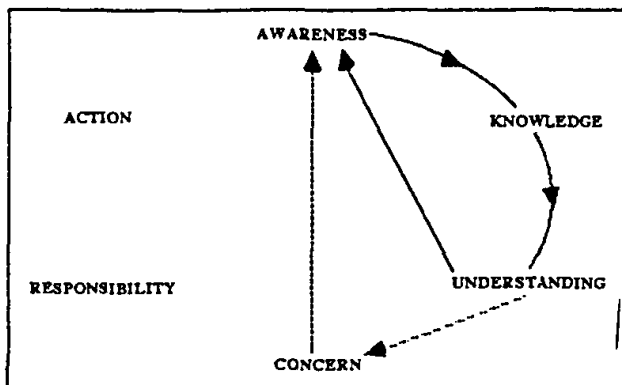
Achieving the goals of EEFS requires the integration of these three approaches to environmental work. Such a strategy would ensure that the cycle of learning, with all its corresponding objectives, is completed. In practice, this will entail ensuring that learning programmes include developing environmental awareness, knowledge, values, concern, responsibility and action, although not necessarily in that order. Teaching approaches should also reflect this cycle, e.g. fieldwork, which is initiated by data collection/observation and leads to the investigation of an issue and the seeking of solutions to an environmental problem, or practical conservation, like cleaning of a stream, which is action-based, but which provokes questions about waste and pollution, leading to the development of environmental knowledge and understanding.

### *A Futures Dimension in EEFS*

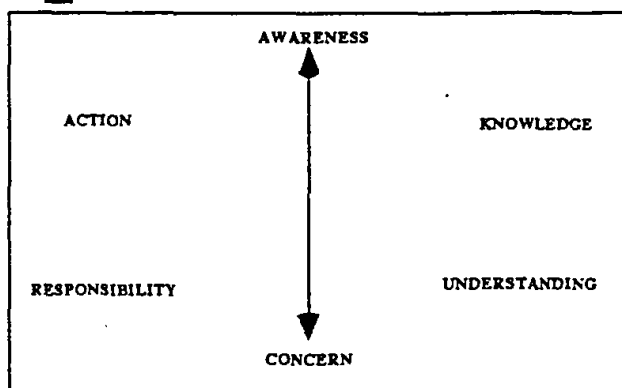
Environmental education for sustainability incorporates a futures perspective. It is this futures dimension which further distinguishes EEFS from conventional approaches to environmental education. Central to this approach is an examination of probable futures as a result of existing environmental relationships and of possible alternative environmental futures.

Crucially linked to this futures dimension is the concept of 'empowerment', and 'action'. After considering the existing environmental situation, students are confronted with such questions as: what are the probable futures?; what are the alternative futures?; how can we as individuals or organisations locally, nationally and globally move towards a sustainable future? Such questions embrace the personal, professional and political realms. They challenge daily lifestyles and ambitions, as well as visions. Through EEFS students consider the desirability and possibility of a greener economic, social and political society.

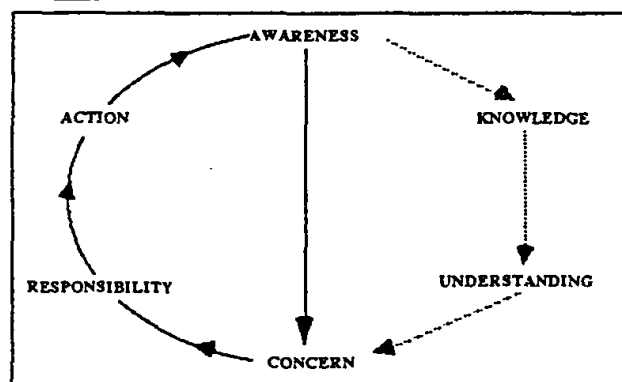
(i) Education About the Environment



(ii) Education In the Environment



(iii) Education For the Environment



(iv) A Threefold Approach

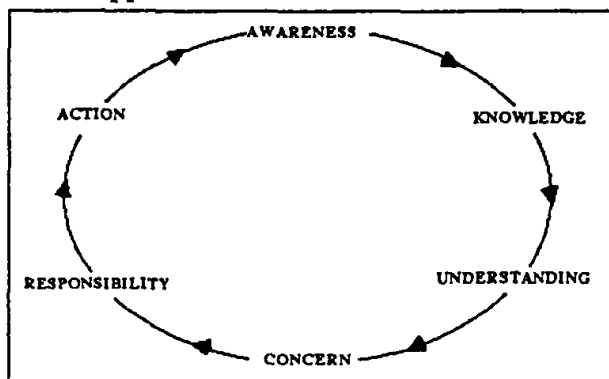


FIG. 2. Differing environmental education approaches (Tilbury, 1993).

**1.0 EEFS IS RELEVANT**

- 1.1 Is relevant to the needs of society
- 1.2 Is relevant to pupils present and future needs
- 1.3 Adds relevance to the National Curriculum

**2.0 EEFS IS HOLISTIC**

- 2.1 Is holistic in its outlook of the environment, with reference to:
  - (i) Environmental scales (local to global)
  - (ii) Environmental dimensions (social, economic, political, historical, cultural, aesthetic, physical and biological)
  - (iii) Environmental perspectives (e.g. gender and indigenous people)
- 2.2 Is holistic in its outlook of environment and development problems
- 2.3 Is holistic in its approach to learning and considers all areas of experience (social, historical, aesthetic, creative, linguistic, literature, mathematical, moral physical, scientific, spiritual and technological)
- 2.4 Is holistic in its approach to developing the whole person

**3.0 EEFS IS VALUES ORIENTATED**

- 3.1 Teaches values for sustainability (environmental ethics) including:
  - (i) values of social responsibility; (ii) concern for all life forms;
  - (iii) harmony with nature; (iv) commitment to work with and for others
- 3.2 Teaches values clarification and integration
- 3.3 Teaches about values and includes developing an:
  - (i) awareness of the existence of different values which influence environmental quality
  - (ii) awareness of the influence of culture, religion, socio-economic class, gender on values

**4.0 EEFS IS ISSUE-BASED**

- 4.1 Involves pupils in:
  - (i) identifying issues; (ii) investigating issues; (iii) seeking solutions to issues;
  - (iv) carrying actions to address issues; (v) evaluating the impact of environmental actions

**5.0 EEFS IS ACTION ORIENTATED**

- 5.1 Involves pupils in real and simulated environmental action
- 5.2 Provides knowledge and experience in a variety of environmental actions including:
  - (i) negotiation; (ii) persuasion; (iii) consumerism; (iv) political action;
  - (v) legal action; (vi) ecomanagement
- 5.3 Involves pupils in active learning (e.g. simulations, role-plays, games and discussions)

**6.0 EEFS IS CRITICAL EDUCATION**

- 6.1 Involves developing socially critical pupils through the development of:
  - (i) critical reflective knowledge regarding:
    - power and decision-making
    - resources - production, use and distribution
    - social organisation
    - media- bias, social construction of nature
    - links between lifestyles, everyday events and environment/development issues
  - (ii) critical thinking skills regarding:
    - main political and ideological disputes
    - personal involvement in environment/development issues
  - (iii) democratic skills and values:
    - commitment to the democratic values of freedom of choice, tolerance, fairness, respect for truth and respect for reasoning
    - ability and commitment to participate in democratic environmental action
  - (iv) experience of the processes of environmental politics:
    - participate in real and simulated processes of environmental politics at a variety of levels.

FIG. 3. Components of EEFS (Tilbury, 1993).

### Conclusion: engaging the debate

This paper has argued that the ultimate purpose and justification for environmental education is now considered to be environmental education for sustainability (EEFS). This new focus builds upon the characteristics of previous environmental education approaches.

Education with this objective builds upon much of the principles of environmental education in the 1980s, by adding *relevance* to the curriculum, adopting an *issue-based* approach, by stressing participation and *action-orientated* dimensions in learning and by placing emphasis on *values* education.

EEFS differs from previous environmental education approaches in that it focuses more sharply on developing closer links between environmental quality, ecology and socio-economics and the *political* threads which underlie it. Its basis is the creation of a more *holistic* outlook on problems, requiring a deeper integration between the study of environment and *development* problems. EEFS adopts a *three-fold approach* (i.e. education *about/in/for* the environment) and includes a *futures dimension* to the study of environment and development concerns. Most significantly, the success of EEFS depends on the effective development of *critical education* goals.

This paper has identified a number of components, which characterise EEFS. The list of components presented in Figure 3 is not meant to be exhaustive or prescriptive, but is instead intended to provide a basis for engaging the debate about what should constitute environmental education in the 1990s.

### Notes on Contributor

DANIELLA TILBURY is a Lecturer in Geography Education at the University of Swansea, Wales. Her doctoral thesis, undertaken and examined by the University of Cambridge, provoked questions about the future quality and direction of environmental education at the teacher education level. Daniella is currently acting as an environmental education consultant to a number of European organisations and governments in countries such as Denmark, Spain and Gibraltar. *Correspondence:* Department of Education, University College of Swansea, University of Wales, Hendrefoilan, Swansea SA2 7NB, UK.

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