

it follows, not the principle of whether a motorway is needed or not. Against this background, how much genuine government support can be expected for environmental education?

Through its study of environmental issues and of the implications of the present way of life for the environment, environmental education is forced to come to terms with a world of finite resources where nevertheless the aim of increasing consumption by all its 4000 million inhabitants seems deep-rooted. Such development is not sustainable without severe erosion of environmental quality and as a result, environmental education concerns itself with teaching for an alternative economic society which stresses quality of life rather than wealth, and conservation rather than consumption. No government has realistically faced up to the environmental problems confronting us and environmental education could be seen as a destabilising influence in society which ought not to be encouraged.

It would be unfair to suggest that the only obstacles lie outside the school. Although the term environmental education has been used for over ten years it is still perceived in a number of ways. To some it is synonymous with nature studies, rural studies or fieldwork. To others, the scope of

the possible content is so wide ranging that it deters them from attempting any coverage. We still need some straightforward statements of what environmental education is all about if all teachers are to be convinced it is within their capabilities to include it in their teaching. The HMI *Curriculum 11-16: Environmental Education* which suggests reasonable expectations by the age of 16 is a useful starting point. Other constraints within the school include the isolation of subject departments reducing the potential for inter-disciplinary activity, inflexible timetables that make practical and fieldwork difficult to organise, restrictions imposed by examination courses and perhaps, not unimportant, low morale among teachers faced with unacceptable cuts to the education service.

There are difficulties to be faced and overcome, but we must not forget that a lot of progress has been made. There have been improvements to the environment and there are many people in all walks of life committed towards further environmental improvements and sensible environmental management. Environmental education has played a major part in this progress and, as borne out by the *World Conservation Strategy*, has been recognised as the foundation upon which policies for environmental conservation should be built ●

## Attitudes and values in environmental education – an introduction to the literature

The consultative document *Curriculum 11-16: Environmental Education* by Her Majesty's Inspectorate (HMI) – published June '79 – urges teachers to transmit 'a concern for the quality of the environment and life within it, which in turn leads to commitment and action'. It acknowledges an inevitable concern for moral attitudes towards the environment and points to an involvement in moral and political education which requires both a reconsideration of the approaches we adopt in the classroom, and a greater effort to make our pupils agents of environmental improvement.

This article examines some of the implications of a wider recognition of the ethical basis of environmental education, and suggests that there is much in the literature to help us to clarify the issues raised. It argues that a considered response to the HMI's recommendations requires a critical evaluation of environmental and educational ideologies, the development of expertise in the teaching styles currently employed in moral and political education, and an understanding of the research on environmental attitudes and behaviour as it relates to education. The publications listed are a personal selection from an extensive literature, and the opportunities for reader participation are designed to aid reflection upon personal values, attitudes, and behaviour.

### The Ethical Basis of the Environmental Movement

An examination of the list of bodies supporting the Council for Environmental Education (CEE) suggests that environmental education in Britain embraces a wide range of interest groups each subscribing to a set of beliefs and values about man's relation to his habitat, and offering alternative explanations of our present environmental predicament. Society offers an even wider range of such environmental ideologies and they find expression in both blatant and subtle forms through such channels as formal education and the media. It is not my intention to review these diverse ideologies, but merely to examine briefly that form of environmentalism most frequently associated with the environment movement.

To discover whether you are an environmentalist, read the following statements and note your strong or moderate agreement/disagreement:

- 1 We are approaching the limit of the number of people the earth can support.
- 2 The balance of nature is very delicate and easily upset.
- 3 Humans have the right to modify the natural environment to suit their needs.

- 4 Mankind was created to rule over the rest of nature.
- 5 When humans interfere with nature it often produces disastrous consequences.
- 6 Plants and animals exist primarily to be used by humans.
- 7 To maintain a healthy economy we will have to develop a 'steady state' economy where industrial growth is controlled.
- 8 Humans must live in harmony with nature in order to survive.
- 9 The earth is like a space ship with only limited room and resources.
- 10 Humans need not adapt to the natural environment because they can remake it to suit their needs.
- 11 There are limits to growth beyond which industrialized society cannot expand.
- 12 Mankind is severely abusing the environment.

Ref. R E Dunlop and K D Van Liere 'The New Environmental Paradigm' *Journal of Environmental Education* Summer 78 Vol 9 No 4.

The researchers who devised this scale suggest that someone who has accepted the 'new environmental paradigm' (a set of beliefs and values similar to those currently being popularized by the Green Alliance), would agree with statements 1, 2, 5, 7, 8, 9, 11 and 12, and disagree with 3, 4, 6 and 10. Clearly such a scale has disadvantages, which I will return to in section four, but it does direct our attention to some of the central notions of one environmental ideology.

During the past ten years a new wave of environmental philosophers have provided a powerful critique of prevailing culture, and offered a critical analysis of the value orientations which are needed if we are to overcome our environmental predicament and construct a sustainable post-industrial society. Such ideologies generally involve an ecological conscience toward the environment, a commitment to the welfare of others, and a concern for social justice which embraces widely accepted humanistic values. Such writers have gradually shifted their attention from the outer, physical limits to growth such as resource shortage and pollution, to the inner, psychological limits associated with the nature of consciousness. A growing argument suggests that man will only rediscover his place within nature and redefine progress by first restoring appropriate notions concerning his true nature and purpose. If long term improvements in environmental quality can only come about as a by-product of new opportunities for self discovery, we should perhaps encourage a convergence of environmental education and the humanities.

*The Little Green Book – an owner's manual to the planet Vol/The Green Alliance Wildwood House 1979. Especially useful is the section on 'People and Ideas'.*

*Environmentalism* R O'Riordan Pion 1976. The best overview of the whole field.

*Notes for the Future* R Clarke (Ed) Thames & Hudson 1975. An anthology of the best writing on alternative futures.

*A Guide for the Perplexed* E F Schumacher Abacus 1978. Schumacher outlines his personal philosophy and argues

for a reframing of humanity's view of itself.

*Goals for Mankind* E Laszlo (Ed) Hutchinson 1977. A report from the Club of Rome which examines the ideological alternatives available to man.

Every teacher of environmental education should consider the ethical foundations of the various alternative futures which environmental philosophers offer. At least this will persuade him of the relativity of his own view of the world, and at best it will produce new depths of self-awareness which can only improve his teaching.

### **The School and Social Change – reconciling environmental and educational ideologies.**

In one of the earliest handbooks of environmental education, Mark Terry listed the 'environmental lessons' he had learnt in school. Here are a few of them:

The Asians won't starve as long as I eat everything on my plate and we harvest the sea.

Man has always had problems, and he'll always be able to solve them through science and industry.

Wildlife is a precious, but unnecessary resource.

Standard of living is based on annual income and purchasing power.

The history of man is the history of his growing mastery over nature.

Water won't be polluted, as long as we pay 'them' to build sewers.

Try to write down two similar 'lessons' which you have learnt as a result of formal education or two such 'lessons' which you have been guilty of teaching.

1

2

During the seventies, the radical school movement and a new interpretive sociology of education have prompted a widespread recognition that no curriculum is value free; that the selection of subject matter and its mode of transmission and evaluation are influenced by the diverse systems of beliefs and values held by pressure groups within society. The curriculum has profound cultural significance, for (as Terry realized), it is experienced by pupils as a series of subtle messages about the value of certain ways of life. This being the case, is the environmental educator justified in regarding the curriculum as a programme of social action designed to bring about the cultural change, or ideological shift, which the environmental philosophers argue is urgent?

Whether or not you agree will depend on your educational ideology.

Skilbeck has suggested that there are four ways in which schools can react to rapid social change:

1 Swim with the tide by identifying basic trends and going with them.

2 Identify particular elements in the past and seek to preserve them.

3 Carry on regardless or indifferent to what is happening in other areas of the culture.

4 Look forward, trying to anticipate situations in the

future, assess and try to influence them.  
Which of these strategies most appeals to you?

If we discount the first option on the grounds that such action is not only professionally irresponsible but invites a worsening of man's predicament, we are left with three options of which you probably preferred 3 or 4. Skilbeck extends his analysis by suggesting that each of the three options represents a distinct educational ideology; a 'system of beliefs and values about the purpose of education held by a particular group of educators'.

So, which of these educational ideologies best represents your position? Look at the key words in each column and consider which best expresses your view of education.

Ideology	Classical/Traditional	Progressive/Romantic	Radical/Reconstruction
Key words	excellence standards rationality discipline transmission tradition heritage	child centred self-fulfillment freedom growth imagination feeling interest	social reconstruction transformation critical awareness reflective thinking experience action justice

Ireland describes the different ways in which schools reflecting each of these ideologies will interpret environmental education. The shift from Environmental Studies to Environmental Education represents a cautious move from a progressive to a radical ideology, and it is unlikely that the changes envisaged by environmentalists can come about without more teachers embracing such a view of education. Development education has moved further in this direction and there is an increasing overlap of its concerns with those of environmental education.

*Teaching for Survival* M Terry Ballantine 1971. Essential reading for all involved in environmental education.  
*Celebration of Awareness* I Illich Pelican 1976. In which Illich explains why the school should be regarded as 'the central myth making ritual of industrial societies'.  
*Culture, Ideology, and Knowledge* (E203 Unit 3) M Skilbeck Open University 1976. Explores the value of regarding the curriculum as a form of social and cultural action.  
'Social Change, Conservation and the Curriculum in Britain' D C Ireland *Journal of RSA* Vol CXXVII No 5273 April 1979. Relates Skilbeck's ideas to environmental education.  
'Tensions in World and School' *The New Era*, Vol 60 No 2 March/April 1979. An indication of the present 'state of play' in development education.

Having clarified and reconciled our environmental and educational ideologies, we must be able to justify a challenging form of environmental education to headmasters and parents, and consider what implications it has for our activity in the classroom.

## WASTELAND PLANTS

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## Environmental Education as a vehicle for Moral and Political Education

Those who regard the curriculum as an instrument for social reconstruction inevitably attract accusations of indoctrination which only a thorough knowledge of the theory of moral and political education, and a commitment to an open classroom in which pupils are given the intellectual means to assess, criticise and redefine what is being taught, can equip the teacher to answer. Since environmental issues, such as nuclear energy, inevitably involve attitudes and values, the teacher must not only transmit knowledge but help pupils to clarify their values and reach sound moral decisions. Environmental education is not alone in producing 'cognitive overload' and many teachers are inexperienced in techniques for handling feelings, emotions, attitudes, and values in the classroom. While our insecurity in this area may be slow to disappear, suitable approaches now exist and deserve wider use. The following example is a values clarification exercise which you may wish to try.

### Value Voting

The teacher reads aloud one by one questions which begin with the words, 'How many of you . . . ?'. After each question is read, the students take a position by show of hands. Those who wish to vote in the affirmative raise their hands. Those who choose to answer negatively point their thumbs down. Those who are undecided fold their arms. And those who want to pass simply take no action at all. Discussion is tabled until after the teacher has completed the entire list.

eg Personal Life style.

How many of you:

- 1 enjoy meatless meals?
- 2 enjoy a warm to hot house in winter?
- 3 prefer polyester and synthetic clothing?
- 4 prefer wool or cotton clothing?
- 5 prefer living in the inner city to living in the suburbs?
- 6 prefer a bath to a shower?

Source: Harshman 1978/79.

Values clarification is one of the three main approaches to moral education and, by drawing its theoretical support from humanistic psychology, is likely to appeal to those environmentalists who seek to remove the inner limits to growth. The alternative approaches of the developmentalists and moral rationalists have also been applied to environmental education in North America where the efforts of Social Studies teachers to implement a curriculum which integrates inquiry, decision making, and social action might seem almost revolutionary from some viewpoints on this side of the Atlantic.

Without accompanying political education for older pupils, there is a danger that moral education will be merely a preparation for frustration. Having decided what they ought

to do about key environmental issues, such pupils should be given the 'political literacy' to enable them to influence public policy and seek change via the democratic process. The 'Programme for Political Literacy' offers a framework for the handling of environmental politics in schools, and agencies concerned with community education are gradually extending the opportunities for pupils to engage in worthwhile environmental action.

*Humanizing the Classroom* J P Miller Praeger 1976. An introduction to the various approaches to values/ moral education.

*Values Clarification* S Simon L Howe H Kirschenbaum Hart Publishing 1978. A handbook of practical strategies for teachers and students.

*The Environmental Classroom*, D Hawkins & D Vinton Prentice Hall 1973. The case for integrating environmental and open education.

*Teaching Strategies for the Social Studies* J Banks Addison-Wesley 1977. Includes a section on environmental issues and action.

'Value Education Processes for an Environmental Education Program' R Harshman *Journal of Environmental Education*, Vol 10 No 2 Winter 1978/1979.

*Political Education and Political Literacy*, B Crick & A Porter (eds) Longman 1978. The case for a more open approach to political education in schools.

A commitment to the development of moral autonomy and political literacy in our pupils is a means of ensuring that the next generation adopts a more critical stance to the prevailing culture and is more aware of alternative beliefs and values. The paradox for reconstructionists however is that an open classroom leaves pupils free to reject the utopian vision, and its underlying values, which motivate the teacher. This dilemma makes the evaluation of outcomes all the more interesting.

### Research Activity — evaluating attitudes, values, and behaviour in environmental education

In order to evaluate our reformed programmes of environmental education, we will need reliable instruments to assess environmental values, attitudes, and behaviour. The American literature shows that several of these have been developed, and among the research topics that they have been employed to examine are the following:

- the relationship of environmental knowledge, attitudes, and behaviour;
- the environmental attitudes of different age/subject/ socio-economic groups;
- the attitudes and values of different groups of teachers and their effectiveness in instilling environmental attitudes;
- the relation of environmental attitudes to cultural and subcultural beliefs and background;
- the inter-relationships of environmental attitudes and their relation to other attitudes.

Some items from one of the most frequently used scales for assessing ecological attitudes are reproduced below. You should try answering 'yes' or 'no' to each one (some may need translation!)



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### A Revised Scale for the Measurement of Ecological Attitudes and Knowledge

M P Maloney M P Ward G N Braucht *American Psychologist* July 1975.

#### Verbal commitment

- 1 I'd be willing to ride a bicycle or take the bus to work in order to reduce air pollution.
- 2 I would probably never join a group or club which is concerned solely with ecological issues.
- 3 I would be willing to use a rapid transport system to help reduce air pollution.
- 4 I'm not willing to give up driving on a weekend due to a smog alert.
- 5 I'm really not willing to go out of my way to do much about ecology since that's the government's job.

#### Actual commitment

- 1 I guess I've never actually bought a product because it had a lower polluting effect.
- 2 I keep track of my congressman and senator's voting records on environment issues.
- 3 I have never written to a congressman concerning the pollution problems.
- 4 I have contacted a community agency to find out what I can do about pollution.
- 5 I don't make a special effort to buy products in recyclable containers.

#### Affect

- 1 I feel people worry too much about pesticides on food products.
- 2 It frightens me to think that much of the food I eat is contaminated with pesticides.
- 3 It genuinely infuriates me to think that the government doesn't do more to help control pollution of the environment.
- 4 I feel fairly indifferent to the statement: 'The world will be dead in 40 years if we don't remake the environment.'
- 5 I become incensed when I think about the harm being done to plant and animal life by pollution.

The actual scale contains ten items in each category.

Your consideration of these few items has probably raised doubts in your mind about the value of such instruments and the research based on them. Social psychologists have produced an extensive literature on values, attitudes, and behaviour, and it is clear that a complex range of personal, situational, and social factors may prevent attitudes and values being expressed in behaviour. Our frequent failure to act out the environmentalism we attempt to teach may be the result of habits, social norms, environmental constraints, or aspects of our personality which divert good intention. The teacher can often overcome such inhibiting factors in his pupils by identifying key figures who provide models of sound behaviour, by encouraging pupils to perceive themselves as 'doers', by linking the behaviour with pleasurable feelings, and above all, by spelling out how, when, and where the pupil can behave in the desired way. While the majority of the literature regards sound environmental behaviour as the end product of an education which has fostered certain attitudes and values, many now recognize that pupil engagement in new behaviour, such as recycling or tree planting, is a powerful prompt to

value and attitude change. A similar disenchantment with simplistic models of attitude — behaviour relationships, and the associated paper and pencil instruments, is causing some researchers to identify those who are already living alternative lifestyles and examine their backgrounds.

'Attitudes and Values in Environmental Education' C E Knapp *Journal of Environmental Education* Vol 3 No 4 Summer 1972. Examines the role of teacher and school and evaluates some of the research.

'Information's Effect on Attitude — a longitudinal study' L L Burrus-Bammel *Journal of Environmental Education* Vol 9 No 4 Summer 1978. Includes a list of the previous research articles published in this journal.

'Attitudes and Values — the foundation of Environmental Education' D Smith Australian Geography Teachers' Association 1976. A conference paper which reviews possible approaches to attitude change.

*Values, Attitudes and Behaviour Change* B Reich and C Adcock Methuen 1976. A short introduction to relevant aspects of social psychology.

'Moral Valuing and Environmental Variables' R Disposito *Journal of Research in Science Teaching* Vol 14 No 4 1977. Suggests that a student's environmental knowledge may be the best predictive measure of his attitudes.

Although attitudes and values may find only partial and inaccurate expression in our external behaviour, they provide, together with our beliefs, the reference system whereby we evaluate ourselves and our environment. At a time when man's outer world presents challenges of unprecedented scale and complexity, we must cultivate in our pupils an inner world which affords the will and the courage to respond. This is the task facing environmental education in the next decade ●

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