TOWARDS PARTICIPANT-CENTRED RESOURCE DEVELOPMENT FOR ENVIRONMENTAL EDUCATION

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This paper explores how past and present environmental education resource materials are likely to benefit from a change in outlook. It discusses some reasons why materials are not sustainably penetrating the classroom and suggests a solution in participant-centred approaches. After developing this new outlook, the prospect of change is addressed as an uphill task because of a 'do and dump/instant cure' outlook of sponsors and environmentalists.

Action Ecology is introduced as a co-operative departure from this. It is described as a support service to facilitate the adaptive localizing and implementation of existing resource materials. Finally, a critical review of recent local initiatives further illuminates the issue, to suggest that even materials developed around an inappropriate, 'packaged' outlook, can still be productively implemented using a participant-centred rationale. The continued growth of environmental education is, therefore, concluded to be a question of outlook, but an appropriate outlook is more than just a question of better packs and using the language of participation.

BACKGROUND

A widening range of environmental education resource materials have recently, and will soon, become available to teachers in Southern Africa. This follows resource development initiatives by environmentalists (e.g. Frank Opie; Lynn Hurry), projects (Eco-link; SEP-BEE) and environmental agencies (EEASA; Council for the Environment; Wildlife Society; WWF/IUCN; S.A. Nature Foundation and other nature conservation agencies).

Many existing resources and early efforts such as *Shell Ecology Charts* (Hurry, 1981) have not sustainably penetrated to the classroom. The Spioenkop Workshop (Griffin, 1986) attempted to explore these issues and facilitate the development of more appropriate environmental education resources. A hoped-for new ecology resource proposal did not materialise from this workshop, but development and implementation weaknesses that contributed to earlier limited successes became apparent, namely:

- Early resources had not been developed around an adequately researched rationale for environmental education.
- Teachers (or other 'users') had not been involved in the resource development process.
- The buying of resource packs, or the acceptance of free resource materials, were assumed to indicate that environmental education had penetrated the formal education system.
- Evaluation had been overlooked in both the development (formative) and implementation (summative) phases.

A PROBLEM OF OUTLOOK

It has been quite a shock, for resource developers and sponsors alike, to find brand new and beautifully filed materials in media centres, or unused and covered in dust on stockroom shelves. There are obviously numerous instances where resource materials have been effectively used but, looking back critically, one cannot escape the idea that mail order and 'packaged' initiatives have not endured. This statement may seem a little harsh, but a similar pattern has been apparent in the curriculum development movement worldwide (Stenhouse, 1975).

Moodie (1987), following the Spioenkop Workshop, illustrated how the problem tends to be one of outlook; a lack of awareness of the social reality of the classroom. This has led to a naïve 'develop and sell' outlook on innovation. Most of the points Moodie highlights, therefore, have little to do with the quality of a resource. He sketches an interdependent complex of environmental factors that are seldom taken into account during the implementation of a new resource. These factors have probably, in no small measure, contributed to our lack of success in the past.

A greater sensitivity to some context and participatory issues has recently led to an increased use of workshops to introduce new resources (e.g. Ecolink for *The Honeybee* and Natal Parks Board for *Action Ecology*). This 'selling by telling, showing and contrived experience', although a step closer to relevant participation, is unlikely to be a satisfactory solution. Teachers tend to be active, excited and convinced of the value of the new resource, but on their return to the stark reality of the chalkface there may be very little carry-over (Moodie, 1987).

TOWARDS A NEW OUTLOOK

Implementation issues, although only recently addressed by the environmental education community, have been extensively researched by curriculum developers (Stenhouse, 1975). Much of this research has unfortunately been misdirected into trying to find an instant cure; a magic recipe for the direct transfer of new ideas, resources and methods to teachers. This outlook has tended to be a characteristic of a 'structural functionalist' trend (Nel, 1987a); a recent tendency to want objectively to regulate education as a systematic, transmissive process. Objective determinism and technicist outlooks have, in education, proved to be both impractical and even absurd. Some research has, however, been successful in getting to grips with a less deterministic outlook and a number of potentially useful approaches to innovation and change have consequently emerged.

Havelock and Huberman (1977) have, for example, developed a problem-centred participatory model for innovation in developing countries. Although this is open to a variety of interpretations it does embody some useful strategic guidelines. Of the now numerous curriculum development and innovation communication models, however, few have managed to achieve the necessary changes in outlook to be relevant for environmental education.

A better differentiated, but somewhat complex, 'social theory' synthesis has been developed by Antony Giddens (1984). This is not a curriculum innovation model but a source of guiding principles to enable one to select, develop and evaluate more appropriate approaches to innovation.

The factors that necessitated a change in outlook are probably best illustrated in *The Social Construction of Reality* by Berger and Luckmann (1966). This work shows how people, both consciously and unconsciously, live in many 'worlds' which cumulatively emerge through complex social processes. We tend to be subject to these processes as we interactively and symbolically construct, and continuously redefine, our context-linked 'world views'.

The interactive experiences through which we perpetually redefine our worlds tend to resist change. Thus, for example, the world of the workshop, where teachers are exposed to new resources, may not have a profound influence on the world of the classroom. This is because the social reality of the classroom tends to be a 'crowded self perpetuating world' that resists outside forces of change. Changes occur when the maxims of the

classroom 'fail to produce the goods' and/or outside propositions are reprocessed to become part of that world.

This revised outlook on teachers and classrooms suggests that if resources are to be relevant they must be participant-processed and be operationally validated in the 'life world' of the teacher. This constructivist proposition has tended to knock technicist academic theorists and resource development specialists off their perches and uplift the chalkface teacher to the front line of innovation and development (Stenhouse, 1975). Unfortunately, this outlook on innovation can be taken to an extreme where teachers are expected to 'produce the goods' alone. Teachers are, however, not islands but live within a web of socially constructed worlds. It must therefore be possible, through sustained meaningful interaction, to create a community of changing meanings with them. This does, however, take time and sustained participant engagement (Moodie, 1987).

The essential difference in this perspective is that it does not set out to train or to transmit, but to facilitate interactive meaning-making among teachers and the pool of environmental education resource materials, ideas and methodologies. This proposition is not merely a new jargon or a better action framework for the same innovation process, but a new and potentially more productive outlook.

A recent EEASA panel discussion (Gamble, 1987) practically unearthed many of these issues. Discussion centred on the need for resource materials and concluded with the idea that local, low cost, participant-processed resource materials are likely to be most relevant. Participation emerged as both the idea of choice from a selection of resources and the adaptive development of published material to local needs.

AN UPHILL TASK

Despite these trends, however, a 'develop and market' attitude still appears to be favoured by sponsors. The latest, soon to be released, programmes, *We Care!* (S.A. Nature Foundation) and *The Outdoor Classroom* (Council for the Environment), were developed by experts with little participant contact, to probably be marketed by mail order. These expert-developed resources, with 'blanket marketing', might be a new generation of materials that also fail to get to learners and engage them in meaningful environmental education. It must be stressed, however, that the fault is not with the sponsors, nor with the experts who developed the materials. It is also not in the quality of the resources, the appropriateness of activities nor their mode of presentation.

Fortunately it is not too late, since we can still use the excellent materials we have with more participant-centred strategies as we increasingly see the weaknesses of a 'do and dump/instant cure' approach to the research, development and dissemination of resource materials. We have been beguiled by a 'first world' technicist outlook and the simplicity of 'mail order' activity booklets and 'do-it-yourself' guides that are attractive to sponsors.

The problem has simply been a matter of outlook so it might be fairly easily rectified if we, through greater awareness of social processes, can change our outlook. The resources that the environmental education community have produced are good, but we have chosen a sustainably weak way of going about their implementation. It must be emphasised that this weakness is not in the resources nor is it, directly, in how they were developed and evaluated. It is simply in our failure to realise that teachers need, adaptively, to redevelop the resources in their 'world'.

AN EMERGING DIRECTION

Enough convincing evidence has been presented to show that the change required for relevant environmental education will not magically happen through the continued development and dishing out of resources. Long term fundamental change in formal education may, however, be possible if we can co-ordinate our initiatives and support teachers in a sustained process of personal and professional growth towards competence in environmental education. This realisation led to a change in outlook from 'package' to 'support service' in the *Action Ecology* programme. *Action Ecology* is thus emerging as in inter-agency approach that attempts to engage with past failure through a participant-centred outlook. Two years of research related to the development of *Action Ecology* as a kit of resource materials (O'Donoghue, 1988) was consolidated in December 1987. This working synthesis was used to define a research, implementation and development strategy for *Action Ecology* in 1988.

This strategy will attempt to:

- Research and apply an emerging rationale for environmental education in Southern Africa.
- Test and refine 'participant engagement' approaches to resource development.
- Collect, develop and evaluate adaptable resource materials for environmental education.
- Establish a sustained inter-agency research, development and support service with community projects, curriculum development programmes and teachers' working groups, to develop resource materials for environmental education.

This approach is not a new and magic recipe, but it does attempt to get to grips with many of the past and present weaknesses in the development and implementation of resources for environmental education. There could be nothing more futile than to continue developing resources that are seldom carried into productive use. *Action Ecology* is, therefore, simply a subtle strategic change in resource implementation that emanates from a change in outlook. It attempts to make the valuable resource materials already available both more accessible and more effective by facilitating their adaptive redevelopment with teachers in their 'worlds'.

This is being attempted through the establishment of an inter-agency support service and research programme for environmental education. Sponsorship has been secured and the co-ordinators of the project are, at this stage, the Natal Parks Board (NPB), the Wildlife Society of Southern Africa (WLS) and the Environmental Education Association of Southern Africa (EEASA). A rationale for participant-centred strategies, to make existing resource materials more accessible, is being researched. If materials are considered appropriate, and if their producers encourage (and allow!) their adaptation for local distribution, then they are made available to teachers. This is being experimentally done through workshops, working groups and established teacher support and curriculum projects (e.g. SEP-BEE and the Soweto Science Centre). Many projects, like these, are crying out for relevant environmental education materials to be adaptively redeveloped according to local needs.

Participant redevelopment is actively promoted by the establishment of working groups and through the experimental running of 'select, adapt and redevelop workshops'. The programme is essentially enabling teachers and education projects to see what is available and giving them a support service as they selectively adapt and develop appropriate strategies and resources for their own needs and context.

The sponsors of the programme are also equipping a community workshop, through the Ecolink project, to produce charts and other appropriate materials. The *Action Ecology* project will therefore:

- Attempt to facilitate participant developed and field evaluated resources and activities for environmental education.
- Provide an 'adapt and develop' environmental education resource service to projects and teacher working groups. (Any organisation, group or individual may, after a workshop, formally join the project as a facilitating agency or as a subscriber).

- Expose teachers to the diversity of many existing resource materials as a rich capital of ideas from which to develop appropriate local learning activites.

It is essentially a co-operative action research programme that will attempt to facilitate greater exchange and interaction. Each agency will operate independently but co-operatively with the most relevant mix of resource materials and ideas for the people with which it works. Materials will be stored on word processors to facilitate both adaptive localising by working groups and inter-agency exchange. Instead of reinventing the wheel in splendid isolation we will, hopefully, each be continuously contributing to a widening pool of resource materials.

WHAT CAN GO WRONG?

In the past we have all made similar mistakes. The *Action Ecology* kit (now discontinued in kit form), *Shell Ecology Charts*, *The Honeybee* and *We Care!*, all exhibit the same weaknesses.

Action Ecology initially failed because of a 'packaged, instant cure' outlook that had not grappled with ideological, methodological and adoptive issues. Its initial cycle of research, development, workshop implementation and discursive evaluation met with little adoptive success. Teachers did not understand its theoretical perspectives and methodologies and, although excited and entertained at workshops, were unable to make much meaningful use of the resource. The package was therefore adapted and simplified in a further series of pilot tests until it was failed again for a similar complex of participatory and outlook inadequacies. If this paper is selling anything, therefore, it is selling failure and trying to illuminate where we all may be going wrong.

The Shell charts were expert-developed, mail-order marketed and have now been discontinued because of syllabus change and doubt about their effectiveness in penetrating to the classroom.

The Honeybee (Ecolink, 1987), more recently, moved towards a more participant-centred approach. The package was developed around a 'gut feel' rationale by a project team in response to a request from, and in consultative contact with, local teachers. Commercial distribution is being supported by demonstrations in workshop situations. This style of participation is still short of ideal but is a significant step in the right direction. *We Care!* (S.A. Nature Foundation), a new resource, may need to address more serious constraints. It exhibits a 'blanket-marketing and packaged' outlook. The materials were adaptively developed, by a small team of experts, around a Canadian rationale for environmental education. It is to be mail order marketed as a package with mailing list participant contact. If a technicist outlook persists, however, the project may ultimately, after a dramatic initial response, fail to achieve its potential unless participant contact is maximised. The resource design appears to be receptive to this as it is not strongly locked into the Canadian rationale. The materials are also, essentially, a synthesis of widely used activities that can be used productively in schools.

In the mail order distribution of materials there commonly occurs a cycle of irrelevance. The symptoms of this can be publicity campaigns with 'smokescreen' marketing ('Oeveloped by teachers for teachers') and a concern for impressive sales figures. This may impress sponsors, but the project co-ordinators may soon realise that figures are unreliable indicators of success. Complimentary comments of 'participants' then tend to be quoted to restore a feeling of satisfaction. These could become rather clichéd, however, and the next stage may be to convince sponsors to part with more money for scientific evaluation research. Unfortunately here again the results are likely to be inconclusive and unconvincing. The international pattern has been that technicist evaluations are costly and have seldom produced much illuminating data.

The intention of these critical sketches has not been to discredit any resource materials but to overview some practical examples of the problem in order to promote debate and research towards co-operative 'participant engagement'. It has been impractical for us to have implicitly assumed that, from a distance, we can either convert teachers to our outlook or pull the strings for teachers and pupils to dance the tune of an idealized package. It is equally naïve to suggest that mail-order feedback can produce the words and music for environmental education so that everyone can dance to the same tune or sing the same collection of songs.

The challenge facing us is that surprisingly few people have successfully differentiated participant-centred perspectives. Many are, however, increasingly using the appropriate language but are still seeing things very differently. People tend to see campaign membership as a 'participant community', high sales figures and large mailing lists as 'participant intervention', feed-back systems as 'interaction' and updated reprintings as 'grounded redevelopment'. This can confuse debate and evaluation, but it is relatively easy to identify pseudo-participation. Normally this is simply an inability to see beyond an idealised package providing the answers or doing the job.

Problems will continue to arise, but there are promising signs of positive moves towards more participatory styles of resource development and implementation.

CONCLUSION

Overall, therefore, it is not inconsistent to conclude that, after first appearing incompatible, 'expert-developed materials' and 'participant-centred approaches' can be complementary within a new outlook on environmental education resource materials and the development process. The important issues are not who developed the resources, what they are like or how they are printed, but *what teachers make of them*. We seem to have been so concerned about the materials that we have been unaware that teachers must make meaning of new resources by adaptively redeveloping them to their own needs and context. Despite apparent inconsistencies in some of our leading programmes, we can still make considerable progress if we work together towards participant-centred approaches.

The *Action Ecology* approach is, therefore, no longer a resource kit. A package approach was tried but it 'fell on its face' during pilot test evaluation owing to participation weaknesses. The programme has therefore been redefined as a joint initiative that is setting out to facilitate teacher access to wider materials for adaptive redevelopment to local needs. The materials of the earlier resource pack and those on the open market have thus become the capital for a 'hands-on, minds-on' participatory resource development initiative. Through this teachers will hopefully grow to know, and treat, environmental education as more than outdoor teaching and novel conservation awareness activities.

REFERENCES

BERGER P.L. & LUCKMANN T. 1966: *The social construction of reality; a treatise in the sociology of knowledge*. Penguin. Harmondsworth.

ECOLINK 1987: *The Honeybee*. Aloe Educational. Johannesburg.

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