

## ENVIRONMENTAL EDUCATION AND OUTCOMES-BASED EDUCATION IN SOUTH AFRICA: A MARRIAGE MADE IN HEAVEN?

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The infusion of environmental education into a new South African curriculum marks a historic shift from the past where it was marginalised from mainstream, formal education. Through the Environmental Education Policy Initiative (EEPI), environmental education was included as a key principle in the most recent government white paper on education and training. This policy process provided a platform for the establishment of an Environmental Education Curriculum Initiative (EECI) to ensure that environmental concerns form part of the new outcomes-based curriculum (OBE) for South Africa. Many members of the environmental education community have been actively involved in EECI activities and environmental education and OBE was one of the key features at the most recent conference of the Environmental Education Association of Southern Africa (EEASA). In this article we attempt to highlight the parallels between environmental education and OBE and raise a critical debate around the institutionalisation of environmental education in South Africa.

### INTRODUCTION

The July 1997 EEASA conference featured several presentations related to environmental education in a new outcomes-based curriculum for South Africa. These conference sessions were particularly well attended, indicating possibly interest or the need for clarity and understanding. Whatever the reasons, one may conclude that environmental education and OBE was one of the key focus areas of the conference. There was, however, very little discussion around the parallels between environmental education and OBE. In this paper we will attempt to highlight some of the parallels between environmental education and OBE and raise a critical debate around the institutionalisation of environmental education in a new curriculum for South Africa.

### WHAT IS ENVIRONMENTAL EDUCATION?

Environmental education is a complex concept open to various interpretations. This approach to education has largely been a response to the ever deepening environmental crisis. The environmental crisis has manifested itself globally as evidenced by large scale biophysical destruction, global warming, ozone depletion and so on. These environmental issues have complex interacting social, economic and political dimensions. Human lifestyles characterised by modernistic values evidenced by consumerism, unbridled economic growth and materialism have contributed substantially to this crisis. Furthermore, Trainer (1990, 1996:xxii) has argued that curricula of schools play a major role in reproducing the ecologically unsustainable values of modern society.

Environmental education can be seen as counter hegemonic in nature. Environmental education challenges the role of schools as agencies of cultural and economic reproduction (Fien, 1993a:9). Environmental education questions the underlying assumptions and ideologies of schooling. Therefore those involved in environmental education need to be critical and promote approaches to curriculum planning and pedagogy that can help integrate social justice and ecological sustainability into a new vision of personal and social change (Fien, 1996:xxiii).

The NGO Forum at the Earth Summit in Rio developed a number of principles to guide the future direction of environmental education. The principles include *inter alia* that:

Environmental education, whether formal, non-formal or informal, should be grounded in critical and innovative thinking in any place or time, promoting the transformation and construction of society.

Environmental education is not neutral but is value-based. It is an act for social transformation (NGO's International Forum, 1992).

Environmental education is intended to be transformative in nature and can serve as an important catalyst for social transformation and reconstruction. Presently in South Africa, transformation, redress, equity and participation are of major importance and environmental education can be an important facilitating vehicle in achieving these aims.

## ENVIRONMENTAL EDUCATION AND THE FORMAL CURRICULUM IN SOUTH AFRICA

The first attempt to include environmental education in the formal curriculum was the 1989 *White Paper on Environmental Education* (Mosidi, 1997). *The White Paper's* inclusion of the guidelines adopted at the international conferences held in Belgrade (1975) and Tbilisi (1977) was an encouraging shift from narrow interpretations of environmental education held up to this point. However, this policy process was not broadly inclusive and resulted in little implementation in formal education. In 1992 the Environmental Education Policy Initiative (EEPI) was started as a more inclusive process of gathering and developing environmental education policy options for formal education in South Africa. A significant outcome of this process was the inclusion of environmental education in the most recent *Government White Paper* (1995) on education and training, as one of the key principles for education and training policy in a new South Africa. The principle states:

Environmental education, involving an interdisciplinary, integrated and active approach to learning, must be a vital element of all levels and programmes of the education and training system, in order to create environmentally literate and active citizens and ensure that all South Africans, present and future, enjoy a decent quality of life through the sustainable use of resources (Principle No.17:22).

The shift in 1996 from national education policy development to curriculum development necessitated the need for a curriculum initiative in environmental education. This prompted the establishment of the Environmental Education Curriculum Initiative (EECI), to take the work of the EEPI from policy to curriculum development. Since its establishment in 1996 the EECI has been given opportunities to formally contribute to the new curriculum for South Africa. These included participation in the Department of Education's national workshops, official representation on the national Learning Area Committee (LAC) for Human and Social Sciences, representation at all Co-ordinating Committee meetings, in reference groups for the technical Committee and on phase committees working on the development of Learning Programmes. Through these various means of participation the EECI has been involved in attempts to ensure the inclusion of envi-

ronmental concerns in the specific outcomes of the outcomes-based curriculum for South Africa (EECI, 1997).

The environmental education community of South Africa has become closely involved in the latest curriculum initiatives of the national education department. These initiatives revolve around a shift from a content based to an outcomes based education system. The EECI activities have been aimed at ensuring that environmental education concerns are voiced and the principles integrated into the formal curriculum. But what is OBE and is it compatible with environmental education in the present South Africa with its complex needs and challenges?

### What is Outcomes Based Education?

Outcomes-Based Education (OBE) concerns a shift from teacher inputs (what teachers do) to learner outcomes (what learners know and can do). According to Spady & Marshall (1991:67) OBE is founded on three premises:

- \* All students can learn and succeed (but not on the same day in the same way).
- \* Success breeds success.
- \* Schools control the condition of success.

OBE focuses on the learner and virtually guarantees every learner an education. The problem with OBE as is the case with environmental education is that it means different things to different people. Generally, however, there is agreement that in an outcomes-based system the intended results are the start-up points in defining the system (Spady, 1993). The curriculum is designed down from learning outcomes and is delivered up towards learners attaining the outcomes. It is important to note, however, that outcomes-based can take on different forms and that the outcomes-based education system envisioned for South Africa is only one particular form or approach.

In South Africa OBE is intended to be a vehicle for achieving the integration of education and training as well as access to life-long learning for all. Issues such as development, equity, participation and redress should therefore be central to an OBE system in South Africa. The appeal of OBE for South Africans is that it is a learner-centred, results-oriented design based on the belief that all individuals can learn (Department of Education, 1997:17).

## PARALLELS BETWEEN ENVIRONMENTAL EDUCATION AND OUTCOMES BASED EDUCATION

First impressions indicate many common areas or parallels between environmental education and OBE. In theory both OBE and environmental education focus on relevance to the needs of society as well as relevance to learners' present and future needs (Tbilisi, 1977; Smyth, 1995; Tilbury, 1995; NQF, 1996). Both ideas also take a holistic approach to curriculum and emphasise the importance of integration and cross-curricular approaches (Tbilisi, 1977; Spady, 1991; Tilbury, 1995; Smyth, 1995; NQF, 1996). In both approaches the development of the whole person is of paramount importance. OBE and environmental education are values-orientated and are concerned with the integration of knowledge, skills and values (Tilbury, 1995; Tbilisi, 1977; NQF, 1996). Both approaches are learner-centred and encourage active learning on the part of learners, involving them in real and simulated action, and both also emphasise the importance of life-long learning (Tilbury, 1995; Smyth, 1995; Tbilisi, 1977; NQF, 1996). Critical thinking is also a central part of both of these approaches to education. Although in theory the links between OBE and environmental education seem clear we contend that in practice the links may be difficult to clarify in the light of the South African state's questionable policy and curriculum initiatives.

### SOUTH AFRICA'S EDUCATION POLICY DEVELOPMENT POST-1994

The inclusion of environmental education as one of the key principles for a new South African education and training system in the most recent white paper on education and training is encouraging for many environmental practitioners who see the infusion of environmental education into formal education as necessary and important. However, it is important to raise two concerns related to this policy statement. Firstly, it needs to be understood in terms of the broader education policy agenda of the government post-1994 and secondly, in terms of the gap between policy and the reality on the ground.

Following the 1994 democratic elections a narrowing of the education policy agenda is taking place in South Africa. Chrisholm & Fuller (1996:693) argue that there has been a shift in education policy from earlier talk of people's education and robust civil participation to a technocratic discourse emphasising centrally-defined outcomes-based education, pupil:

teacher ratios and a unified education system. The reasons for the shift in the education policy agenda are manifold and beyond the scope of this paper. Suffice it to say the narrowing of the education policy agenda will make moves to greater development, equity, participation and redress unlikely (De Clercq, 1997:127). What is likely to occur is the favouring of interests of privileged sections of society, thus widening the existing gap, benefiting a minority of schools and alienating the majority of teachers and learners (De Clercq 1997:127; Reddy & Le Grange, 1996:20). Concerns such as development, equity and participation are central to environmental education. We argue that the institutionalisation of environmental education may thwart these central environmental education concerns.

De Clercq (1997:140) argues that the education policy development process currently occurring in South Africa is largely excluding grass-roots teachers and reflect the work of technical 'expert' committees. She points out that this is taking place despite the fact that curriculum research throughout the world has shown the vital importance of building the professional capacity and involving teachers centrally as key agents in both the design and implementation of new curricula. Christie (1996:413) further argues that policies are best understood in terms of practices on the ground, *in lieu* of idealist statements of intention or blueprints for action. Furthermore, Fullan (1991) argues that change does not always result from putting into practice the latest policy, but involves the changing of the cultures of classrooms, schools, universities, and so on. The words reconstruction and development frequently appear in policy documents and is on the lips of everyone, but it is in the classroom that reconstruction must start for development to follow.

### Curriculum development process: Curriculum 2005

The narrowing of the state's policy agenda post-1994 has unfolded in a centrist curriculum development process in South Africa. The outcomes-based curriculum development process in South Africa reflect strong elements of the Research, Development, Dissemination, Adoption (RDDA) model. OBE as a system/model has not been debated by the broader education community in South Africa. A decision to follow an OBE model was decided centrally by the Department of National Education. All curriculum framework documents were centrally developed with very little input from provinces other than rubber

stamping. The time-frames were inflexible allowing little opportunity for meaningful participation. Teachers and provincial representatives were a small elite group (Jansen, 1997) and functioned mainly to inform their constituencies concerning decisions already taken at national level.

How did this process affect the inclusion of environmental education concerns in the new curriculum? The original set of specific outcomes put together for all the different learning areas had environmental education outcomes in most of the learning areas and one could see the cross-curricular potential of environmental education in the new curriculum. Sadly many of these environmental education concerns were unceremoniously removed from many of the learning areas by a centrally appointed committee of twelve 'experts' called a technical committee. Four environmental education related critical outcomes were removed from the original list of critical outcomes which appeared in earlier curriculum documents. The months of hard work by the environmental education community to ensure that environmental education concerns were reflected in all learning areas were effaced within three weeks. The word sustainability was removed from one of the specific outcomes in Human and Social Sciences in the last three days of work of the technical committee. Submissions were made by members of the environmental education community to re-instate the word sustainability but this was ignored. Objections in provincial LAC meetings to critical outcomes were answered by departmental officials with what had then become an ubiquitous expression in the new curriculum process 'it is cast in concrete.' Furthermore, the critical outcomes adopted by South African Qualifications Framework (SAQA) are almost exact replicas of those of Western countries such as USA, New Zealand and Australia and there is nothing that makes them unique to the South African environment.

Very little teacher development took place. While running provincial EECI workshops it became clear that few teachers were familiar with outcomes-based education and very little meaningful in-service education and training (INSET) was taking place. Participation in the curriculum process by the vast majority of teachers' in the country has been non-existent and clearly teachers are viewed merely as 'technicians' to deliver a curriculum which has been centrally designed by a few 'experts.' The realisation of environmental education concerns/aims in such a RDDA curriculum process must be seriously ques-

tioned as past experience has proven it to be inappropriate for environmental education (Naidoo, Kruger & Brookes, 1990; O'Donoghue & McNaught, 1991; Robottom, 1991).

#### TENSIONS BETWEEN ENVIRONMENTAL EDUCATION AND OUTCOMES BASED EDUCATION

Attempting to marry environmental education and OBE in South Africa will be particularly difficult for three reasons. Firstly, there are inherent tensions between environmental education and OBE. Secondly, the tensions are compounded by the centrist, technicist policy and curriculum development processes taking place in South Africa. Thirdly, the fragile culture of learning and resource poor context may further compound clarifying links between the two.

OBE has been criticised for its instrumentalist view of knowledge (McKernan, 1993:2; Jansen, 1997). McKernan (1993) argues that the justification for education lies within process itself and he points out that there are some learning activities or educational encounters that are worth doing for reasons other than serving some instrumental purpose as a means to a predetermined outcome. Environmental education is concerned with process. In taking social action (action for the environment) you cannot have predetermined outcomes. Environmental outcomes are developed through a process of interaction with others in specific environmental contexts.

Naidoo, Kruger & Brookes (1990:13) argued that the implementation of environmental education in South Africa failed previously because the education system espoused a mechanistic and reductionist epistemology. They argued for environmental education as a transformation agent in bringing about a better education based on a new epistemology. As has been argued above the shift from a content-based education to an outcomes-based education does not guarantee new opportunities for a better education. The epistemology associated with OBE remains mechanistic and reductionist. The shift to OBE in this country may mean nothing more than 'new say and old do.'

Another criticism of OBE is its moulding of learners through behaviour modification (McKernan, 1993). Behaviourist orientations have been discredited throughout the world for treating people like machines to be processed by an outside authority

(Taylor, O'Donoghue & Clacherty, 1993:41). Behaviourist approaches to environmental education have also been widely critiqued (Fien, 1993b; Taylor, 1997). Questions begging answers are, can environmental education transcend a behaviourist orientation in an OBE curriculum model? Can OBE survive its roots in behaviourism (Jansen, 1997)? Can we avert narrow interpretations to environmental education outcomes and behaviourist classroom practices in a resource poor context and a fragile culture of learning (Jansen, 1997; Reddy & Le Grange, 1996)?

Furthermore, OBE has also been critiqued for its reductionist view of knowledge. McKernan (1993) argues that the translation of the deep structure of knowledge into simple outcomes is, a gross distortion. He states that knowledge and understanding cannot be reduced to behaviours, lists of skills and observable performances. For him knowledge is an open-ended inquiry, not some outcome to ultimately attain. Such a reductionist view of knowledge is an antithesis of the understanding of knowledge in environmental education circles worldwide, in which knowledge is viewed holistically. OBE in South Africa will reduce environmental knowledge to critical outcomes, specific outcomes, assessment criteria, range statements and performance indicators.

We will now explore some of the realities in a South African context which we feel will further compound the realisation of environmental education goals in the formal education system.

Teachers have to learn new jargon related to both OBE and environmental education. This can lead to confusion (Mosidi, 1997). Jansen (1997) argues that the language of the OBE innovation is too complex, confusing and at times contradictory. He states that a teacher attempting to understand OBE in South Africa will not only have to understand more than 50 different concepts but would also have to keep track with changes in meaning of these concepts. We need to ask whether the aims, intentions and understanding of environmental education will not get lost in a nebula of confusion.

According to Jansen (1997) OBE is being sold as a solution to universal and deeply entrenched pedagogical problems. He furthermore states that the claim that OBE will bring about a shift from transmission modes of teaching to learner centred approaches represents a conceptual leap of staggering proportions from outcomes to dramatic changes in social relations in the classroom. Having environ-

mental education concerns reflected in outcomes is no guarantee that this will bring about a critical pedagogy enabling the development of knowledge, skills, attitudes or action competencies in line with the aims of environmental education.

OBE focuses on what a student can demonstrate given a particular set of outcomes. These outcomes can be achieved through the use of any content which gives the impression that content does not matter. Jansen (1997) argues that knowledge, skills and values are not achieved by learners in a vacuum and should be linked to relevant and appropriate content. Values, linked to sustainable living and sound environmental practices can only be developed in learners through the use of relevant content knowledge. Baxen and Soudien (1997) argue that OBE is not a neutral text but indeed political. They state that in South Africa OBE is serving to assimilate the previously disadvantaged into a world system, silencing rival epistemologies of the modern world and more subversively, rival epistemologies of knowing the world.

Surely this must be of great concern to environmental educators in South Africa.

## CONCLUSION

This article provides a critical perspective on the institutionalisation of environmental education in an outcomes-based curriculum in South Africa. Our intention is not to be dismissive of efforts to infuse environmental education into the formal curriculum but rather to raise an initial debate that is intended to stimulate further deliberations as part of a critical engagement in/with the process of curriculum reconstruction in South Africa.

The political nature of education necessitates the need to be constantly vigilant concerning state curriculum initiatives and our involvement in/with them. We need also to be reminded of environmental education's counter-hegemonic nature in its challenge to the roles of schools as agencies for economic and cultural reproduction (Fien, 1993a). Our concern is that through institutionalisation, environmental education may become diluted to politically acceptable forms of environmental education about and in the environment.

Institutionalising environmental education may inhibit its catalytic potential and rob it of its transformative nature. A great concern is that environmental

education may be reduced to narrow interpretations of environmental education outcomes by well-meaning educators who simply do not have the ability to cope with all the paraphernalia related to OBE change in South Africa. The curriculum process in South Africa thus far sounds clear warning bells, and to couple environmental education with OBE may be courting disaster.

We need to be careful and learn from research done in other countries. In Australia the research shows that the restructuring of education in Victoria is serving to marginalise environmental education (Robottom, 1996). Robottom (1996) raises a question which is particularly pertinent,

Given its critical orientation, is environmental education better served by remaining permanently peripheral - a form of border pedagogy - rather than an institutionalised subject [outcomes] within the curriculum?

We may be wise to ponder the question to avert the same question asked of us in South Africa a few years down the line.

Earlier in the article we referred to 'parallels' between OBE and environmental education. Although these parallels are there in 'theory', the 'links' may prove to be complex in a South African context. The complex links between environmental education and OBE can only be clarified/understood through critically reflecting on environmental education practice in an OBE system. The recent research proposals accepted as part of the collaborative research programme of the HSRC/EECI is particularly encouraging in this regard. Many of the projects are participatory in nature, engaging teachers and communities in curriculum change, materials development, professional development and research capacity building processes. The outcomes of this collaborative research process may significantly inform future research, policy and practice and start to provide clarity on the links between OBE and environmental education. Although in theory it appears as though environmental education and OBE are the perfect couple, in practice it may prove to be an unconsummated marriage.

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