

STILL IN AN ENVIRONMENTAL EDUCATION CURRICULUM RESEARCH STORY

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The Environmental Education Curriculum Initiative (EECI) in partnership with the Human Sciences Research Council (HSRC) are currently supporting and facilitating a national environmental education curriculum research project. The project was initiated in response to the perceived need for environmental educators in South Africa to engage in a collaborative research process to further our understanding and practice of environmental education curriculum development and research. Although the research process is still unfolding, as co-ordinator of the project I felt that it might prove useful to pause and to reflect on the research project and the broader context within which it is located. As I am part of the collaborative process my impressions are but a single frame in a broader unfolding research story. The purpose of this paper is to initiate critical discussion on the extent to which the HSRC-EECI research project is able to support and offer new perspectives on environmental education research processes within South Africa.

INTRODUCTION

An environmental education curriculum research project was initiated in 1997 through a partnership between the Environmental Education Curriculum Initiative (EECI) and the Human Sciences Research Council (HSRC). The aim of the research project is to build the research capacity of the environmental education community and to simultaneously inform the work of the EECI and the national curriculum development process with particular reference to environmental education.

Now, a year into the research project, it is time to initiate broader discussion on and critical engagement in the extent to which the HSRC-EECI project is able to support and enable environmental education curriculum research and thereby offer new perspectives on environmental processes within the new curriculum in South Africa. The paper should be seen as a 'still' or frame in an unfolding research story. Its intention is merely to suggest shades, tones and themes and, of course, to open up the invitation to explore with us.

CONTEXTUAL INFLUENCES

The design and methodology of the project are strongly influenced by the context within which the research process is playing out. If we are to reflect on the way that research and more particularly this project can contribute to environmental education curriculum processes, we need to grapple with the shifting and uncertain context within which it is located (Janse van Rensburg, 1995).

Environmental Education: The complexities

The final third of the twentieth century has been a time characterised by increasing recognition of the severity and scale of environmental problems. It has become apparent that environmental stress has not only led to large scale biophysical destruction but also to a corresponding decline in quality of life as a consequence of the complex social, economic and political meshing of environmental issues.

One response to the environmental crisis has been a call for environmental education as a key means to address these issues. International policy has set a precedent for an environmental education orientation to education. *Agenda 21*, for example, the programme of action adopted at the United Nations Conference on Environment and Development in 1992, emphasises the critical role that education must play in supporting sustainable development initiatives (UNCED, 1992).

South African policy documents also emphasise the importance of environmental education. While the Constitution of South Africa recognises and entrenches the right of every citizen to a healthy environment, the importance of environmental education is addressed in the *Reconstruction and Development Programme* (1994) and the *White Paper on Education and Training* (1995).

It is left to environmental educators to translate the rhetoric of policy documents. Assumptions are often made about the potential that environmental education holds for bringing about social change (Firth, 1996).

Just as the environmental crisis is in so many ways not clear cut or tangible, so environmental education is a complex concept open to an array of understandings. Many environmental education programmes have been or are little more than 'nature experiences' or a scientific study of environmental problems with scant regard for the broader social, political and economic context within which these problems have emerged (Fien, 1997).

Environmental problems are firmly rooted in dominant social, economic and political systems and the world-views that accompany them. Thus if environmental education is to contribute to sustainable living and social justice it must encourage personal and social transformation through critical and innovative thinking and action (Le Grange & Reddy, 1997; Robottom & Hart, 1993a).

South Africa is in the process of widespread and deep-rooted change on social, economic and political fronts. Environmental educators need to engage with these processes of change yet must constantly question and reflect upon the ideologies, assumptions and agendas of those leading these processes.

Educational Reform in South Africa

Current processes of education reform and transformation form an important component of the shift to democracy from a past characterised by authoritarian and racially discriminatory practices.

Educational transformation is a daunting task. Education policies and practices in South Africa historically played a decisive role in maintaining a racially segregated and inequitable society. The legacy of the apartheid era is, consequently, an education system characterised by deep disparities in access to and quality of education and training, particularly along racial lines.

The transformation of education is based on the adoption of an integrated system of lifelong learning co-ordinated through a National Qualifications Framework (NQF). Through the NQF, learners will be able to receive recognition of and accreditation for experience and knowledge acquired in a range of settings and across both the education and training sectors (Department of Education, 1996; French, 1997). The NQF is based on an outcomes-based approach to learning and teaching. The adoption of an outcomes-based approach means a shift away from a content prescriptive approach to a situation where teaching and learning will be guided by the progres-

sive mastery of specific outcomes (Department of Education, 1997; Hughes, 1996; Lotz, 1997).

The new national education and training system would appear to have the potential to support educational transformation. Clearly, though, the inequalities of the past together with the limited capacity of South African educators to respond to the demands placed upon them by the new approach will pose major hurdles to the realisation of this potential. The limited nature of consultation and the inflexible time frames associated with the introduction of the new system will have compounded these difficulties. Ways to involve as many educators as possible in curriculum change processes, professional development and associated research initiatives, must be sought. Collaborative initiatives between state and civil society hold considerable potential in this regard.

Involvement of Environmental Educators in National Curriculum Development Processes

In 1993 the Environmental Education Policy Initiative (EEPI) was set up by the Department of Environment Affairs (DEA) and the Environmental Education Association of Southern Africa (EEASA). The purpose of the initiative was to engage a broad range of role-players in a process that would contribute to policy making for formal education (EECI, 1997). The work of the EEPI culminated in the inclusion of environmental education as a principle in the 1995 *White Paper on Education and Training* (Le Grange & Reddy, 1997).

Education and training reform led to the recognition amongst concerned environmental educators of the need to take the work of the EEPI further, from policy-to curriculum development. The EECI was consequently established in 1996 and was recognised by the Department of Education as a stakeholder in the national curriculum development process. The EECI is currently the only national curriculum initiative in environmental education in the country and has played a key role in ensuring the inclusion of environmental education as a cross-curricular concern in the new curriculum framework for the General Education and Training (GET) band of the NQF.

The challenge for environmental educators in South Africa is to realise the potential that the new education and training system offers South Africans and to ensure that learners are able to participate actively in the search for sustainable living patterns and social justice. The participants in the EECI realised early on that if the EECI was to play a leading role in taking up

this challenge, a multi-faceted approach to its work was needed. In this way curriculum development and curriculum support could be ensured on all educational fronts. Four priority areas for EECI action were identified namely research, materials development, teacher development and supporting communications between provinces. The HSRC-EECI curriculum research project was initiated as a response to the need for a research dimension to the EECI's work.

WHY THE FOCUS ON RESEARCH?

The rapidly changing nature of knowledge and the social dynamic inherent in people-environment relationships mean that environmental educators constantly grapple with the inadequacy of current research methodologies, knowledge of the 'environment' and appropriate responses to the emerging and changing environmental crisis.

Significant progress has been made in environmental education circles, both internationally and in South Africa, in debating the nature of environmental education enquiry (Janse van Rensburg, 1995; O'Donoghue & McNaught, 1991; Robottom & Hart, 1993a). This debate and the need to achieve practical and tangible research results which contribute directly to the development of action competence and sustainable living patterns have led to the emergence of participatory and reflexive orientations to environmental education research.

The project was premised on the notion that there is a need in South Africa, especially at this time of education and training reform, for researchers to share knowledge and views on the research process and methodological approaches. Collaborative research initiatives were felt to be a useful means to support and further the debate on the nature of environmental enquiry.

There was also a perceived need to provide opportunities for environmental educators to develop their research capacity so as to encourage and enable broad-based and meaningful engagement in the curriculum development process. The common notion of research as a pursuit surrounded by mystique and far removed from classroom practice needed to be challenged and overturned.

The need to 'build research capacity' is not only an issue in the environmental education community but is a key concern amongst the country's research community as a whole. The HSRC, along with a number of other research institutions, requires research capacity

building issues to be addressed in research project proposals and evaluations (HSRC, 1996).

DESIGN AND METHODOLOGY

The EECI working committee for research, in consultation with the EECI Task Team and the broader environmental education community, identified priority areas for research. The committee then met in early 1997 and, on the basis of the inputs gathered, jointly developed a project proposal which was submitted to the HSRC for consideration. The HSRC agreed to fund and help facilitate the research project as it was seen to have the potential to play a significant role in tackling nationally identified research priorities as well as contributing to the HSRC's own research goals.

The design of the project was innovative and experimental in comparison to the majority of research projects funded by research institutions such as the HSRC. The major features of the project design are:

- * a broad research framework encompassing clusters of small-scale case studies
- * a meta-research pivot which provides the means to build links and draw connections between the case studies and to reflect upon and evaluate the project design and research methodology
- * the recognition that the process of learning through research is as important as the outcomes thereof, and
- * a commitment to research capacity building through encouraging partnerships between more and less experienced researchers and facilitating regular colloquia where a range of participants interested in environmental research share insights and experiences.

The meta-research dimension has provided the opportunity to undertake research about research in progress (Janse van Rensburg, 1996; Robottom, 1993b). Through the action research cycles of the meta-research initiative, potential tensions and inherent assumptions have been reflected upon, shared and meaningful responses sought. These are outlined below.

SOME EMERGING ISSUES AND RESPONSES

As a researcher more familiar with, though by no means enthralled by, larger-scale, more conventional research projects, my involvement in the HSRC-EECI project has lived up to the 'EE' promise - both enlightening and enriching. My role as co-ordinator of the meta-research component of the project has proved particularly valuable in this regard. Within the meta-

research study and the collaborative opportunities provided by the project, a number of themes or sub-plots are beginning to appear within the main environmental education curriculum research story. In some ways discussion of these still emerging issues may seem premature. However, in the light of the perceived importance of collaboration and research process and early, informed debate on the extent to which the project can support and inform environmental education research must form an integral part of the project and not an afterthought.

Reflections on the Project Design

The distinctive nature of the research design has allowed for a stimulating research process. Seven small research projects are currently being undertaken within the framework of the HSRC-EECI project. The projects cover a range of research activities relevant to curriculum development and implementation. Participants in the projects also come from a range of contexts including non-governmental organisations, a technikon and a provincial education department, in addition to several universities.

Three national colloquia have been held so far. The colloquia act as a forum for participants to share their experiences and raise their concerns with one another and the broader environmental education community. The colloquia also allow for discussion and negotiation around meta-research issues and broader institutional issues impacting upon the project.

The need for local colloquia or research focus groups to complement and extend the type of collaboration taking place at the national colloquia has been raised. Project participants feel that this is a valuable way to extend research initiatives and build research capacity. Although several local meetings have taken place, time and budget constraints have constrained more extensive development of local research networks to date. Strategies for strengthening the research network at both local and a regional levels need to be identified.

The nature of the project design has made project management more complex and burdensome than is the case with more conventional research projects. I have found, on occasion, that I have been involved in project management at the expense of research involvement. Given the fact that less conventional project designs are readily criticised, it is important to maximise the research possibilities inherent in the project. Strategies to reconcile this potential tension need to be sought. The research colloquia have, though, provided an opportunity for research partici-

pants to discuss management issues and consequently the collaborative and participatory dimensions of the project have been enhanced.

Tensions between 'research capacity building' and 'research excellence'

A clear tension that has arisen with regard to the research project is that between building research capacity and achieving a national impact through research excellence. Despite the recognised importance of research capacity building, the development thereof is not easily measurable or quantifiable. It is thus difficult to translate research capacity building processes into the familiar and tangible outcomes required by the majority of funders and, for that matter, traditional research institutions. Research excellence is commonly judged according to the number of traditional research outputs for example articles in international accredited journals. This type of research outcome may not be a priority in a research initiative which emphasises the process of research capacity enhancement. Nevertheless, the research capacity opportunities inherent within the writing and publication process should be explored more fully than it has been to date.

The matter of 'research excellence' also emphasised the need to engage in critical reflection on the nature of research. During the evaluation of small project proposals, concern was expressed, by the review panel, about the rigour and clarity of research designs and methods. The issues raised and the responses to them highlighted research capacity needs amongst the environmental education community but also posed questions about methodological rigour in instances where less familiar methodological approaches are adopted.

The matter of research rigor has formed an important focus at subsequent colloquia. Through discussion around this issue and the extension of research partnerships between more and less experienced researchers, the research focus of a number of the research projects has been clarified. An interactive paper on research rigour was collaboratively written by two of the project participants and presented at the EEASA'99 conference, and it is hoped that an article on the topic will be published in the near future.

Other ways of dealing with this tension have been explored over the course of the year. It is agreed that a compromise must be sought between research process and outcomes. The idea of collaborative texts on research questions raised by the research project is

currently being explored. These might include guidelines for beginner researchers and reflections on research collaboration and participatory research. Research writing arising from the research process should become a key feature of the unfolding initiative.

My own research capacity has been enhanced by the project. I have had the opportunity to interact with people who are at the forefront of environmental education research both in this country and internationally. While co-ordination of the project has, at times, proved difficult, it is through considering creative ways of dealing with these difficulties without compromising the spirit of the initiative that personal growth has been achieved.

CONCLUSION

The HSRC-EECI research project has stimulated some innovative work and strengthened the environmental education research network. This, together with its strong links to the other EECI initiatives suggest that it can play an important role in supporting environmental education curriculum research. It is, however, the dynamic and innovative way in which project participants have translated problems into challenges and shared experience, insights and even discomfort that imbues it with the potential to become a leading example of collaborative research in South Africa. There are certainly areas of the research initiative that need to be consolidated or expanded but I believe we are up to and indeed motivated by the challenge.

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