



Viewpoint

Designing Research in Environmental Education Curriculum Policy Construction, Conceptualisation and Implementation as Exemplified by Southern African Examples

Justin Dillon
King's College London, UK

Mphemelang Kethoilwe
Rhodes University, South Africa/University of Botswana, Botswana

Presha Ramsarup
Rhodes University, South Africa/National Environmental Education Programme, South Africa

Chris Reddy
Stellenbosch University, South Africa

Abstract

There is increasing dissatisfaction at many levels with existing environmental education curricula in southern Africa. The resulting change and innovation is opening up possibilities for innovative research into the construction, conceptualisation and implementation of the curriculum. However, researching the curriculum offers a range of challenges to those engaged in critically examining processes and practices quite different from those faced in the past. This paper examines a series of key issues and dilemmas in the field of curriculum research in environmental education using cases contributed by active researchers in the area. In the light of the researchers' experiences we posit a series of propositions that might reduce barriers and constraining forces faced by academics working in the area.

Introduction

This Viewpoint paper is constructed in a period of socio-political transformation in southern Africa. Much of this transformation focusses on the environment and related issues such as resource use, indigenous practices and eco-tourism. The way that the environment has been represented in the curriculum has come under close scrutiny. The major educational transformations that have taken place in South Africa and elsewhere in the region have involved a critical examination of environmental education in schools and elsewhere. Such changes offer new challenges to those involved in environmental education policy making and those whose job it is to turn policy into practice. The processes of policy making and implementation offer new opportunities to those interested in researching the curriculum. This Viewpoint paper

examines some of the opportunities and some of the concomitant challenges faced by those in the field both literally and metaphorically.

This paper deals with 'incidences of practice' and their viewpoints on curriculum research, as described by a number of individuals involved as stakeholders in the change process. Issues of curriculum implementation and development and their related ethical and social issues are highlighted in the vignettes presented. We critically examine some of the constraints experienced by researchers and discuss some of the possibilities for researchers in these rapidly changing times. Within this curriculum focus we consider the role of environmental education in developing and enabling change.

The paper emerges from discussions that took place during the 8th International Invitational Research and Development Seminar on Environmental and Health Education hosted by the Environmental Education and Sustainability Unit of Rhodes University in South Africa in March 2005. The seminar included academics and practitioners with both local and global perspectives. We address the issues of local interpretations of curriculum, ethics and 'literal situatedness' to focus on the context of the research.

Some Contextual Issues and a Caveat

In writing this paper we recognise both the strengths of multi-authored papers and the weaknesses. We aim to raise some issues that are of interest to researchers across the southern African region while acknowledging the heterogeneous nature of the countries involved. We believe that there are several common cross-cutting themes in the vignettes contributed by the authors that suggest some degree of generalisability across the cases and beyond. These themes are: socio-political changes in a period of contestation and struggle; the environment, and, the stress on formal schooling.

Socio-political change in a period of contestation and struggle

Many countries in southern Africa have faced, continue to face or will face major socio-political change as these countries face the implications of post-colonial and post-apartheid realities. Such changes inevitably involve some degree of refocussing on the purposes, structure and outcomes of education, particularly formal schooling. Although the changes vary from country to country, it is often the case that politicians and policy makers ask the same question: 'What is the purpose of education?'. Curriculum change, wherever it happens, is usually a mixture of top-down change with a modicum of bottom-up. Policy makers usually have the final say in most curriculum change wherever it takes place. Similarly, the climate of change is one of contestation and struggle rather than gradual evolution. So, we believe that the issues that we document in this paper are likely to be generalisable across a range of socio-political contexts.

Environment

We acknowledge that a range of environments and related issues are found across the region. Nevertheless, in environmental education curriculum terms, the similarities across countries are remarkable. For example, all countries in southern Africa are dealing with the relationship

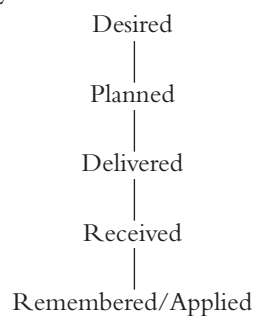
between natural resources use and poverty alleviation. In this context, livelihoods are often dependent on sustainable management and utilisation of natural resources. Economic and social aspects are therefore integral to discussions on environment. Coupled to this, many countries in the region, for example South Africa and Botswana, are both facing the impacts of rapid urbanisation and associated developments. Sanitation, water services and waste management are key issues that countries are grappling with, with limited resources for adequate infrastructure developments. These issues are intimately related to politics and decision making at a local level. Southern Africa also shares the longer term dilemmas of water scarcity, and the complexities of defining development pathways that are not water or energy intensive. Environmental concerns in the region are commonly closely associated with development choices and development options, and a history which marginalised many people from participation in environmental management; both factors emphasise the need for environmental education, and in particular, its inclusion in formal education, given that large numbers of the region's population is in schooling.

The stress on formal schooling

Although the education that people receive during their lifetime varies considerably depending on a range of factors, the role of formal schooling, and thus the curriculum, on people's environmental learning is relatively common across the region. Schooling systems across southern Africa are all struggling to provide adequately resourced 'education for all' programmes, and in many countries children are still not obtaining adequate access to formal schooling. With the advent of the HIV/AIDS pandemic, schools are also increasingly faced with the challenges of responding to increasing numbers of orphaned and vulnerable children. Language issues and challenges of providing quality education, which is well resourced face many school systems in southern Africa.

Conceptualising the Curriculum

Conventional models of curriculum planning and implementation are limited. Models often represent the process as relatively simple, linear and tripartite. Rather than use the conventional model of curriculum levels: intended, delivered and received (Robitaille *et al.*, 1993) we will use a model that we consider more accurately illustrates the stages involved in translating ideas in policy makers' heads to ideas used by students.



This model takes into account a realisation that the planning stage is invariably preceded by a long period of manoeuvring, plotting, pressurising and lobbying. The five-stage model also emphasises that, in terms of utility, it is more important to think about what is remembered and applied in everyday life than what is received on the day. Between each level or stage, some element of interpretation takes place.

The model is meant to indicate that the links are not simply top-down but are two-way. This model does not represent a simple linear sequence of curriculum, teaching and learning – although we suspect there are those who would want it to be seen in that way. In the vignettes, we will examine the contestations of meaning associated with the transitions between each level.

Environmental education curricula are central to the engagement of society with some of the major problems facing the planet and its peoples. Representations of the environment play critical roles in the ‘desired’ and ‘planned’ curriculum (what gets made public), the ‘delivered’ curriculum (what occurs in schools and classrooms), and the ‘received and remembered’ curriculum (the consequences). Because of the complexity of the processes involved there is considerable curriculum diversity around the world (e.g., Bishop, 1991; Gunstone, 2001). Beyond this, little is known in terms of ‘what this diversity is all about and why it is there’ (Roberts & Östman, 1998:p.5). Part of the job of curriculum researchers is to examine the ‘what?’ and the ‘why?’ of curriculum.

Voices from the Field – ‘Incidences of Practice’

In the following three vignettes, researchers active in the area of environmental education curriculum research in southern Africa describe what they are doing and critically examine the problems that they have faced and some possible solutions.

Vignette 1. The MEd student

Presha Ramsarup is a curriculum development officer in the South African Department of Education. She is currently engaged in curriculum-focussed research as part of her MEd in Environmental Education at Rhodes University.

‘Like many other countries in southern Africa, we are in the process of rolling out a new curriculum designed to meet a radically new political agenda. In terms of environmental education, which in South Africa’s case is mainstreamed throughout the curriculum, we’re moving from a focus on conserving, protecting and maintaining to a focus on linking a healthy environment with human rights and social justice (Department of Education, 2002).

As a practitioner, working with colleagues on the development of the curriculum, I am privileged in terms of access to documentation, decision makers, schools, NGOs and other relevant institutions. Our task is to produce a set of documents that provide more equitable access to an effective education while at the same time encouraging diverse

approaches to environmental education. In Ball's terms we are producing curriculum texts that are 'readerly' rather than 'writerly' (Ball, 1994).

As a researcher interested in the processes of curriculum translation and implementation, I am faced with a massive dilemma: given the diversity of contexts and individuals involved in curriculum recontextualisation, and given the limited time available, how can I do research that is useful to others, informed by theory (rather than just a description of what happens) and based on data that is readily available? Specifically, given that the process of curriculum interpretation is often tacit and ill-defined, and that no two schools will implement the curriculum in the same way, what data do I collect, how do I collect it and how do I analyse it in such a way that it reflects the unique context in which it was collected?

I have decided to work at three levels of curriculum transformation: the National Department of Education, an NGO and a school. As case studies each site might have intrinsic interest in itself. There is only one Department of Education in the country, so the issue of generalisability is less of an issue than it is for the school case (there are over 28 000 schools in South Africa). How much is generalisability an issue? Is it relevant to ask the question 'is my school typical?' And how will I know if my data analysis, based on Bernstein's (2000) theory of delocation, relocation and refocusing of discourses is working?'

Vignette 2. The university academic

Chris Reddy is a lecturer in environmental education at Stellenbosch University who works in the Environmental Education Programme, a unit involved with pre and in-service teacher education. Part of the research and outreach activities of this programme involves assisting teachers with environmental education which has recently been formalised in the South African curriculum.

'Earlier research (Lotz & Robottom, 1998; Reddy, 2000) indicated a lack of understanding of environmental education processes and a lack of capacity for implementing environmental education by teachers. It is more than likely that teachers had not been schooled in generally accepted principles of environmental education during their teacher education.

The action research project, a water quality monitoring programme, is an in-service (INSET) process developed by way of a partnership involving university staff, in-service teachers and is funded by a private foundation. This is a resource-based in-service programme for primary schools aimed at assisting teachers with the integration of the environment into curriculum units, an imperative of the new curriculum process in South Africa. It provides input of new theoretical ideas and teaching suggestions and opportunities for trying out new ideas in a collaborative situation over an extended period of time. It has been well received by teachers and has also been supported by a local district as an in-service process. The research originally focussed on the role of support materials in enabling environmental education processes.

In the provincial setting, the INSET process is, however, seen as a one which is out of character with what is offered and been decided upon by the education management authorities. This has presented problems of access to teachers as well as conflict with education authorities. Our programme appears to be in opposition to the skills-based, one-week process officially sanctioned by the provincial education department. Teachers however critique the official initiatives and have been openly showing a preference for the programme we have been providing. This has led to tension around official and *ad hoc* programmes and has led to allegations that we could be giving teachers the wrong messages about curriculum and undermining the skills-based approach favoured by the authorities.

Our problem is in reconciling what we have experienced regarding in-service programmes with teachers in poorly resourced contexts with official imperatives, namely the 'one size fits all' skills-based programmes. The rigid stance on programme structure as well as controlled access to teachers is another issue that does not sit well with us as researchers. This raises ethical issues and research questions.

A question we often ask is whether it is unethical in carrying out this action research to undermine the rigid approaches and strictly controlled access to teachers in public schools? How do we report on the tensions in our process which is seemingly in keeping with the needs of teachers and well documented approaches to in-service and professional development programmes? Another issue we grapple with is 'in whose interest are official programmes developed and implemented?' Too much criticism and we lose our access, too little and we fail as academics. Reconciliation and balance are what we are attempting to reach.

In our case we have managed to develop an open partnership with a school district and are working in collaboration with officials there. This partnership has worked well but is an isolated case in an isolated district.'

Vignette 3. The PhD student

Mphemelang Joseph Kethoilwe is a Lecturer in Environmental Education at the University of Botswana. His doctoral research at Rhodes University focusses on curriculum policy.

'My research focusses on the 1994 Revised National Policy on Education (RNPE), which introduced environmental education into Botswana's national curriculum. The policy strengthened initiatives both nationally and internationally legitimising environmental education to promote sustainable development. I regard the purpose of the education policy as to provide policy implementers and readers with guidelines in relation to introducing and teaching environmental education.

My interest is in the intentions of policy makers in incorporating the 'environment' in the curriculum. Specifically, I am critically examining epistemological approaches adopted in policy formulation: who was involved and who was left out and why; why was the policy initiated, and whether there

was any external influence and why? I am also interested in whether policy implementers' interpretations of the policy are in line with the original policy intentions. The challenges I am confronted with as a researcher relate to the practitioners' interpretations of the policy.

As a researcher, policy implementer and teacher trainer I find policy development a complex process particularly in a modern democratic state practising liberal philosophies involving a significant process of consultation. I concur with Taylor (2003:108) that policy development processes are 'concerned with negotiations of competing and conflicting interests'. The problem I am facing is the complex policy analysis. My challenge as a researcher is to investigate how policy is constructed to understand the current discourse.

In investigating policy interpretations I am taking cognizance of the fact that the state's educational policy discourse presents a complex challenge to readers and implementers. It does not only focus on the educational context, it covers political, economic, cultural and historical contexts. Therefore, in reading policy documents readers should be cautious of these dimensions and what they imply in practice (Olssen, Codd & O'Neill, 2004). The challenge is that policies contain highly politicised symbolic systems that require unpacking to establish the truth. The meanings embedded in policy texts require decoding as they constitute educational epistemologies that require implementers' understanding.

I have decided to employ critical discourse analysis (CDA) as a method and theoretical methodology to work in constructing policy genealogy and in understanding governmentality in curriculum policy interpretation and implementation processes. I chose to use CDA as it provides a deep analysis of policy discourse.'

Conclusions

The purpose of presenting a diverse set of vignettes is to highlight a range of issues and dilemmas that affect research design across a range of contexts. In summary, the thrust of our findings can be characterised by the following three viewpoints/statements:

- Designing curriculum research is messy!
- A wide range of problems, challenges and issues exist for those engaged in designing curriculum focussed research in environmental education.
- As well as practical issues in designing research into the curriculum research, there are a several ethical concerns that have emerged that offer challenges to those involved.

In terms of our model, Ramsarup's research focusses on the translation of the 'desired' curriculum into the 'planned' curriculum: 'Our task is to produce a set of documents that provide more equitable access to an effective education while at the same time encouraging diverse approaches to environmental education'. Ketlhoilwe is looking more at how the 'desired' curriculum came about: 'Specifically, I am critically examining epistemological approaches adopted in policy formulation: who was involved and who was left out and why; why was the policy initiated, and whether there was any external influence and why?' – not an easy task.

Reddy's action research looks at the process of turning plans into action – how to help teachers to activate the planned curriculum in such a way that it children will ultimately benefit.

We hope that this Viewpoint discussion has stimulated 'academic interest'. In the seminar out of which this paper emerged, several participants pointed out that these issues and instances might resonate with those found in other countries, albeit in differing ways and with different strengths. There is, we believe, a value in such 'fuzzy generalisations'.

We also believe that there is need for far more discussion of ethical issues in research that crosses the environmental and health education spheres.

Notes on the Contributors

Justin Dillon is a lecturer in Science Education in the Department of Education and Professional Studies, King's College London. He has been involved in a series of European Union projects and his recent work focusses on critical analyses of various aspects of environmental education policy, practice and research. Email: justin.dillon@kcl.ac.uk.

Mphemelang Joseph Ketlhoilwe is a lecturer in environmental education at the University of Botswana. He is currently completing a PhD in environmental education at Rhodes University. Email: ketlhomj@mopipi.ub.bw.

Presha Ramsurup is a technical advisor to the National Department of Education, working in the National Environmental Education Project for General Education and Training. She is currently completing a MEd (Environmental Education) degree at Rhodes University. Email: ps@isdial.net.

Chris Reddy is a senior lecturer at Stellenbosch University in South Africa. His research focusses on the professional development of teachers. Email: cpsr@sun.ac.za.

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