

**DEVELOPING STRATEGIES FOR CREATING AN  
ENVIRONMENTAL FOCUS IN A SCHOOL:  
NARRATING THE CHANGE PROCESS**

**Submitted in partial fulfilment  
of the requirements for the degree of  
MASTER OF EDUCATION  
(Environmental Education)**

**Rhodes University**

**by**

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**January 2005**

## **ABSTRACT**

Effective environmental education goes beyond raising environmental awareness and developing positive environmental values, to the encouragement of personal responsibility and action in response to contextual environmental issues in particular.

The whole school approach has been advocated as the best approach to environmental education, based on the assumption that the values and attitudes espoused in the classroom need to be reflected in the day-to-day school practice. By practising what they teach, schools reinforce values with action. In contrast, inconsistencies between the formal and non-formal curriculum may lead young people to question the integrity of their teachers or condition them to accept such inconsistencies as cultural and social norms, which in turn may lead to apathy about the environment. Adjustments to the ethos of a school to foreground the environment, both within the curriculum, the management of the school and the behaviour of teachers, pupils and support staff, is not a straightforward undertaking.

Institutional factors influence the change process in schools and each school presents a unique context. It is, therefore, difficult to develop a general strategy for the evolution of an environmental ethos. This case study narrates an attempt to implement a change towards an improved environmental focus in a school, and focuses on developing an understanding of how available resources can assist this process while engaging with complexity of change.

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## **ACKNOWLEDGEMENTS**

I do not believe that any research product can be the result of the efforts of a single individual. I am indebted to many that have helped me along my journey.

### **My heartfelt thanks to:**

The National Research Foundation for the funding that enabled me to pursue my studies.

The staff of the Rhodes University Environmental Education Unit, in particular to Pat Irwin and Heila Lotz-Sisitka, for their time and expertise in supervision, as well as their unfailing encouragement and perseverance.

Roedean School, the headmistress and all the staff members for not only allowing me to conduct my research, but also for their belief in the importance of what I was doing and their willingness to get involved.

The members of the Green Team whose enthusiasm inspired me when my own was flagging.

My parents, for helping me in so many practical ways and making it possible for me always to follow my dreams.

My husband, for his patient support, the sacrifices he has made to enable me to pursue these studies and for continually encouraging me to achieve my goals.

## **DEDICATION**

To the child I am carrying: May I never cease to try and make the world a better place for you to grow up in.

## **CHAPTER ONE: INTRODUCTION**

### **1.1 AN INTERNATIONAL PERSPECTIVE ON ENVIRONMENTAL EDUCATION**

The rise of environmental concern in recent decades is well documented and is directly related to the state of the world environment. That the state of the world environment is cause for concern, is widely accepted and reflected in reports such as the World Wildlife Fund Living Planet Report (<http://www.panda.org> 18/04/2002) and the UNEP Global Environmental Outlook 2000 (<http://www1.unep.org> 18/04/2002). This concern is reflected both by individuals in the literature, as well as events of global and international significance. This research is based on the assumption that the aim of environmental education is to encourage people to strive towards becoming well informed and environmentally active in sustaining our planet and its resources for future generations.

This view of environmental education has emerged over time, starting formally perhaps with the definition drawn up at the International Union for the Conservation of Nature and Natural Resources (IUCN) conference in 1970:

Environmental education is the process of recognising values and clarifying concepts in order to develop skills and attitudes necessary to understand and appreciate the interrelatedness among man, his culture and his biophysical surroundings. Environmental education also entails practice in decision making and self-formulation of a code of behaviour about issues concerning environmental quality.

The International Environmental Education Programme was launched by UNESCO in 1975. This was followed by the first intergovernmental conference on environmental education, held in Tbilisi (1977), which was organised by UNESCO and prepared recommendations that continue to provide the framework for environmental education in the world today. The

Final Report of this conference set out three goals for environmental education (UNESCO 1977):

- 1 To foster clear awareness of, and concern about, economic, social, political and ecological interdependence in urban and rural areas.
- 2 To provide every person with opportunities to acquire the knowledge, values, attitudes, commitment and skills needed to protect and improve the environment.
- 3 To create new patterns of behaviour of individuals, groups and society as a whole towards the environment.

The World Conservation Strategy launched by the IUCN in 1980 also called for a new environmental ethic. It was the Earth Summit (UNCED) Conference that took place in Rio de Janeiro in 1992, however, that highlighted a broad-based concern for the environment that incorporated dimensions of social justice and placed this concern on the global stage. Agenda 21, the central agreement to come out of that conference, included chapters 25 and 36, which placed particular emphasis on the role of environmental education in shaping value orientations and social action.

The Earth Summit was followed a decade later by the World Summit on Sustainable Development (WSSD) held in Johannesburg, which reviewed the progress made since 1992 and ratified further agreements on environmental and sustainability goals. The fact that this summit was held in South Africa certainly appeared to raise the awareness of environmental issues for the average person that I met and within schools with which I interacted. It provided an opportunity for topical discussion and the phrase "sustainable development" became part of the language of the general public.

From an environmental education point of view, what has clearly emerged from the outputs of these conferences is the need for environmentally literate citizens who will be able to respond to the complexity of both local and global issues. This has led to the notion of education *for* the environment (Fien 1993), an emphasis on action research and community problem solving (Wals 1995), and the development of "action competence" (Jensen and Schnack 1997) that demonstrate a socially critical orientation. Within this framework,



environmental education cannot ignore the socio-political and economic dimensions of environmental issues and should encourage action to address these issues rather than focussing on education *about* or *in* the environment (Robottom and Hart 1993).

## 1.2 ENVIRONMENTAL EDUCATION IN SOUTH AFRICA

In South Africa, this significant international endorsement of environmental education has helped to influence the response to environmental concerns. The National Constitution enshrines citizens' right to an environment that is not detrimental to their health or wellbeing, and a number of policies have been developed to protect the environment (Lotz-Sisitka and Raven 2001). The effectiveness of such policies depends upon a high level of environmental literacy among South African citizens. As such, it has been recognised that: "Environmental education processes have a key role to play in enabling citizens to improve environmental management practices in all walks of life, and to make sustainable life-style choices" (Lotz-Sisitka and Raven 2001:2).

Environmental education in South African schools has been strongly influenced by four main initiatives during the last ten years. These initiatives, which have helped shape formal curriculum development and provided rich areas for research and debate in the field, are thoroughly outlined in Lotz-Sisitka 2002. In brief:

A major driving force was the Environmental Education Policy Initiative (EEPI), established in 1992, which arose from the Environmental Education Association of Southern Africa's (EEASA) desire to influence educational transformation. The EEPI lead ultimately to the inclusion in the 1995 *White Paper on Education and Training* of the principle which 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 (Department of Education and Department of Labour, 1995:18).

In 1996, the EEPI was extended to include a focus on curriculum development and was known as the Environmental Education Curriculum Initiative. This led, in turn, to the Learning for Sustainability Pilot Project (1997 - 2000) aimed at the professional development of teachers and a shift towards school-based curriculum development activities underscored by social constructivism and learner-centred approaches.

The need for environmental learning among school children, as future decision-makers regarding environmental issues, has been recognised by the Department of Education. In 2000 – 2002 a Ministerial initiative known as the National Environmental Education Project for General Education and Training (NEEP-GET) was run to support school environmental education initiatives. NEEP-GET aimed to enable the integration of environmental learning in schools by providing an open-process framework for guiding active-learning processes. Active learning included enabling learners to find information about issues, explore these issues in the context of their own environment, and therefore experience and take action that would potentially contribute to better environmental management and more sustainable lifestyle choices, while not forgoing meaningful learning (O'Donoghue 2001).

### **1.3 ENVIRONMENTAL EDUCATION IN SCHOOLS**

In my experience, environmental education in schools is generally treated as incidental and does not necessarily contribute to the wider ethos of the school. Teachers generally act on their own and within the confines of their specialist subject and there is not a coherent approach to addressing topics involving the environment. Furthermore the level and nature of environmental activities varies widely between schools. Within schools, activities are generally fragmented; they usually involve only small groups of learners and rely largely

on the dedication and enthusiasm of individual teachers. Dependent as they are on the interest of participating individuals, they are often transient and extra-curricular.

The findings of both the Learning for Sustainability Pilot Project (Janse van Rensburg and Lotz-Sisitka 2000) and the NEEP-GET Pilot Project (Lotz-Sisitka and Raven 2001) suggest that my experience has been reflected in the broader South African context. The reports indicate that environmental activities are often superficial and not contextualised. They also highlight the danger of environmental activities being viewed as 'add on', 'extramural' or 'special events', and draw attention to the fact that the 'status' of environmental activities in schools seems dependent on the efforts and enthusiasm of individual teachers.

Fien (1993:50), after a review of the international literature dating from 1970 to 1990, sums up the primary purpose of environmental education as being: "to help students develop values, lifestyle choices and skills for social participation which support the protection and improvement of the environment." Upon reflection on my own experience and the practice in the schools where I have taught, I would conclude that, while there have been environmental activities, I have some doubt as to the extent to which they achieved the aims of environmental education as outlined by Fien.

The international literature also indicates that putting these aims into practice is a problematic aspect of environmental education. Fien (1993:12) reports that, what he refers to as the "rhetoric-reality gap", is widespread and he mentions the findings of studies conducted in both Australia and the United Kingdom in this regard.

Elliot (1991) documents the difficulties encountered by the Phase I teachers of the Environmental and Schools' Initiatives Project, which involved eleven European countries. These include implementing an interdisciplinary approach in schools where the curriculum is organised in terms of discrete subjects, and handling the value-laden and complex nature of environmental concerns.

#### **1.4 CREATING AN ENVIRONMENTAL ETHOS IN SCHOOLS**

One of the findings of the NEEP – GET Pilot Research Project was that a key issue that needed to be addressed was the way in which environmental education was integrated into the school curriculum (Lotz-Sisitka and Raven 2001). One of the recommendations in this regard was that:

Ways of supporting the establishment of an 'environmental ethos' in schools (for example through School Environmental policies, committees and action plans) should be further investigated, as it seems that it is in schools with an environmental ethos where environment is best being brought into the mainstream curriculum process (Lotz-Sisitka and Raven 2001:94).

The assumption is, therefore, that the creation of an environmental ethos in a school might lead to the environment being better incorporated into the curriculum in a meaningful way. Furthermore, this recommendation implies that creating such an ethos might be the starting point of environmental education in a school rather than the end product.

The point of inquiry then becomes where and how to begin creating such an ethos and what factors might be preventing a school from translating its environmental education capacity into action? Thus my research questions became:

- What can be done practically to increase the environmental ethos in the school?
- Does the act of adopting an explicit environmental focus open up opportunities to reflect on practice within the school and
- Does this in turn cause a shift in those practices towards a more holistic and integrated approach to environmental education?

The notion of an environmental ethos aligns closely with the whole school approach to environmental education, which has gained momentum in approximately the last twenty years. The whole school approach to environmental education involves looking beyond the formal curriculum to the ways in which a school operates. The day-to-day management of a school reflects the underlying value system on which it is based. The collective values and attitudes of a school are fundamental to the culture or ethos that develops over time within the institution. The ethos in turn subtly influences all spheres of activity within that context by creating a characteristic set of social norms.

### **1.5 GOALS OF THE RESEARCH**

- To investigate and establish practical strategies to support an environmental focus in a particular school context.
- To critically reflect on the process of implementing such strategies.
- To examine how an environmental focus influences school management practices, curriculum design choices and the wider school community.

### **1.6 BACKGROUND TO THE CONTEXT OF THE RESEARCH**

I teach at Roedean School, a private girls' school in Parktown, Johannesburg. This enabled me to carry out praxis-based research into the issue of an integrated approach to environmental education, which had been of concern to me for some time. I had chosen to become a high school Biology teacher out of a passion for the environment with a sense that I wanted to be more than a conservationist. I felt that, as a teacher, I would be able to influence future housewives, engineers, lawyers etcetera to value and take into account the environment in their daily decision making. A largely idealistic goal to be sure, but then most environmentalists I know are idealists. After some years as a teacher, I felt ineffective and frustrated by how piecemeal my efforts

were. I hoped that pursuing a Masters degree in environmental education would better equip me to achieve my goals.

To understand the dynamics of my research project, it is necessary to have some insight as to the context in which it unfolded. Roedean School caters for girls from grade 0 through to grade 12. The senior and junior schools function largely as separate entities, although they occupy the same grounds.

Theresa Lawrence and Katherine Margaret Earle established the school in 1903. They had been senior teachers at Roedean in Brighton, England, and the school still maintains close links with its English counterpart. Parktown, at the time, was established as an elite suburb and was clearly defined by the wealth and social status of its residents, who were originally mining magnates of many nationalities but predominantly English and German. According to Benjamin (1972), the schools established to serve this community were private and elitist, reflecting the values and traditions of their counterparts in England. There was a well-defined 'code of honour' and the classes were small. Many of the schools established at the beginning of the twentieth century remain and still aim to maintain these standards today.

Roedean School occupies the building designed by Herbert Baker in 1904 and located opposite the Johannesburg General Hospital. The families who send their daughters to the school are still affluent and remain predominantly English speaking; this despite an increase in pupils of all races, many of whom are from other African countries and make use of the boarding facilities. In order to survive the competition, especially among schools in the newer northern suburbs, it is important that the standards of excellence and discipline, that have characterised the school since its inception, are maintained. It is necessary to hold onto the sense of tradition that draws many pupils to this institution, while providing education that is relevant and reflective of social changes. Roedean School is committed to excellence with both staff and pupils striving to reach and maintain very high academic standards (see appendix D). Much emphasis has been placed on the academic strength of the school, though in recent years there has been a

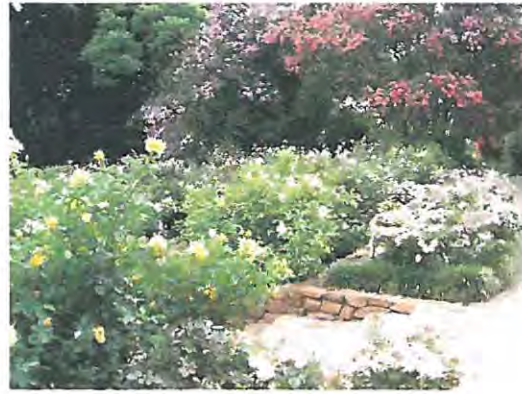
move towards a “softer” approach and a search for a holistic and balanced education of the whole child.

The school is set in beautiful gardens (see photographs 1 and 2) that receive very high priority and are often featured on television gardening programmes. Local heritage walks also feature the school, and the colonial feel remains in the manicured lawns and carefully laid-out rose garden (see photographs 3 and 4). The ethos of valuing the beauty of nature, therefore, already existed to some degree at the start of the study. This appreciation, however, is intended to be largely aesthetic. One would never dream of sending a class out to dig for earthworms lest they damage any plants. Instead, a consultation with the head gardener results in a tray of suitable worms being delivered to the laboratory for a practical lesson. The unwritten rule is ‘look and enjoy, but do not touch.’ Another example is that the garden planner, Anne Lorentz, herself a past pupil of the school, gave special dispensation on her seventieth birthday that pupils would be allowed to pick a rose for their mother on her birthday – under supervision of course. A special “Roedean Rose” has, in fact, been bred.



**Roedean Gardens**

(Photographs 1 & 2: Hope 2003)



**Roedean Rose Garden**

(Photographs 3 & 4: Hope 2003)

It is also significant to this study that there was a change of Headmistress shortly before the research began. The Headmistress of thirteen years retired at the end of 2001. Her influence, however, made itself felt during the course of the research, as I will indicate where appropriate. Under the new leadership from January 2002, there have been certain shifts in management style and this has gradually begun to impact on a number of focus areas within the school. The school was thus in a transition phase during the course of my research.

As a private school, Roedean is in the position to access resources for the implementation of a multitude of ideas and strategies to encourage environmental awareness, concern and action. The teachers in this school are also well qualified and dedicated. Most of them espouse values that would include, at the very least, respect and care for the environment.

## **1.7 THE RESEARCH PRODUCT**

I have chosen to write this research product in the first person because of my direct involvement in the study as a participant observer. It is intended to be a descriptive narrative of the process as it unfolded and was experienced largely by myself, but including the insights and contributions of other



participants. This reflects the intentional subjectivity of the report and is consistent with the interpretative case study research process adopted.

Chapter two of this half thesis deals with the importance of the school context as an environmental role model, the whole school approach to environmental education and the development of an environmental ethos. This includes a review of initiatives such as the School Environmental Policy pack and the Eco-Schools programme. Some attention is given to what the literature has to say about factors that may play a role in changing attitudes and behaviour towards the environment, and the way in which these factors might be incorporated into the ethos of a school. Also addressed, are some of the factors that influence the change process, particularly in the context of whole school change as described by Michael Fullan (1993).

Chapter three focuses on the methodological underpinnings of the research, as well as the actual methods used to gather, analyse and verify data. I have included a reflexive review and evaluation of the research process itself.

Chapter four takes the form of a narration of three threads or parallel stories of the change process that took place as a result of the attempt to foreground the environment at the school. These three stories, though intertwined, make it easier to see patterns in the change process. They relate to the staff focus group that was formed, the actions of the pupils involved in what is known as the Green Team, and the story of a particular initiative that came to dominate the activities of these two groups, namely the paper-recycling project.

Chapter five is a discussion of the themes that emerge from the three narratives outlined in chapter four, and the insights gained from them in the light of the whole school approach and the change process.

Chapter six contains the conclusions that can be drawn from the study, as well as recommendations for further attempts at embarking on a whole school change process in the light of what I have learned through this study.

## CHAPTER TWO: THE WHOLE SCHOOL APPROACH TO ENVIRONMENTAL EDUCATION

### 2.1 INTRODUCTION

The notion of environmental education as a separate subject within a school curriculum has long since been abandoned. This is in response to a global shift in the way that both the environment and education have been viewed in the last 60 years. There has been a move from conservation education and outdoor education to a "greater concern for the *total environment* in an interactive sense, including its social, political, cultural and ecological dimensions" (Irwin 1990:3 emphasis his). This shift in environmental education has also been discussed and often promoted by various authors including Fien (1993), Greenhall Gough and Robottom (1993), Elliot (1991 and 1999), Huckle (1991), Lotz-Sisitka and Janse van Rensburg (2000), Robottom and Hart (1993) and Wals (1994).

Trying to incorporate environmental education across subject disciplines has also been considered largely ineffective because environmental education is not merely content or knowledge based. Instead, environmental education is viewed as holistic and multifaceted, encompassing as it does attitudes, values and even actions, as well as knowledge. Thus it requires an approach that is broader than can be accomplished within the traditional bounds of subject disciplines.

The concept of a whole school approach to environmental education has evolved from the role which schools play in society. Hungerford and Volk (1990:3) put it quite bluntly: "The ultimate aim of education is shaping human behaviour. Societies throughout the world establish educational systems in order to develop citizens who will behave in desirable ways." Schools have long been regarded as the institutions tasked with preparing young people to be effective members of society or citizens of a political community, and have, therefore, been shaped by the perceived needs of that society.

Handwritten wavy line on the right margin.

Handwritten notes: "NOT now does this become relevant for schools in the community"

Handwritten notes at the bottom: "Why do not... 12... with... day"

Schools can be regarded in a sense as microcosms of society, which can therefore act as role models of social ideals and values. Many environmental educators feel that these institutions should be modelling environmentally sound attitudes and behaviours, not only in what is taught, but also in terms of the way in which schools are managed. A whole school approach to environmental education would thus entail a shift in the culture or ethos of the school, so that the values and attitudes that characterise it incorporate focussing attention on, and directing activity towards, environmentally sound behaviours. In this way it is hoped that future citizens will have a high regard for the environment in all its aspects, as well as be empowered to take action to protect it and respond to emerging issues. Posch (1999) referred to this as the "ecologisation" of schools, which he defined as: "shaping our interaction with the environment in an intellectual, material, spatial, social and emotional sense to achieve a lasting/sustainable quality of life for all."

the  
whole school  
approach

Essentially the whole school approach to environmental education desires to make the environment an explicit part of the curriculum, but recognises the influence of what Eisner (1985) described as the hidden and null curricula. Acknowledgement of the impact of the implicit curriculum and of the null curriculum (of what is excluded from the curriculum) has highlighted the political nature in terms of ideology and social control of education, since curricula cannot be value-free. Unfortunately schools, as a part of society, tend to reflect and reproduce the existing values of that society rather than challenge them.

This, then, has given rise to critical theories about, and the socially constructed nature of curricula (Grundy 1987, Giroux 1988, Goodson 1990). Environmental education has been strongly influenced by these trends and ideas, as evidenced by the literature both internationally and in South Africa (Fien 1993; Greenhall, Gough and Robottom 1993; Robottom and Hart 1993; Irwin 1990; Janse van Rensburg and Lotz-Sisitka 2000b). There is a call for education to become more responsive and reflexive. It is felt that without critical evaluation of the *status quo* and the factors that serve to maintain it, change in education and in society as a whole is unlikely.

education  
to make  
people more  
reflexive

Books, such as *Greenprints for changing schools* (Greig, Pike and Selby 1989), Gough's (1992) *Blueprints for greening schools*, Palmer and Neal's (1994) *The handbook for environmental education*, McIvor's (1999) *The earth in our hands*, and many others, suggest how such a holistic approach to environmental education, involving as shift in the ethos of the school, might be accomplished at school level. The whole school approach to environmental education is motivated as follows:

Palmer and Neal (1994:32)

If a real impact is to be made then environmental awareness in the school as a whole is surely essential. ... It would take account of the *whole* school environment, its ethos, its approach to caring for people and other living things, and of course the overall personal development of each child within this holistic world. (Emphasis theirs)

Gough (1992:44)

Everything done at school is a demonstration of what to do or what not to do for hundreds of students for at least 200 days each year – and for their parents and members of the community on a regular basis. Therefore school operations are as 'educational' as the lessons going on in the classroom (and sometimes more so!) and it is worth taking some time and effort to 'get the school's environmental act together'.

Palmer and Neal (1994:76) also emphasise that it is the responsibility of the teachers, the senior management and the ancillary staff to "ensure that the corporate image of the school passes on to the students, and any visitors, the fact that the school is environmentally sensitive". Of course, one needs to be careful that this image is not in fact just window-dressing or a marketing exercise. There is also a danger that this notion represents a somewhat illusory hope.

In terms of formally documented and widely implemented programmes of ecologically-driven agenda's for whole school change, I have chosen to highlight just a few in order to illustrate some of the patterns and problems

that have emerged in the literature and which enabled me to reflect on my own practice.

## 2.2 THE 'ENVIRONMENT AND SCHOOL INITIATIVES' PROGRAMME

The first of these relates to the 'Environment and School Initiatives' programme (ENSI), a brief history of which is outlined by Elliot (1999). This programme can be regarded as having arisen initially as a policy response to public concern. The ENSI's agenda being the transformation of "existing structures and the process of schooling to enable students to play an active role in shaping an ecologically sustainable social and economic order." (Elliot 1999:325). This initiative arose in 1986 in response to a proposal submitted by the Austrian Ministry for Education to the OECD (Organisation for Economic Co-operation and Development). According to Elliot (1999), the Austrian proposal included the concepts of school-based curriculum initiatives within the field of environmental education with the focus on local environmental issues which affected students' lives, and active learning and interdisciplinary inquiry to promote environmental awareness.

It is worth noting that the initial participants were eleven countries from continental Western Europe, but neither the UK nor USA chose to participate at this stage. Elliot (1999) attributes this to the fact that environmental issues were not as high a priority on the political agenda of the latter two countries at the time, as well as the nature of the school curriculum in these countries. As in South Africa until recently, these countries favoured a discrete subject orientation to the curriculum and allowed for little school-based initiative with regard to curriculum development.

Following 1987 and the publishing of the Report of the Brundtland Commission entitled *Our Common Future*, which highlighted the environmental crisis and introduced the concept of 'sustainable development', more countries became involved in the ENSI, including the USA, Australia and

parts of the UK. During this second phase, the project's approach to environmental education was to promote environmentally sustainable behaviour in students and the local community.

In March 1994, at a conference held in Brunswick, Germany to mark the end of the second phase of ENSI, there was strong support for the continuation of the programme, and ENSI 3 was launched in Vienna in 1996. It was at this conference, influenced by the 1992 Earth Summit in Rio de Janeiro and the emergence from that of Agenda 21 (UNCED 1992), that the notion of "Eco-Schools" was first put forward. The "Eco-School" would commit itself to the goal of an ecologically sustainable society in ways that would go beyond the formal curriculum, to transformation of the ways in which the school interacted with, and impacted upon, the environment.

Elliot (1999) contextualised this development and highlighted the impact of the 1992 Earth Summit. The ENSI project was positioned as a resource for schools to draw on to implement the goals of Agenda 21, while at the same time Agenda 21 impacted on government educational policies in terms of prioritising environmental education.

Elliot (1999) reviewed the ENSI and highlighted the outcomes and implications of the project. He described how the case studies generated by phase 1 of the ENSI demonstrated the value of teachers researching their attempts to effect worthwhile change, especially in terms of the insights they generated about the problems encountered. The idea of action research, as a systematic form of practice-based inquiry and as an approach to empowering teachers as active agents of educational change, was adopted widely in the second phase of ENSI.

One of the most significant findings of the first phase of ENSI was "that in the absence of wider systematic change, ENSI at best operated at the margins of the system, becoming confined to voluntary groups of enthusiastic teachers and students, and frequently operating in extra-curricular time." (Elliot 1999:327,328). The whole school approach to environmental education can

be seen as an agenda for systematic reform, since it entails changes to the broader structures and functions of schooling. Generally, these serve to maintain and reinforce traditional boundaries, such as those between subject disciplines, formal learning in the classroom context and informal learning in the social or community context, facts and values, knowing and acting (Elliot 1999).

As a result of this, the aims of the school development agenda for the ENSI network for phase 2 shifted to both changing the mainstream curriculum to foster inter-disciplinary inquiry into environmental situations, and the culture of teaching and learning to enable students to accept responsibility for the environment. There was emphasis on school-community collaboration as well as the development of inter-school 'knowledge networks', so that ideas constructed in one context could be borrowed and used in others.

Elliot (1999) also raised in his review the contested nature of the "sustainable development" rhetoric, which has received much attention and debate in environmental education circles (Jickling 1992; Jickling 1999; Huckle 1999; Janse van Rensburg and Lotz-Sisitka 2000b). His view is that Eco-Schools in the ENSI run the risk of educating for responsible consumerism and sustained economic growth based on techno-economic aspects of environmental conservation, rather than being transformative and focussing on broader socio-ecological goals and enabling students to re-think and actively shape social and economic realities. This has definitely been my experience of much of the environmental education conducted in schools. Elliot (1999) warned that there is the risk of sustaining development, rather than ecological sustainability, subtly becoming the goal of the Eco-Schools. He draws on Ulrich Beck's (1992) notion of a 'Risk Society' where the environmental consequences of economic growth and development are often separated by space or time, which allows us to, temporarily at least, continue in the naiveté of the possibility of unlimited growth.

*It is not based on  
liberal  
sustainable  
development  
and consumerism*

While Elliot (1999) has given a most thorough overview of the ENSI programme, this has by no means been the only programme, nor is Elliot the

only one to comment on the issues around the whole school approach to environmental education. Baker (1991) has reviewed the "greening" of schools in Australia. Hubner (1996), Gayford and Dillon (1995) and Hart (1993) have focussed on the difficulties encountered in implementing such policies, a subject which will be discussed in section 2.6.

### 2.3 THE FEE ECO-SCHOOLS PROGRAMME

The Foundation for Environmental Education (FEE), with the support of the European Commission also developed an Eco-Schools programme in 1994. This programme aims to raise awareness of environmentally related sustainable development issues through classroom study and community action, as well as providing an integrated system for school management based on an ISO 14001 approach ([www.eco-schools.org](http://www.eco-schools.org) 10/07/2002).

It involves a seven-step programme as follows ([www.eco-schools.org](http://www.eco-schools.org) 18/10/2002):

- **The establishment of the Eco-School committee** intended to include all stakeholders, that is pupils, teachers, administrative and maintenance staff, as well as parents and possibly representatives of the local municipality.
- **An environmental review** of the environmental impact of the school.
- **An action plan** to identify priority areas and set goals and deadlines to improve environmental performance on specific issues.
- **A process of monitoring and evaluating** to ensure that progress is made and any necessary changes to the action plan are formulated.
- **Curriculum work** involving classroom themes such as energy, water and waste.
- **Informing and involving** the wider community both in terms of seeking partnerships and increasing awareness of actions taken.



- **Developing an eco-code** which is a statement of values and objectives outlining what students are hoping to achieve.

The key benefits of the development of an environmental policy in schools are that it allows pupils to learn about key issues of the environment while actively participating in resolving environmental problems at a local level. At the same time it is hoped that they will develop positive attitudes and commitment to the environment and improve the management of their schools with regard to water, waste and energy conservation measures.

## **2.4 THE SCHOOL ENVIRONMENTAL POLICY PACK**

It is worth noting the similarities between the process outlined above and that set out by the *School Environmental Policy pack*, which was developed in South Africa in the late 1990's. The *School Environmental Policy* project was developed in response to a concern that, while there were significant references to environmental education in national policy statements, there was little implementation in schools, and that policy development remained removed from practice (Lotz-Sisitka pers. comm. 2002). At about the same time, schools-based environmental policy initiatives in the United Kingdom and Australia led to the idea of developing a practical, contextually-orientated policy for schools in South Africa.

A group of environmental educators, including Rob O'Donoghue, Heila Lotz, Kevin Burge and Kim le Roux, compiled a resource pack to guide and support the development and implementation of school environmental policies. This pack became available through Share-Net in March 1998 (Le Roux 1999). The emphasis in developing this resource was on moving away from a prescriptive policy to be implemented, towards providing a framework to enable the process of policy development in context (Lotz-Sisitka 2002 pers. comm.). The framework enabled schools to identify the environmental issues and priorities most relevant to their context, and avoided a bureaucratic

imposition of policy. It reflects an attempt to decentralise power to the local level.

The *School Environmental Policy pack* contains a number of loose pages each representing an aspect of a school, for example: the school grounds, resource use and fieldwork activities. One side of the page provides information on how these elements can be audited and incorporated into a school environmental policy. Useful resource material is suggested and links are made to the critical outcomes of the curriculum. The other side of the page is largely blank, with space for filling in policy plans. This provides an open-ended framework in which schools can choose and develop elements that are relevant to the issues and priorities in context. A committee-based use of the pack is suggested.

The *School Environmental Policy pack* was initially trialled by the KwaZulu-Natal Department of Education and in the environmental education course component of the B.Ed. at the University of Natal. Subsequently, the pack has been revised and updated annually and has been modified provincially to include local contact details for support structures in environmental education.

The *School Environmental Policy pack* is intended to provide a framework for dialogue, encounter and reflection by opening up the environmental elements for identification at local level by the learners and teachers. This is an open-ended process where learners are encouraged to understand their local environment through activities that may stimulate investigation and social interaction with the wider community. This, it is hoped, would enable them to make sense of, or construct an understanding of, the environmental issues in their context, and to then plan actions that respond to the priorities in their community.

A further emphasis in the design of the *School Environmental Policy pack* is on contextualising knowledge, and the need for people to make meaning with regard to the issues and risks in their context, in such a way as to enable them to take responsibility and decide on appropriate action. This empowers

people to respond to issues by defining their own priorities, rather than being externally influenced by environmental campaigns.

The *School Environmental Policy* resource pack encourages participation in activities that are planned around environmental elements. Activities around action projects and competitions, environmental information and community knowledge etcetera, potentially provide pupils with the opportunity to become a community of researchers and agents of social transformation (Bertrand 1995). Through interacting and working with community members and parents, learners investigate environmental issues like water quality, act to protect the environment through projects involving the recycling and reuse of waste, and use local knowledge to defend the right to a healthy environment. This fosters interdisciplinary learning, as well as improving school-community links and support.

Le Roux (1999) describes the experience of participating and implementing policy as valuable in a society striving for democracy. She further states that if an ethos of policy participation can be started at schools, learners gain experience of being responsible citizens and may be encouraged to contribute to policy processes later in life. This reflects the notions of Action Competence as articulated by Fien (in Jensen and Schnack 1994) as a concept, which works towards resolving environmental problems at the level of both the individual and social structures.

My own experience with the *School Environmental Policy pack* prior to beginning this research was desultory. I found the ideas exciting and inspiring and the layout made it seem approachable and attainable. I found, however, that working on my own, with no specific mandate from the headmistress, I was unable to achieve very much. The most useful element of the pack was the calendar of environmental days, which I was able to incorporate into the odd assembly.

## 2.5 ECO-SCHOOLS IN SOUTHERN AFRICA

In June 2002, the Wildlife and Environment Society of South Africa (WESSA), as the first African member of the FEE, held a workshop in Howick, South Africa, to look at the role the Eco-Schools programme could play in taking forward environmental action learning in school and communities in SADC (Southern African Development Community) (Taylor 25/07/2002 pers. comm.). It was hoped that the FEE Eco-Schools programme could be linked to the School Environmental Policy pack and school improvement programmes.

A draft of guidelines for the establishment and implementation of the Eco-Schools programme in Eastern and Southern Africa emerged from that workshop. This included a SWOT (Strengths, Weakness, Opportunities and Threats) analysis for the implementation of the programme, as well as an extensive review of the perceived guiding principles, frameworks, school-community links, resources and sustainability of the programme. The document states that:

The concept of an Eco-School derives from the notion of putting the environment at the centre of learning in the school. This entails developing a school environmental policy to guide activities and ensuring that environmental concerns form part of the curriculum and day-to-day management of the school.  
(Eco-Schools 2002:3)

The importance of synchronising the Eco-School programme with existing environmental education initiatives and structures for education in the Southern African context is highlighted, as well as recognition of the level of commitment required in terms of human resources to make a success of the programme. There is an understanding that, for Eco-Schools to be widely effective, there will have to be a great deal of planning, co-ordination and communication.

One of the most interesting outcomes of this workshop was the evaluation of schools' Eco-Schools programmes for the award of a Green Flag. While following the basic European model of the seven-step process (outlined in

section 2.3) and requiring that the whole or greatest part of the school should be involved, that Eco-Schools should have demonstrably achieved at least two thirds of the objectives in their action plan, and that there should be communication and involvement with the community and Local Authority, a progressive approach to evaluation has been recommended. Relative criteria for change, rather than absolute benchmarks should be considered. This is a way of addressing the vast discrepancies in the types of schools found in the African context. The idea is that a school records, perhaps through an audit, their 'starting environmental position' and the change that they have achieved over time, for example in the form of a portfolio. This allows the change process to be open-ended and does not disadvantage schools which are impoverished or isolated (Taylor pers. comm. October 2002).

## **2.6 DIFFICULTIES WITH THE WHOLE SCHOOL APPROACH TO ENVIRONMENTAL EDUCATION**

Elliot (1991) perhaps best summarises the difficulties faced by teachers in trying to implement a whole school approach to environmental education, in his review of the key problems that emerged from phase I of the ENSI project. He also identified the following five dilemmas that recur frequently in the literature (Elliot 1991:124):

- Implementing interdisciplinary inquiry in schools where the curriculum is predominantly organised in terms of discrete subjects. (This aspect is particularly true of secondary schools.)
- Handling the value-issues which emerge from students' active involvement in improving the environment in their local communities.
- Handling the complexity of evidence about the effects of human beings' interactions with their environment.
- Linking local with global environmental concerns.
- Identifying and assessing the development of the dynamic qualities fostered by an active learning process.

Hart (1993) attributes the difficulties in implementing environmental education in schools to fundamental pedagogical contradictions between the more

recent critical and action orientation of environmental education and traditional schooling. Many of these contradictions can be related to the practical difficulties that teachers experience.

These include dealing with predefined curricula in discrete subject disciplines that focus on theoretical or abstract problems, when environmental education calls for the content to arise in response to specific and often localised environmental issues in a cross-curricular fashion. School programmes frequently focus on the dissemination of what is considered to be uncontested knowledge and learning tends to be individual especially when it comes to assessment. Environmental education calls for holistic and co-operative learning and recognition of the complexity of environmental problems and the uncertainty of their solution.

According to Hart (1993:119) "The process problem remains because environmental educators have not focused on the real-life working conditions of teachers, their perceptions about change, and the support system needed to facilitate change in teaching method demanded". While there is a trend internationally (Hart 1993) and in South Africa (Janse van Rensburg and Lotz-Sisitka 2000b and my own experience as a teacher) to extend curricula to include values and develop critical thinking among students, incorporating an epistemology of constructed knowledge that aligns better with environmental education rhetoric, it unfortunately does not yet characterise environmental education activity in most schools.

Gayford and Dillon (1995) discuss the policy mismatch in schools in England where, on the one hand schools are considered to be important vehicles for improving environmental responsibility with the attendant 'values education', and this is reflected in national policy and strategy documents, while on the other hand the emphasis has become improving standards in knowledge and skills. Assessment is seen as one of the main vehicles for raising educational standards, but affective aspects of education, beliefs, attitudes and values that are an integral part of environmental education, present considerable problems in assessment.

In a study of 51 teachers from 28 secondary schools where there was some commitment to environmental education, Gayford and Dillon (1995) identified three concerns expressed by teachers:

- The breadth of environmental education that, compared with other subject areas, can make it seem unfocussed, particularly since it includes much that relates to beliefs, values and attitudes;
- The possibility of environmental education being a form of indoctrination since discussion about environmental issues has obvious political implications; and
- The unsuitability of traditional assessment methods and an absence of alternatives and uncertainty about appropriate methodologies.

Gayford and Dillon's (1995) research also found that, although environmental education may be found in many aspects of the curriculum, for most secondary school teachers, subject teaching was the main vehicle for a contribution to environmental education. Teachers in secondary schools work in a context where the curriculum is largely prescribed and they are seen primarily as subject teachers. Any other contribution teachers make to the education of their pupils is dependent upon the particular circumstances in which they find themselves, and is usually restricted to less formal aspects of school life. Gayford and Dillon's (1995) research also showed that teachers interested in environmental education find other ways to generate involvement, through assemblies, exhibitions, bringing in outside visitors or organised activities in which pupils could participate within the school or local community. Here a school with an environmental ethos might play a role in opening up opportunities for teachers to generate such activities.

Gayford and Dillon's (1995) findings in schools that might be said to have some sort of environmental ethos, also raised another interesting point. While almost all the teachers involved in the study considered themselves to be environmentally aware, less than half saw themselves as environmentally committed in terms of their behaviour and actions. This reflects data found in

other surveys on attitudes and behaviour in the literature on which Kollmuss and Agyeman (2002) have commented. All the teachers felt that their teaching contained an important component dealing with values and attitudes but very few had received any professional training to assist them to develop the appropriate skills.

## **2.7 ENVIRONMENTAL ATTITUDES AND BEHAVIOURS**

One of the difficulties with environmental education is that as it has developed a socially critical orientation; equipping pupils to take action is seen as an important component of environmental education. It is evident from the literature reviewed by Kollmuss and Agyeman (2002) that awareness of issues does not necessarily lead to a corresponding degree of commitment to action, or behaviour that safeguards the environment. Kollmuss and Agyeman (2002) reported that most researchers agree that only a small fraction of pro-environmental behaviour can be linked to environmental knowledge and awareness. The motives for behaviour thus seem to be largely situational and internal. While a basic knowledge about environmental issues and behaviours that impact on them is necessary to behave in an environmentally conscious way, it is also true that other incentives and norms can motivate people to behave pro-environmentally without doing so out of environmental concern.

Preuss (1991), cited in Kollmuss and Agyeman (2002), distinguishes between an 'abstract willingness to act' based on values and knowledge, and a 'concrete willingness to act'. To me, the problem lies in facilitating the translation of this abstract willingness into concrete willingness by providing a climate both social and practical, and also stimulating the development of a willingness to act in the first place. The concept of an environmental ethos may incorporate a number of factors overviewed by Kollmuss and Agyeman (2002) as influencing the development of pro-environmental behaviour. It is an approach that provides a context for those who are environmentally concerned to act out their values, while at the same time promoting the



development of such values in others. For some individuals, the action will precede the concern and become a matter of habit, while for others the reverse will apply.

The article "Mind the Gap: why do people act environmentally and what are the barriers to pro-environmental behaviour" (Kollmuss and Agyeman 2002), refers to the gap between the possession of environmental knowledge and acting on that knowledge. The question of what shapes pro-environmental behaviour <sup>1</sup> is complex and no definitive answer has yet been found. It is useful to look at some of the factors listed by Kollmuss and Agyeman (2002) that have been found to have some influence, in understanding how the development of an environmental ethos within a school could contribute to so-called pro-environmental behaviours.

Kollmuss and Agyeman (2002:240) define pro-environmental behaviour as behaviour "that consciously seeks to minimise the negative impact of one's actions on the built and natural world." Assuming that what counts as pro-environmental behaviour is uncontested, they review selected frameworks, beginning with early linear models that environmental knowledge led to environmental awareness and concern, which in turn was thought to lead to appropriate behaviour. This could be summarised as learning *about* the environment. These models from the early 1970's were rapidly disproved as too simplistic, and Kollmuss and Agyeman (2002) outlined increasingly complex models of behaviour which attempt to take more and different variables into account.

Another framework discussed by Kollmuss and Agyeman (2002) for analysing pro-environmental behaviour, includes models of altruism, empathy and pro-social behaviour. Geller, cited in Kollmuss and Agyeman (2002:245), hypothesised that, in order to act pro-environmentally, individuals must focus beyond themselves and be concerned about the community at large. This

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<sup>1</sup> This term is in itself problematic and has been validly criticised by Gough (2002).

community spirit is increasingly being seen as important to foster at Roedean School.

This social orientation can, however, be superseded by egoistic motivation, which only allows for pro-environmental behaviour as long as the action serves the person's needs and wants. An example would be the grade 10 trip to the Umgeni Valley where the girls were asked to prepare an eco-meal and were specifically asked to consider the environmental impact of the packaging of their food choices. Their 'need' for dessert superseded this and resulted in the purchase of chocolate cake on a polystyrene plate covered by a hard plastic dome and a box of ready-made custard in composite packaging. This despite the fact that, when I was told what they were planning to purchase, I pointed out the need to avoid such boxed packaging and carefully explained the plastic and foil coatings that made the cardboard so environmentally unfriendly.

Behavioural incentives for pro-environmental behaviour as proposed by Fietkau and Kessel (1981), described in Kollmuss and Agyeman (2002), include monetary savings. While it is an incentive for Roedean School as a business enterprise to reduce resource use, it has little impact on pupils' behaviour. Most of the pupils are accustomed to abundance rather than want and so they see little need to use less paper when it is relatively inexpensive and readily available to them. There is also little incentive to recycle paper, as the monies raised in this way are not seen to be significant amounts in the context of a school where pupils might receive the amount of money paid for a ton of paper as weekly pocket money. It hardly seems worth the effort. Other behavioural incentives play a role.

Fietkau and Kessel (1981), cited in Kollmuss and Agyeman (2002), also include feedback about behaviour as a factor. Reinforcement of behaviour may be positive or negative, intrinsic or extrinsic; for example, the satisfaction of doing the right thing (positive intrinsic motivation) or the punishment for littering (negative extrinsic motivation). Thus, the recycling of paper at Roedean School has had to be motivated by "doing the right thing" rather than

saving money. Here again we can return to the example of the eco-meal and the chocolate cake. Had I introduced an extrinsic motivation, such as the points they accumulated for environmentally unfriendly packaging being deducted from their Biology marks, I am sure they would have been, on the whole, far more careful, since academic excellence is highly prized in the context of this school. The one group, however, did come up with the compromise of buying the chocolate cake but requested that it be packaged in a cardboard box. They were so pleased with their innovative solution that it developed into a rap song about the "cake in the box".

Kollmuss and Agyeman (2002) also describe Blake's (1999) three barriers to action. Firstly, individuals do not have a strong environmental concern and so conflicting attitudes may outweigh these concerns in influencing action. Naturally, one would aim then to raise the level of environmental concern, but Kollmuss and Agyeman (2002) report that, in their experience, even strong environmental concern can be overcome by stronger desires and needs.

The second barrier of responsibility is related to the psychological notion of 'locus of control', which amounts to the individual's perception of whether worthwhile change can be brought about by their individual behaviour. This is a perception as to the degree of influence the individual has, and so one pupil will express the view "there is nothing I can do about it", whereas another will say that "every little bit helps and we each have a responsibility to do our part." Again, the role of the wider ethos of the school comes into play, where individual and social responsibility can be nurtured and encouraged.

The third of Blake's barriers is practicality. This includes both social and institutional constraints that prevent people taking pro-environmental actions. These constraints may be lack of resources such as time or money (which may not relate to actual shortages but how the use of these resources is prioritised). This again, I would suspect, relates to what is viewed as important by the social context in which individuals find themselves. External practical factors may be as simple as the lack of available public transport resulting in children invariably being brought to school by car. Lift schemes

are difficult to organise because of the wide range of activities in which the pupils participate, making time co-ordination nearly impossible, as well as the fact that the pupils are drawn from an extensive area since Roedean is a private school and zoning does not apply. People choose pro-environmental behaviours that demand the least effort. Hence recycling is a relatively easy task to tackle compared to solving broader community problems. I have also experienced a distinct lack of willingness among pupils to engage in behaviours that required implicit life-style changes. This may, in some cases, be linked to their affluence.

Knowledge of mankind's effect on the environment appears to have less impact on behaviour than an emotional involvement according to Kollmuss and Agyeman (2002); hence the protection of big mammals tends to enjoy more public support than issues such as global warming. This has been attributed by Kollmuss and Agyeman (2002) to three factors about many ecological problems; namely a lack of an immediate experience of the problem, the fact that the destruction is slow and, therefore, not clearly perceived, and finally the complexity of the problem. The activities of the Green Team, on which I will elaborate in section 4.3, illustrate this point.

Kollmuss and Agyeman (2002) therefore highlighted the fact that emotional connection seems to be very important in shaping our beliefs, values and attitude to the environment. They have hypothesised that the degree of emotional reaction is a determining factor in increasing the chances of engagement in pro-environmental behaviour. This leads to the complex question of what makes us care? Certainly, direct experience of the problem seems to increase the emotional reaction. This is supported by common sense and Kollmuss and Agyeman (2002) have quoted literature to this effect. In a number of sessions I spent asking pupils about pro-environmental behaviour, they expressed a sense of guilt, which seems to be a paralysing rather than motivational emotion. Kollmuss and Agyeman (2002) hypothesised that anger or sadness is more likely to lead to action than guilt.

Finally, if we want to establish any new behaviour we have to practise it until it becomes a habit. Kollmuss and Agyeman (2002) conclude that the biggest positive influence on pro-environmental behaviour is achieved when internal and external factors act in synergy. They also identify old behaviour patterns as the largest barrier to change. While they acknowledge how difficult it is to change a habit, even in a very minor way, even if the new habit has distinct advantages over the old one, they do not explore the notion of *social habitus* as raised by O'Donoghue and Lotz-Sisitka (2002) in response to their article. Rajcecki, cited in Kollmuss and Agyeman (2002), does refer to *normative influences* such as social norms, cultural traditions and family customs. In terms of this, Fuhrer *et al* (1995), as cited in Kollmuss and Agyeman (2002), proposed the hypothesis that a person's values are most influenced by the 'microsystem', which is comprised of the immediate social net. In my opinion, aside from family and peer group, the school environment would form a large part of the immediate social net of most teenagers, simply because of the hours spent each day in this environment.

Kollmuss and Agyeman (2002), while exploring influences that shaped decisions to become environmentalists during adolescence and early adulthood, found that education and friends were most frequently mentioned. Hines *et al* (1986-1987), cited in Kollmuss and Agyeman (2002), also refer to situational factors which include economic constraints, social pressures and opportunities to choose different actions. Affluence, it appears to me, can be as much an economic constraint as poverty, where social desirability and quality of life far outweigh environmental consequences in decision making. This is strongly evident in a school where the dominant culture of wealth and materialism encourages a lifestyle that is unsustainable. Clearly, more affluence does not lead to more ecologically sound behaviour, though it does increase resource consumption or the ecological impact of the individual (Beck 1992).

## 2.8 THE CHANGE PROCESS

Modelling all these factors is, to my mind, an attempt to simplify what is necessarily a complex set of interactions. I have my doubts as to the degree to which such modelling is helpful unless one is working within a positivist paradigm, where one attempts to find cause and effect and predictable outcomes. I concur with O'Donoghue and Lotz-Sisitka (2002) who point to the instrumentalist and behaviourist underpinnings of such attempts at modelling that set aside complexity, and simply do not factor in those less manageable aspects of human behaviour. It is more useful to look at the factors mentioned, and to see the various ways in which they have played out in my research, or could be used to contribute to the creation of an environmental ethos, while acknowledging their instrumental assumptions and therefore shortcomings.

At the same time, I have tried to unpack some of the social processes, tensions and conflicting trajectories that emerge in the relational complexities of change. I have come to the understanding that there are ambiguities, uncertainties and tensions regarding change and very importantly that, as Fullan (1993) points out, change is neither linear nor entirely predictable as such modelling might hope to suggest. While I have chosen to narrate what is an intervention with a declared desired aim to shape human behaviour, I have also tried to look at the ways in which society has shaped these interventions and the responses to them in terms of the particular social history and context in which the events have played out.

While this half thesis represents an individualised self-reflexive story of a personal life role, I have become aware of how difficult it is to remove myself from my own *social habitus*. Ideally, I would like to go beyond changed behaviour to ultimately increasing reflexive action competence, as learners and teachers engage in a struggle in context to make ethical choices within the school and wider community. This is no small task and so one begins where one can, always trying to bear the broader picture in mind. As environmental educators, we need to provide opportunities to struggle with the

moral choices that face us in our complex risk society where there are no absolute answers (Bauman 1995, O' Donoghue and Lotz-Sisitka 2002) but ambiguity, uncertainty, complexity, rapid change and risk (Beck 1995).

Change can be considered to be an open-ended process (Fullan 1993, O'Donoghue 2002). Thus the desired behaviour is not necessarily identified in the beginning since, by its very nature, it is contested and cannot simply and easily be labelled as "for" or "against". There is no clearly defined pro-environmental behaviour. Rather there are factors that influence ones understanding of pro-environmental behaviour in a particular context. As Gough (2002) outlines, there are plural rationalities and we may switch from one to the other, as can be demonstrated by role-playing in examining a particular issue. Our definition of pro-environmental behaviour depends on our experience and interpretation of social, political and economic factors, based on the context in which we find ourselves, and our social role. There are, therefore, tensions about what is desirable. Environmental educators need to broaden perspectives of pupils by exposing them to alternative viewpoints.

Change is a complex and time-consuming process and there is no guarantee as to the outcome, or even necessarily the direction, it will take (Fullan 1993). All I can do is use the tools at my disposal and every opportunity that presents itself or can be created, to bring about a shift in the perception of, and interaction with, the environment at Roedean School. As one 'critical friend' commented when I was outlining my proposal: "This is a life's work, not a thesis!" Indeed it is, and I am happy to combine this moral purpose and "change agency" (Fullan 1993) to that end and leave behind the safety of simplicity, cause and effect

It is precisely because the factors that influence the development of environmental awareness and action are so multifaceted, that I chose to look at the concept of developing an environmental ethos rather than a clearly defined set of action plans towards a desired outcome. Ethos is not created single-handedly or in a short space of time. Roedean School celebrated its

centenary in 2003 and the heritage of the school is made up of layers that have taken the full 100 years to accumulate. Covey (1989) advocates acting in the sphere of influence you have and then seeking to extend that sphere of influence.

As educators, we can help pupils to question their values and assumptions. Durning (in Roszak *et al* 1995:75) reminds us that: "New values will never arrive in the abstract. They become entangled in concrete situations, new realities and new understandings of the world. Indeed, ethics exist only in practise, in the fine grain of everyday decisions." I believe it is the role of environmental education to provide opportunities to explore new realities, new understanding and exercise decisions in concrete situations. Many people, and from what I perceive from my discussions with the pupils this is particularly true of the Roedean School community, view sustainable living as an unattainable ideal. People's choices are constrained by infrastructure and the social pressures that envelop them. Durning (in Roszak *et al* 1995:76) suggest that "a strategy for reducing consumption must focus as much on changing the framework in which people make choices as it does on the choices they make." The difficulty lies in relatively blind social habits (*social habitus*) (O'Donoghue and Lotz-Sisitka 2002). This aspect of behaviour needs to be included in the narrative of human environment relationships in any context and how this makes it difficult for individuals to engage critically. The aim is to focus on human agency and social change to provide a more reality-congruent grasp of the complexities of social life.

One of the difficulties of change in the Roedean School context is that, in an affluent community, people consider their life-styles not up for negotiation and feel they have the right to material comfort and convenience afforded to them by modern technology. Consumption is so attractive that, when environmentalists speak of the need to reduce consumption they arouse negative emotions. Wachtel as quoted by Kanner and Gomes (in Roszak *et al* 1995:78) says " ... having more and newer things each year has become not just something we want but something we need. The idea of more, ever increasing wealth, has become the centre of our identity and our security, ..."



Our sense of want is continuously fed by the widening gap between what society offers and what people can afford, increasing the number of items 'necessary' to maintain a good standard of living (Kanner and Gomes in Roszak *et al* 1995). We feel entitled to material abundance, an assumed privilege. This 'right' confers status and recognition that gives a sense of pleasure and achievement. Any threat of removal of that 'right' is therefore strongly resisted. Maintaining a standard of living that the majority of South Africa would see as luxurious, is a very real pressure in the Roedean School context. The school fees alone make it an unaffordable option for the education of most people.

It is my view that the ethos of a school can play a role in re-valuing the social, environmental and spiritual as sources of pleasure, satisfaction and problem solving and enable people to find meaning and grace in service. It is not helpful to simply criticise excessive materialism since this primarily increases sense of guilt and failure rather than altering environmental habits. As has also been pointed out by Kanner and Gomes (in Roszak *et al* 1995:89) "after years of discouraging news about the state of the environment and dire predictions for the future, people are feeling numb and overwhelmed." A sense of helplessness is paralyzing. Kanner and Gomes (in Roszak *et al* 1995:89) suggest providing supportive and "guilt-free" contexts in which people can address the complex emotional side of change." More sustainable ways of living can appear boring and even depressing in comparison to consumerism (Kanner and Gomes in Roszak *et al* 1995). People need to ponder whether change is possible or worth the effort. In response to this, Kanner and Gomes (in Roszak *et al* 1995) suggest connecting to the natural world in order to re-value it aesthetically and spiritually and thus provide the motivation necessary for continued change.

An environmental ethos, in others words a culture of valuing the environment, can be seen as providing a context in which environmentally sound understanding, values, attitudes and actions can be developed. The course of this research has become less about rational interventions and instrumental changing of ethos or behaviour, and more of a grappling with the complexities

of the change process, what such a change means in this particular context and an increasing appreciation of the open-endedness of the process. I have developed an “understanding of human social habitus and [the] struggle for the emergence of pro-environmental dispositions.” (O’Donoghue and Lotz-Sisitka (2002:262)

## CHAPTER THREE: THE RESEARCH PROCESS

### 3.1 AN ORIENTATION

Janse van Rensburg (2001:1) describes the selection of a research orientation as providing a "philosophical compass-bearing". In selecting and developing my own orientation, my reading included Cohen and Manion (1994), Robottom and Hart (1993), Connoles (1993), Gough (2001), Janse van Rensburg (2001), Lather (1992) and Terre Blanche and Durrheim (1999). The focus of my research is to *understand* the *process* of a deliberate attempt to foreground the environment in a school, and for this reason I chose an interpretivist approach.

Interpretivism, as I have come to understand it, is well outlined by Cantrell (1993). Here the purpose of the research is to understand and interpret phenomena within a social context. Reality is viewed as multiple and constructed through human interaction, and events are understood through a mutual shaping between mental interpretation and the social context.

My orientation incorporated an understanding that this research was not 'value-neutral' in its intention (Lather 1992). There was an advocacy for a shift in attitudes, values and behaviours associated with the environment at individual and organisational level. This meant that the research contained elements of the critical perspective (Fien 1993, Giroux 1988, Huckle 1991, Robottom and Hart 1993).

My understanding of knowledge as socially constructed (Berger and Luckman 1967) is well expressed by Janse van Rensburg with contextuality playing an important role (Janse van Rensburg and Lotz-Sisitka 2000a:12-17). I wished to come to a holistic understanding of the meaning and experience for the participants in the research process. The participants included myself as participant-researcher, members of the staff of Roedean School who volunteered to be part of an environmental focus group and pupils who were

involved in the schools environmental club known as the Green Team. The outcome is thus intended to be a naturalistic and illuminative case study (Janse van Rensburg 2001:18). An interpretivist stance allowed for an interactive and contextualised search for meaning (Lather 1992) with myself, the researcher, as participant and observer. I was interested in the intentions, reflections, actions and interactions of the participants as they engaged in the process of developing an environmental focus for the school.

## **3.2 THE RESEARCH DESIGN AND METHOD**

### **3.2.1 Introduction**

An interpretive study allows for an emergent research design that unfolds during the process of the study (Lincoln and Guba 1985:225). There is a broad outline of the plan but there is flexibility that allows the researcher to respond to events. Data is collected from as many sources or perspectives as possible to give the detail and specifics to the report that reflect the unique context of the study (Lincoln and Guba 1985:201), since information richness is what generates the validity and meaningfulness of qualitative inquiry (Cantrell 1993).

### **3.2.2 The case study method**

The method I have chosen is that of a case study and my chief references in this regard have been Yin (1994), Stake (1995), Bassey (1999) and Winegardner (<http://www.tgsa.edu/inline/cybrary/case1.html> 10/01/2001). I wished to focus on a very specific process in a very specific context and a case study allowed the research to be both particularistic and situational. The case was the school in which I had been teaching for four years at the outset of the research. The school provided a naturally bounded system within which to work and provides the singularity of a case study. I did experience difficulties, however, with the temporal boundary of the study. It was a study intended to be part of an ongoing process. The time frame of the case study was one year for purposes of a half thesis at masters level, taking into

consideration that: "The process of developing situational understanding has no fixed end point. ... In this sense, case reports are always provisional accounts of an ongoing process rather than end-products." (Elliot 1991:127)

Indeed, my motivation for embarking on this course of action, was not purely for the purpose of generating a research report that contributed to the body of educational knowledge, but rather a half thesis was always intended to be merely a by-product of my practice. It has served as a tool to enable me to critically and reflexively engage with the dialectic between theory and practice. By doing so, I hoped to improve my practice and become more aware of the factors that improve or inhibit effective environmental education in the context of my chosen profession as a high school Biology teacher. As such, the case study is merely a snapshot in time.

The aim of the study was to better understand the process of a conscious attempt to fore-ground the environment in the values and activities of a school and to continuously review and improve the process to better achieve the goal of holistic environmental education. This would constitute, in my opinion, what Grundy (1987) outlined as Habermas' (1972) "practical interest". While "technical interest" is towards control, "practical interest" is interpretative and aims toward understanding of the meaning of a situation in order to take appropriate action. The contribution to education is through distilling and reflecting on experience. It is hoped that any insights I might gain could then serve to inform the judgements and decisions of other practitioners.

The case study method adopts a holistic approach of data gathering and contextual examination. As a 'participant observer' (Yin 1994), the researcher needs to gain an 'insider's perspective'. This requires the researcher to spend considerable time in the context with intense contact and interaction with participants. My position in the school allowed this to occur as a matter of course. I did not need, therefore, to address the issue of access as I have a well-established rapport with all elements of the school community. A case study requires extensive knowledge of the research context; there is a need to

go beyond the observation of the immediate (Stake 1995). I was able to draw on my experiences in the school to provide the background to the process.

Another reason for adopting the naturalistic case study approach is that, as Palmer and Neal (1994:89) point out, the "individual conditions of school size, location, staff skills and cooperation and many others, determine what and how environmental work can take place." It is, therefore, not valuable to attempt to generalise but rather to provide a detailed account which may resonate with readers.

The major criticism of the case study method (Bassegy 1999 and Yin 1994) is that case studies offer little basis for generalisation. Bassegy (1999) refers to Atkinson and Delamont's comment that, if studies are not explicitly developed into more general frameworks, they remain isolated, one-off affairs that do not contribute to cumulative knowledge or developing theoretical insight.

My own descriptive case study is not intended to be explicitly generalisable; rather I hope its value lies in the exploration of a situation and the degree to which it might echo the experience of the reader. As Elliot (1991:127) has said: "Although no two practical situations are the same in all respects, they may well be similar in some respects, and these similarities may be practically significant in the sense that they can inform intelligent action in both situations." As such, it is hoped that this study will be useful to others through creating a sufficiently concrete, rich and contextual description to resonate with reader experience. Elements of the case study may then be selectively and intelligently applied.

### **3.2.3 Action research features of the study**

I adopted the role of co-ordinator and interpreted the process while being an active participant in the experience. The process thus takes on some of the features of action research. It would also appear to fall within Cohen and Manion's (1994:186) definition of action research as: "a small scale intervention in the functioning of the real world and a close examination of the effects of such an intervention". Brown and McIntyre (1981:245) describe

action research as “a move towards a greater understanding of, and desirable change in, the practice that is achieved.” In this sense the research could be described as the interpretation of an action research case study. The research provides a narrative account of the process in context as it evolved from a variety of perspectives, focussing on the problematic aspects of the process and the strategies developed in response to them. Again the difficulty lies in that the research has no clear end point in my mind. As Elliot (1991:129) has said: “Action-research, grounded in a self-transcending reflexivity, has no end-state. Because the understandings it generates are always provisional, so are the actions they shape. From an action-research perspective the situation is a continuously changing object of inquiry.”

According to Hart (1993), action research is collaborative, practical, involves professional development and requires time and support. It assumes the need for frequent opportunities for communication among participants, a shared frame of reference and clear goals, and a school climate that encourages and facilitates experimentation and the pursuit of school improvements that may extend to the community.

The generally accepted model of action research (Elliot 1991, Kemmis and McTaggart 1981, Robottom and Hart 1993, Wals 1994) involves a planning phase, during which areas for improvement are identified and strategies sought to address them; an action phase, during which the plan for change is carried out; and a reflection phase in which critical reflection leads to a new planning phase and the cycle is continued. This is often referred to as the action research spiral. While it was my intention at the outset of the research to adopt this model, I did find that the spirals tended to compress on one another and that the *action* of action research often threatened to overwhelm the *research*. It would appear to me that, when one is researching ones own practice, this is a very real risk. I often found that the change process was opportunistic rather than systematic. It was a comfort to me to read Fullan’s (1993) account of the change process and realise that my difficulties were not necessarily unique.

### 3.3 DATA COLLECTION

Initially, for the purposes of collecting sufficient data for a half-thesis, I proposed that the study should be limited to the second and third terms of 2002; that is from May 2002 until November 2002. In the end, I decided to collect data for a full year in order to develop a better picture of the case study since the change process proved to be very slow. This, according to Fullan (1993), is not unusual with a whole school innovation, where it can take two years for substantial progress to be made. I was not able to pursue the study for that long but I extended my data collection to May 2003.

The fieldwork for my case study, in which I will narrate the process of attempting to create an environmental ethos in a particular school (Roedean, Parktown), began in May 2002. The Headmistress was quite willing for me to base my studies on the school where I teach and agreed to the procedure that I proposed for developing environmental concern as part of the culture of the school. This involved the formation of a focus group of interested persons with which to workshop and select practical strategies to foreground the environment in all aspects of school life. I envisaged that the group would then implement the strategies and meet on a monthly basis to reflect on and evaluate the actions taken with a view to improving the process and developing and incorporating new strategies. This would then constitute the cycles of plan, act, observe, and reflect of the spiral action research model as described by Kemmis and McTaggart (1981).

Focus groups, according to Kitzinger (1994), are group discussions organised to explore a specific set of issues, including peoples' views and experiences. In this instance my intention was that the focus group would use what came out of their discussions to find a way to move forward and engage in the change process. Using a focus group as part of my research enabled me, as a participant observer, to explore my colleagues' frameworks for understanding what an environmentally orientated school would look like in



the specific context in which we found ourselves. If we generate meaning through talk, and if the meaning generated is contextual (Kritzinger 1994), then it was important to have a forum in which such talk and meaning-making could happen in order for me to understand how the change process was shaped by the Roedean School context. As Kritzinger (1994:117) says: "When researchers want to explore people's understandings, or to influence them, it makes sense to employ methods which actively encourage the examination of these social processes in action."

Minutes were kept of the environmental focus group meetings. Initially these minutes were taken by other members of the focus group, who volunteered on the day. I felt that this would free me to chair the meetings and I wanted someone else's view of the proceedings on record as I felt it would be a way of triangulating my experiences and add to the inter-subjective construction of events. After the second meeting I realised that this was unsatisfactory for my purposes since minutes tended to be succinct and did not reflect the richness of the interactions and discussions in the meetings. I therefore chose to record the subsequent meeting on tape.

In addition to the focus group comprised of staff members, I wished to involve pupils in my study. I thus also became involved with what is known as the Green Team, an existing group of pupils in the school, which formed the closest thing Roedean School had to an environmental club.

The Green Team meetings proved more problematic. I tried jotting down notes at our first exploratory meeting while attempting to ascertain the pupils' thoughts and feelings about the Green Team. This tended to disrupt the flow, since I found that the pupils required a great deal of active listening from me to encourage them to express their views. (I use the term "active listening" as it is described by Egan (1994)). The speaker needs to feel that they have your undivided attention, you need to display open body language and offer frequent indications of empathy and prompts to continue). Out of this initial meeting, I was able to compile a questionnaire (see appendix B) that would give these pupils an opportunity to write down their responses to the issues

that had been raised in my discussion with them, and allow me to analyse the responses in more detail. I then modified this questionnaire for use with the new Green Team at the start of 2003 (see appendix B). I hoped that this would enable me to gauge any change in the perception of the Green Team over the last two terms of 2002, as well as serve as a catalyst to prompt the pupils to think about some of the issues the previous Green Team had faced, and possibly offer suggestions for solutions. Once a committee had properly been elected for the 2003 Green Team, the secretary, a matric pupil, kept minutes of all further meetings.

The data collection was aimed at documenting or otherwise recording the process in as detailed a fashion as possible. I thus kept print outs of all e-mail correspondence relating to the study. These could broadly be grouped as communications regarding the staff environmental focus group, the Green Team of learners and outside organisations.

Photographic evidence served to capture moments, pupils' work, the Green Team notice board and other indications that an environmental ethos was emerging. I sought to record things that might be an indication to outsiders that the environment was a priority within the school.

Anecdotes of instances which I came across that struck me as demonstrating a shift in the culture of the school were often hurriedly jotted in my diary in red pen. I also kept a separate journal in which I could write, not just events as they occurred, but my thoughts and feeling about the research process. This was a place to record casual conversations that had set me thinking or the comments of 'critical friends', and often family.

### **3.4 DATA ANALYSIS**

A case study such as this generates a great deal of diverse raw data. Cantrell (1993) quotes Bogdan and Biklen (1982:154) as saying: "Analysis involves

working with data, organizing it, breaking it down, synthesizing it, searching for patterns, discovering what is important and what is to be learned, and deciding what you will tell others". She (Cantrell 1993) also quotes Patton (1990:372) in summary of the inherent difficulty with qualitative data analysis: "... there are no absolute rules except to do the very best with your full intellect to fairly represent the data and communicate what the data reveals given the purpose of the study...". Categorising and synthesising the data are, however, widely accepted processes.

Often, during the course of engaging with the data, or as a result of a passing thought during the day, a potential theme or possible insight would strike me. I noted these down for later verification with the data and other members of the environmental focus group or the Green Team. These notes could be regarded as the first level of generating analytical statements (Bassey 1999). This type of analysis during data collection, and the opportunity it allows for 'member checking' is described by Cantrell (1993).

In order to make representing the data as a narrative manageable, I identified three 'stories' within my experience. This served as an initial data sorting technique. I have tried to write a rich but coherent and chronological account of each of these three stories in chapter four. I looked at each story as a data set and tried to identify the main themes and recurring patterns in them. Cantrell (1993) refers to this as coding through content analysis. I then looked to see if these patterns and themes were repeated in the other stories. I also referred back to my journal to compare the themes and insights that had occurred to me during the research to see if there was sufficient evidence in the raw data to warrant further interpretation. By constant comparison of incidents, I was able to categorise them according to themes that emerged repeatedly in the study on which I wished to elaborate.

### 3.5 VALIDITY

The study is qualitative and subjective. Understanding the process from an interpretivist orientation requires empathetic identification, which makes subjectivity not only necessary, but desirable. The issue of validity is important in this regard. Validity in such a case study is intended to create plausible interpretations of what is found, while providing sufficient evidence "...by which other researchers may validate or challenge the findings or construct alternative arguments." (Bassegy 1999:58). I therefore strove to adopt a reflexive stance, that is, reflecting on the position from which I was reflecting. (Janse van Rensburg and Lotz-Sisitka 2000a:14). Elliot (1991:129) postulates that in action research, validity does not rest on how accurately one's understanding represents the situation but "its fruitfulness at opening up new possibilities for future action in the situation. This alternative account of validity presupposes the inherent instability of the human situations which provide the focus for action-research."

Seeking multiple perspectives from the other participants in the case study was intended to act as a form of triangulation, bearing in mind that, in the context of an interpretive orientation, this strives for integrity rather than agreement (Van der Mescht, undated). Within the epistemological framework of social constructionism, Elliot (1991:133) describes the strategy of triangulation as: "an expression of the basic principle that it is important to understand a situation from a multiplicity of perspectives." I am committed to a product that represents as closely as possible the experiences of people in the situation. I therefore used iterative reporting as "a form of 'respondent validation', in which all participants could influence the way in which their views and experiences are represented and made intelligible by the 'researcher'." (Elliot 1991:133)

Considering possible rival explanations and getting feedback from other participants was an important aspect of verifying my findings. I sought in the report to provide sufficient access to the data by the reader through 'thick

description' (Cantrell 1993) to give the account credibility and my interpretation confirmability (Cantrell 1993).

### 3.6 THE RESEARCH PRODUCT

As mentioned in chapter one, I have chosen to write this research product as a *narrative* in the first person. The 'situatedness' of the experience requires a close description of the context, personal, historical, social, cultural and institutional. Ayers, in Hatch and Wisniewski (1995:114), states that narrative "focuses on life as it is lived" in which experience is "a dynamic, living past, a past open to interpretation and re-interpretation, to meaning-making in and for the present." It is a way of knowing, of making sense of our lives. The use of narrative to tell the 'story' of the research allows me to focus central moments, critical incidents and the indecision, confusion and contradictions inherent in the research process and more accurately reflects the ambiguous, complex and often chaotic, experience that doing research has been for me. Storied narrative, Polkinghorne says (in Hatch and Wisniewski 1995:125) is "the linguistic form that preserves the complexity of human action with its interrelationship of temporal sequence, human motivation, chance happenings, and changing interpersonal and environmental contexts." It reflects the personal nature of doing research and has a practical orientation (Hatch and Wisniewski 1995:117).

What I have intended to achieve is inter-subjective meaning-making which allows for both reflection and finding a way forward at a particular time and place and under particular social circumstances. Hatch and Wisniewski (1995:118) quote Sikes as saying that narrative "can reveal what theory means in practice...in a way that is especially meaningful and accessible to other people." Hatch and Wisniewski (1995:118) also quote Sparkes: "... it can provide powerful insights into the process of change. Likewise, it is better able to bestride the micro-macro interface than most other forms of qualitative

research.” According to Bruner (1986), narrative knowing is the way each of us comes to understand and communicate human action.

### **3.7 EVALUATION OF THE RESEARCH APPROACH**

As I mentioned in section 3.2.2, this research was always intended to be an integral part of my practice (Grundy 1987). Adopting the stance of researcher, however, brought my practice into focus and made me consider many aspects of it more closely. I needed to work out clearly what I wanted to achieve, and if and why that which I wanted to achieve was a valid route to enhancing environmental education. Furthermore, I needed to work out how to begin that journey, and embarking on this half-thesis gave me the impetus to start the process.

My choice of action research enabled me to contribute immediately to the practical improvement of environmental education in the context in which I found myself, namely Roedean School.

I appreciated the fact that action research allowed me the flexibility to alter the strategies that I adopted as my understanding and the situation unfolded. This allowed me to be responsive. I was also stimulated to be more reflexive in my practice since, in recognising that a strategy was not working, it required me to think deeply about why it was not and the assumptions I might have made, in order to develop a more effective approach. This was particularly true of the environmental focus group where I found that the committee approach did not work very well (see section 4.2.2).

The flip side of this flexibility was uncertainty. As an inexperienced researcher, adopting a qualitative research method when my background was a traditional quantitative scientific paradigm, I felt very insecure and unsure of what I was doing. On the other hand I firmly believe that in order to grow as a person, one has to be removed from one's comfort zone. Furthermore, action

research was still the approach that best allowed me to improve my understanding of, and responsiveness to, the case study of the change process.

Action research is intended to consist of a spiral of plan, act and reflect (Wals 1994) that is repeated, resulting ideally in continuous improvement of practice. The time frame of the research for a half-thesis limited the number of action research cycles that could be completed. I feel that I really only completed one cycle and began the next. I hope, however, to continue the process of reflexive practice for the remainder of my career.

## **CHAPTER FOUR: NARRATIVES OF CHANGE**

### **4.1 INTRODUCTION**

This chapter is intended to read as a narrative description (see section 3.6) of the process of my attempts to develop participatory strategies in the hope of evolving an environmental focus at Roedean School. It takes the form of three intertwining stories that have been separated for the sake of simplicity and so that recurring themes may more easily be identified. I have reserved the interpretation and a more critical discussion of the events and the themes that emerged from them for the following chapter. By doing so, I hope to assist the reader in attaining an overall view of the process and avoid interrupting the flow of the narrative.

### **4.2 NARRATIVE 1 - THE ENVIRONMENTAL FOCUS GROUP**

#### **4.2.1 Starting up**

As I mentioned in section 3.3, I was fortunate to have the support of the Headmistress of the school where I teach (see section 5.7). She agreed to allow me to present my proposal for developing environmental concern as part of the culture of the school at the opening staff meeting of the second term, 2002. On May 6, I presented the proposed project in the form of a PowerPoint slide show to the administrative and the teaching staff of both the Senior and Junior schools. I invited people to become part of an environmental focus group (see section 3.3). The presentation was well received and I was pleased when eight (nine including myself) staff members indicated their interest in becoming involved.

I followed up the next day with an e-mail to establish a suitable meeting day and time. The e-mail elicited further positive responses from people who did not feel able to commit to the focus group but who wished to offer suggestions and express their support of the initiative. Examples are: "I fully support your



initiative – it is really important for everyone to be aware of these things at all levels. Please forgive me for not actively participating – pressure of work and all that stuff!"; and "I feel I'd better not commit myself to meetings, but I'd like to contribute what I can like this via e-mail." Interesting was the use of words like "bugs" and "irks" when referring to environmental issues that they felt required attention.

The members of the focus group were reasonably representative, comprising two junior primary teachers, two senior primary teachers, two secondary school teachers, one administrative staff member, a part time member of staff who offers pottery as an extra-mural activity and myself. The Headmistress of the primary school, the primary school librarian and the head of the sports department expressed their regret that they were unable to get involved due to the level of their other commitments. A synopsis of the project and its goals was included in the school newsletter, which was distributed to parents on May 10, 2002. On May 14, 2002 I sent out the dates for the monthly meetings to be held in May, June, July and August to facilitate advance planning by the members of the focus group.

#### **4.2.2 The meetings begin**

The first environmental focus group was held on May 20, 2002. Two people were unable to attend this meeting. The agenda of meeting was intended to review current projects running at the school, which primarily involved paper and printer ink cartridge recycling, and develop strategies for improving their effectiveness. I also included in the agenda proposals for new projects that had been sent to me via e-mail. The intention was to select projects from those proposed and develop strategies for implementing them. Essentially, I was hoping that an action plan would evolve from this meeting which would serve as a start to the action research spiral (Kemmis and McTaggart 1981). Minutes were taken by one of the staff members (see section 3.3).

There was much to discuss in the first meeting. The paper recycling project presented many practical difficulties in the Roedean School context and these and possible solutions were discussed at length (see section 4.4). In terms of

printer ink cartridge recycling, it seemed that the school had an arrangement with the company that supplied the cartridges. It was proposed that this be extended to the wider Roedean School community by requesting, in the newsletter, that used cartridges be donated to the school for recycling, since it was quite likely that almost every pupil's household would have a printer and many parents also ran their own businesses.

Of the six proposals for new projects, there was only time to discuss two, since the hour allocated for the meeting had expired and most members of the focus group had other commitments to attend to by 16:30 in the afternoon (see section 5.5). The proposed projects that we were not able to discuss included reducing water and electricity consumption in the school; recycling other substances such as glass, plastic, and cans; collecting scrap fabric and wool to be used for community projects; and addressing the noise pollution in the school. These proposed projects fell by the wayside and were never revisited since the reduction of paper use and paper recycling came to dominate this and subsequent meetings (see section 4.4).

The first proposal dealt with the re-use of 'one-sided' paper. Much paper that was printed on only one side, was wasted. This was largely the result of photocopying and printing errors. Having seen collection boxes for such paper at the Rhodes University Environmental Education Unit (RUEEU), I proposed that we undertake a similar collection process. It was decided that the Junior School would use this paper for drawing. In the Senior School, it was decided that the pupils belonging to the Green Team (see section 4.3) would be responsible for collecting the paper and cutting it up for use as message blocks for each of the telephones in the school instead of purchasing message pads.

Other areas where paper was being wasted were also discussed. It was decided to ask staff to encourage pupils to write on both sides of the paper in class. Our pupils use files as opposed to books and supply their own paper. It is common practice for them to write on only one side of the page of an examination block or exercise book because it "looks nicer and is easier to

press on". These attitudes can be related to the influence of the affluence of the pupils in general, as discussed in section 1.6, and the behavioural incentives for environmental behaviour as discussed in section 2.7. During examinations, pupils write in examination books that are provided by the school. Often, pupils will use only half of one book, or a few pages of a second book, depending on the length of the examination. The decision was taken to get the pupils to remove the remaining unused paper from the books when their scripts were returned so that it could be donated to a needy school.

The second proposal dealt with the need for environmental awareness notice boards (see section 4.3.3). It was decided that the boards should be used for newspaper and magazine articles related to environmental concerns, paper recycling project statistics and the advertisement of environmental days and other environmental activities in the school. A notice board was available in the Junior School but the siting of notice boards at the Senior School was problematic. The only readily visible notice board was outside the Deputy Headmistress' office and was allocated for general matters pertaining to the running of the school and was for her use only. Clubs and societies notice boards, as well as those relating to House<sup>2</sup> activities, were tucked away in a back corridor. The reason for this was that the previous Headmistress had considered notice boards untidy and detracting from the aesthetics of the school buildings (see section 1.6 and section 5.7 for discussions on the importance of the aesthetics of the school grounds and the role of leadership). The problem was that, if a notice board was to effectively help to raise environmental awareness around the school, it needed to be visible in passing and not require a special trip to consult it. I therefore undertook to meet with the new Headmistress in this regard. She agreed to a notice board being erected outside the Biology Laboratories along a frequently used thoroughfare.

The second meeting, held on June 10, 2002, revolved around further difficulties that had emerged with the paper recycling (see section 4.4). Three

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<sup>2</sup> Pupils are allocated to three houses for the purpose of intra-school competition.

people excused themselves from this meeting for various reasons. Paper re-use boxes had been placed next to most photocopiers and printers but it was found that it was time consuming for the Green Team to sort the paper with all 'clean' sides up before cutting it into squares for message blocks (see section 4.3.2). It was decided to put up notices and make an announcement in assembly to the effect that this paper should be put face down into the boxes. In terms of the printer ink cartridges, a box had been placed in the computer room for their collection.

The next meeting, which was due to be held on July 9, 2002, was cancelled. This was because the half term break from 15 to 23 June was followed by two weeks of examinations ending on July 5. It was felt that little could be accomplished with the environmental projects in this time and so there would not be anything new to discuss at the meeting.

Prior to the August meeting, I came across the FEE Eco-Schools programme ([www.eco-schools.org](http://www.eco-schools.org) 16/07/2002). I sent out a memorandum to all the focus group members with a summary of the seven-step plan that forms the FEE Eco-Schools programme (see section 2.3). In this memorandum I raised the idea of developing an environmental policy for Roedean School based on the concept of the eco-code that is part of the FEE Eco-Schools programme. I also explained that a workshop had been held in Howick with regard to establishing the Eco-Schools concept in Southern and Eastern Africa and that I had a copy of the documentation and guidelines that arose from the workshop. I said that I would be meeting with Jim Taylor who had been appointed to co-ordinate Eco-Schools in South Africa.

The meeting that was to be held on August 6, 2002 had, once again, to be cancelled. Both the Junior and Senior Schools had parents' meetings that afternoon. I had thought that, since teachers had to stay for this anyway, they would be willing to meet. Unfortunately, being the last week of the term, I found that the staff members were tired, over-committed and lacked the motivation to do anything additional for the school. I sent out a memorandum again on August 6, stating that I had obtained permission from the

Headmistress for the focus group to begin working on an environmental policy for Roedeans School. I attached a guideline for drawing up a policy document that we had received as part of an on-course assignment at RUEEU. I asked members to look at it during the holidays and jot down some ideas that we could use to collate our own policy at the beginning of the following term.

By this time, I was feeling pretty despondent that we had had to cancel two meetings. I was excited about the FEE Eco-Schools concept and noted in my journal that it would be great for Roedeans School to be the first in South Africa to achieve a Green Flag. I was, however, increasingly feeling that this was turning out to be a one-man-show. My ideals of a participatory research project (see sections 3.1 and 6.1) were crumbling and I had to keep reminding myself of the wise words of one 'critical friend' who told me: "You need to keep your ego out of this." It was a struggle because I was feeling like a failure. Most frustratingly, the whole aim of my research was to get away from environmental activity in schools being dependent upon the enthusiasm and commitment of one person (see section 1.3). I also had to bear in mind that it was the end of a term, a low point for a many teachers.

The environmental focus group met again at the start of the third term on September 10, 2002. This time only four people were able to attend. In addition to having someone take minutes, I decided, with the participants' permission, to record the meeting on an audiocassette. I felt that minutes were not recording the data richness of the discussions, which revealed far more in terms of peoples' views and the tensions that emerged from the difference between the intended goals and the difficulties of making them happen (see section 3.3).

I began by sharing with the focus group my sense that having an environmental policy in the school would give the process direction, formulate a clear statement of intention and entrench an environmental focus as an official part of the school's principles. I shared the *School Environmental Policy pack* (see section 2.4) with them as a tool for developing such a policy and tried to emphasise that an environmental focus should become integral to

the way the school operated, rather than being something extra that needed to be added.

The issue of motivation for change in an organisation was discussed. Some suggestions included the use of assemblies to promote environmental awareness and either inter-class or inter-house competitions to boost the amount of paper collected for recycling. Assemblies had the advantage of having the whole school present simultaneously, but anything that caused assemblies to run over time (as they already frequently did), resulted in resentment from teachers about loss of lesson time because of the pressure for academic performance (see section 1.6). Inter-house or inter-class competitions required unwieldy organisation that tended to further burden class tutors, and still required additional input from a co-ordinator. Teachers felt this was simply too much additional work and was not making the process a part of school life. I had specifically wanted to avoid any environmental activities as appearing to be “add-on” (see section 1.3).

In terms of actually developing a policy, the response from the committee was that the easiest would be if I were just to draw up the policy. They would be willing to comment on it but they really were not keen to try and draw it up within the meeting time. So much for my notions of participation (see section 5.4)!

One teacher, the Deputy Headmistress of the Junior School, pointed out how well the *School Environmental Policy* and FEE Eco-Schools notions lent themselves to community service development. This was an area which the new Executive Headmistress had made clear would become an important focus for Roedean School under her leadership. She had made it known by this time that she would be creating a new post and looking to appoint a person who would be in charge of developing a community service programme that would involve every pupil.

I felt that it was significant that environmental issues were being viewed as linked to the community and social issues. I saw this as a shift from the

previously dominant perception of environmental issues being related primarily to the conservation of nature. This shift in the way environment is viewed is reflected in section 1.1 but it occurred internationally more than a decade ago! I would like to quote the teacher who illustrated this shift when she said:

“We must remember, and this is something I have had my eyes opened to this year, we tend to think of environment very much in terms of the physical environment and nature and environment has a social component. Things like housing falls under environment, energy and energy use falls under environment. We could get into social issues such as people who live on rubbish dumps, it’s not just an environmental issue, it’s a social issue, it is a health issue. We could really use the community developer to increase community involvement in environmental issues. In Design and Technology the children developed a home that was environmentally friendly. This is the type of thing one could easily get involved in.”

The lingering notion of environment as nature and the emphasis on its conservation may also be related to the affluence of the Roedean School community (see section 1.6). Most of the pupils have visited nature reserves and exclusive game lodges, leading them to view nature as something apart from their daily lives. At the same time, their wealth insulates them from the effects of environmental degradation and this limits their ability to relate to the social aspects of the environment (see section 2.7).

The Mathematics teacher then related how a school in Pretoria had done a study on water use, and how the Mathematics component was a statistical analysis of water consumption. Out of this came a discussion on the need for advance planning, particularly with regard to integrating learning areas to work around a particular theme such as water. One Junior school teacher said: “If everyone knows we are going to be doing water or recycling or just the environment, you start looking for material and looking for specific outcomes.” Senior School teachers expressed more reservations. One teacher said that we should look at no more than one theme and integrating half the learning areas for the following year.

The reasons for this caution came out in the discussion related to a previous attempt to introduce cross-curricular projects at grade eight level. We had not been able to get all the teachers involved with grade eight to attend a meeting to discuss what each of us was teaching, how subject areas might overlap, and could therefore be integrated. The reason for this was that it involved so many teachers. The grade eight and nine pupils at Roedean School all take English, Afrikaans, Mathematics, Science, Biology, History, Geography, French, Accounting, Art, Speech and Drama, Design and Technology, Information Technology as subjects; thirteen in all (see section 1.6 for a discussion on the emphasis of academic excellence at the school).

The timing of such a themed section of work was also difficult. For example, it would make sense to have the theme of water during Water Week in March. However, the statistics section in Mathematics, which could be incorporated into the project, was only taught in the second term of grade nine.

It was concluded that it could only work if teachers were given long-term warning of such a theme and the dates to which it would be allocated. This would allow learning areas to be prepared in advance to ensure that the pupils were equipped with the necessary skills to do the investigations during that week. Again, a teacher's comment sums it up best: "It works, but you need a lot of time for planning even to have one theme per term with everything else that is happening in the school" (see section 5.5).

Once again, I felt that the discussions at the meeting had been enlightening but that little concrete progress had been made. I therefore planned the next meeting around making active progress towards generating some sort of policy and action plan. I still felt that the *School Environmental Policy pack* (see section 2.4) was the most user-friendly way of going about this. I realised, from my presentation at a previous meeting, that people tended to shuffle through the folders, making comments like "this looks nice", but not really getting to grips with any one of them.



### 4.2.3 The School Environmental Policy pack

At the meeting on October 7, 2002, I asked members to select a folder that particularly appealed to them, for example Healthy Environment or School Calendar. I asked them to examine the selected folder and give me feedback on their impressions. To guide them through this process, I gave them a questionnaire (see appendix C) which asked them to comment on the overall design of the pack, as well as to the individual folder selected. As part of the exercise I asked them to complete that section of the folder that provided space for a policy statement, an action plan and a means of evaluation of the action plan. I felt that, from these statements, I might be able to generate a draft environmental policy for Roedean School, which the focus group could then review. Ideally I would have liked to have a sub-committee look at each folder to stimulate discussion and encourage the development of a statement that incorporated more than one person's views, as well as enhancing the participatory nature of the exercise (see section 5.4). I did not have the luxury of that many participants.

On reflection, I felt that this was perhaps the strategy I should have adopted in the first focus group meeting; but then hindsight is always 20:20. This could be seen as one of the cycles in action research (Kemmis and McTaggart 1981 – see section 3.2.3). I initially intended to have a focus group with a fairly open structure to allow strategies to emerge, plans to be implemented in an action phase, and then, as a result of reflection on that action, new plans to be formulated.

In terms of the overall six-step strategy suggested by the *School Environmental Policy pack*, the comments were very positive and included: "good guidelines for getting started", "easily adapted to the new curriculum", "seems logical", "gives a structure to follow" and finally, "great, but idealistic". When asked to comment on the strengths of the design of the pack, responses included: "user-friendly", "can be built upon", "it gives some very good, practical and sensible ideas", "it is easy to read and easy to follow", "well thought out and adaptable" and "appears to have been designed by people aware of pitfalls and necessity for continual review and evaluation".

The only weakness mentioned in commenting on the overall design of the pack was: "A possible weakness could be lack of enough meetings to keep all colleagues knowledgeable of developments due to present time constraints." Clearly the need for meetings and communication was seen as important despite the fact that so many of the environmental focus group meetings had had to be cancelled and were generally poorly attended and time was repeatedly identified as the limiting factor (see section 5.5).

I also asked the focus group members to go through the "Getting started checklist" supplied in the *School Environmental Policy pack*, to gauge their perception of the current situation at Roedean School. The strengths at the school were recognised as providing a healthy environment for all pupils; pupils' participation in cultural activities; pupils' access to up-to-date information on environmental issues and risks; the fact that the school grounds were free of litter, graffiti and vandalism; and the opportunities pupils have to go on excursions and take part in adventure activities.

Areas in the school's environmental learning opportunities that were identified as absent or weak included the lack of an environmental policy; the lack of audits of water, waste and electricity; and a lack of community involvement and action projects. Identified as needing attention were the integration of environmental days into the school calendar; and the use of 'environment' to organise learning programmes.

With respect to the individual folders selected, I asked each person to complete a SWOT (Strengths, Weaknesses, Opportunities and Threats) analysis for the folder. I found that the comments made were pretty generic. Strengths included clear presentation; effective layout; practical ideas; and help with planning. The weaknesses identified were that some of the ideas needed to be expanded upon and that it is not possible to do justice to all the aspects suggested. The opportunities arising from the folders were many. They were recorded as allowing environment to be integrated into the curriculum; facilitating whole school planning; developing good habits; personal skills development; could be adapted to suit the school; and allowed

pupils to take ownership. The threats to the implementation of the ideas in the folders all revolved around time, as illustrated by the following quotes: "Lots of co-ordination and administration is need to implement this"; "Who would be responsible?"; "Extra workload"; "Time limits – too many other activities"; and "Time constraints – teachers willing and excited to do this but [they are] already stretched to [the] limits!". A Senior School teacher mentioned the resistance of teachers to losing "normal" class time. Another said that it would only work if the Headmistress decided that it warranted the time needed to implement it (see section 5.7).

I found, to my disappointment, that only one person attempted to write a policy statement and a few points under action plan. Perhaps a policy statement for each folder would have been easier to generate if there had been more than one person working with the folder. In the end, I had no material from the focus group on which to draw to develop an environmental policy. I also began to question what would become of such a policy; would it end up being filed in some obscure place and forgotten? The Headmistress had also begun work on a Guiding Principles document for the school. This was to be restricted to a single page so that it could be easily and widely distributed. It would be laminated and put up in every classroom, as well as appearing in the school brochure, on the website and in advertisements for the school. I decided that including a statement about the school's environmental concern in this document would perhaps have more impact in the long term on the school ethos. The process of compiling the Guiding Principles document was participatory and I put forward my suggestion but it was not included in the final document (see appendix D).

November's meeting once again was cancelled since examinations were being written and it was believed that it was too near the end of the school year to achieve anything further. Sadly, each of the members of the focus group felt that the demands of their schoolwork were such that they would not be able to continue their commitment to the formal process of developing an environmental focus in 2003.

#### **4.2.4 In conclusion**

In general, I found that the meetings were productive in terms of generating ideas and identifying problem areas but less effective at implementing any real changes. When it came to who would be responsible for carrying out initiatives, it was left to myself or the focus group delegated them to the Green Team.

In retrospect, it would probably have been a good idea to have the Green Team represented at the environmental focus group meetings, instead of having myself as the only link between the two groups. This would have been more in line with the type of representative Eco-School committee proposed by the FEE (see section 2.3).

Everyone in the focus group felt too overburdened by a heavy workload to take on any additional tasks beyond meeting once a month and, as I have related, even that was almost impossible. I was reluctant to be the one seen to be taking all the action, as I did not want the project to be identified with myself as an individual, but wanted to promote a whole school ownership of the aims (see section 5.4).

### **4.3 NARRATIVE 2 - THE GREEN TEAM**

#### **4.3.1 Introduction**

A whole school approach to environmental education naturally also includes pupil involvement. I was aware that an environmental group or club called the "Green Team" existed within the school. I did not know who the members were, nor could I recall any activities undertaken by them during the first term of 2002. This was an initial indication to me that they were not a particularly prominent or dynamic group within the school community.

I consulted the teacher who was nominally in charge of the Green Team, and she was more than happy for me to meet with the pupils and in fact asked me to take over responsibility for the group. I therefore called a meeting during

one lunch break at the beginning of the second term of 2002. My intention was to hold a semi-structured interview with the group during which my main aims were to ascertain:

1. Why these pupils had chosen to join the Green Team.
2. What they had envisaged achieving.
3. What they felt they had in fact achieved.
4. What they felt the reasons might be for any perceived gap between their aims and actions.

#### **4.3.2 The Green team of 2002**

Seven matric (grade twelve) pupils arrived for the meeting. The teacher previously in charge of the group had given me a list of twelve girls who had signed up to be members of the Green Team. I had arranged the desks in the classroom to facilitate a round table discussion. I sat down with the girls and began the meeting by explaining that I was undertaking a Masters degree in environmental education and that I was interested in their experiences. I also asked their permission to take notes.

The discussion proved to be quite eye opening for me. As discussed in section 3.3, I found that taking sufficiently detailed notes, while trying to keep the flow of the discussion as open and natural as possible, was difficult. I followed up the meeting by asking them to fill out a questionnaire relating to our discussion (see appendix B).

The first thing to emerge from the meeting and questionnaire confirmed my impression that the Green Team was not a conspicuous part of school life. I learnt that, for some of the pupils, the first they had heard of the Green Team was during a Headmistress' lesson at the end of their grade eleven year. (A tradition at the school is that the senior classes, grades ten to twelve, have one lesson a week with the Headmistress during which a number of aspects of school life are discussed.) It emerged that the previous Headmistress had a policy that those girls not elected to be prefects, needed to sign up for some other form of service to the school for their matric year. These included tuck-

shop duty and public relations (which would, for example, entail being ushers at school functions). The Green Team was one of the options from which to choose. One pupil knew of the existence of the Green Team prior to this only because her older sister had been a member in her matric year. Another pupil had known there was a Green Team but did not know what it was or what it involved.

It was clear to me that this mode of becoming a member of the Green Team had a number of potential consequences, some of which I was able to verify. Firstly, being a member of the Green Team could be viewed purely as a 'duty'. 'Duty' can carry the connotation of an onerous obligation. This kind of extrinsic motivation for membership to an environmental group was not what I had hoped for (see section 2.7). Perhaps an indication that this was the case for some of the pupils was the fact that a number of them never extended their involvement beyond the initial signing up. The remaining members of the group appeared to be resentful of this lack of participation, particularly the failure to attend meetings, and it was repeatedly mentioned as one of the obstacles they had encountered in achieving their goals. This could be summed up by what they described as a lack of dedication and interest among some of the members.

It should be noted that this was not the case for all the pupils. Those who attended the meetings did express an environmental interest as the motivation for signing up for the Green Team. This was phrased variously as "I like nature."; "I care about animals and I am already involved with the SPCA."; "I think it is important to look after the environment."; and "I wanted the opportunity to promote environmental awareness in the school."

A second consequence was the exclusion of pupils who might have been interested in joining. Only matric pupils were members of the Green Team. The fact that this was problematic emerged again in the discussion of what had made it difficult to carry out their plans. They felt that there were too few (active) members and that the demands of the matric year left them with little time to commit to the Green Team activities. When prompted to suggest

solutions, they strongly felt that a bigger group was needed and the entire school should be invited to participate.

Another potentially critical weakness was that prefects were excluded. The Green Team made me aware that there was a pupil who was 'an unofficial member'. As a prefect, she had been unable to join but had offered to help the Green Team as much as she could. I had taught this girl in the past and knew that she had a strong environmental interest and was planning to pursue a career in the field. I subsequently interviewed her. The maturity and insight of her responses made me feel that it was a great loss to the Green Team that her leadership ability was not directly available to them. She was the only one to make a link between environmental awareness and community involvement and mentioned the WSSD as an important opportunity to promote environmental awareness in the school. She was also the only one to discuss the need for advance planning in order to "take hold of chances that are offered throughout the year, like Arbour Week."

In response to the question of what they had envisaged the Green Team accomplishing, the focus was on recycling and "helping animals" with suggested involvement through the SPCA and the Johannesburg Zoo. I then asked what in fact had been accomplished. The response was that they had held only one meeting during the first term during which there had been a vague discussion of what to do. They had then been approached by the Deputy Headmistress to assist with the collection of paper for the Mondi recycling competition. Their role was to empty the bags and they immediately launched into the difficulties that this entailed (see section 4.4). Apparently some A4 posters had been made and displayed to campaign for the paper recycling. I had not noticed these posters and apparently neither had some members of the Green Team.

This then led me to ask what they felt were the factors that had made it difficult to carry out their plans. (Not that there had been any particularly concrete plans!) Aside from those relating to membership, which I have already discussed, other issues raised included the lack of a fixed meeting

time and the lack of prominence and support within the school community. There was a sense that the Green Team was “not cool”, even that the name should be changed because it was “corny”. It seemed to me that the problems could be summarised as a lack of structure and status.

In order to move forward, I suggested that a regular meeting time be set up and said that I would offer my help and support. I can best characterise the response I received as relief to be offered some direction. A regular lunch break meeting was set up for Thursdays since, due to other commitments, no afternoon was available when all the members could attend. These meetings were therefore limited to 20 minutes and we subsequently found that they often conflicted with meetings called by other staff members at short notice.

During the second term of 2002, the Green Team was able to achieve little more than deal with the practicalities and difficulties of the paper recycling project (see section 4.4). They also placed boxes alongside the photocopier and printer in order to collect waste paper that was still unused on one side. A suggestion from the staff environmental focus group (see section 4.2) that this paper be cut up and used as telephone message blocks, meant that much of the Green Team meeting time was spent using guillotines to cut the paper to an appropriate size.

In addition, they held an assembly on World Environment Day on June 5. This event resulted from my prompting that we do something to celebrate this day rather than being their initiative, despite the fact that I had provided them with a *School Environmental Policy pack* that contained a calendar of environmental days including the suggestion of holding special assemblies. They were able to use this resource, however, to select appropriate readings and a prayer, as well as to provide the school with background on World Environment Day.

I wonder to what extent the need for such a high level input from me was due to the exclusion of prefects, resulting in a lack of recognised leadership ability among the Team. It is perhaps important to note that the prefect body is



elected largely by the votes of their peers. One assumes, therefore, that the recognition of authority and willingness to follow the guidance of these individuals comes from the pupils themselves.

The Green Team dissolved in the third term of 2002 as the girls wrote preliminary examinations in September and thereafter were preparing for their final examinations which began towards the end of October. The dissolution of the Green Team was yet another consequence of the fact that all the members were in matric. With a new Headmistress in place, the previous duty roster was scrapped and I was unsure as to what would become of the Green Team the following year.

#### **4.3.3 The Green Team of 2003**

In 2003, three matric pupils approached me on January 23 to enquire whether the Green Team would be continuing, and if I was the person who would be co-ordinating it. This may indicate that the Green Team of 2002 had to some degree increased the visibility of the group in the latter part of the year (see section 5.6). My response was that I would be willing to assist them to re-establish the Green Team. I approached the Headmistress and she was quite happy for me to restructure the Green Team as I saw fit.

In the light of what I had learnt the previous year, I suggested we call a meeting for all interested pupils from any grade the following week. As mentioned in section 3.3, I drew up an open ended questionnaire (see appendix B) based on my findings the previous year, seeking to address practicalities, such as establishing a suitable afternoon meeting time, as well as to ascertain the pupils' reasons for joining the Green Team, what they envisaged the Green Team would accomplish and how the status of the Green Team could be improved. I gave each pupil that attended the meeting, or later approached me in connection with the Green Team a copy of this questionnaire to complete. In all, I handed out twenty-two forms and received sixteen replies, each with a commitment to join the Green Team and attend weekly afternoon meetings lasting approximately forty minutes.

I analysed the responses by developing categories (Bassey 1999 – see section 3.4) for the type of response to each question, and noting how many respondents gave answers that fell within each category, in order to ascertain how representative the category of response was. Of course, these categories are somewhat artificial and do overlap. Also, respondents often gave an answer that incorporated more than one category, resulting in a total greater than sixteen.

The responses to the first question, which related to the motivation for joining the Green Team included the following themes which I have further grouped into the categories knowledge, values and action in Table 1 on the following page.

As a result of the interview with the 2002 Green Team, the second question related to the name of the group and whether it should be changed. Interestingly, the girls described the name as “great”, “catchy”, “fine” and “appropriate”. Only one person thought that the name should change but suggested no alternative. It would seem therefore that the perception of the 2002 Green Team was not a general one and so the name remained unchanged.

In response to questions 3 and 4, there was a strong indication of a willingness to commit to attending Green Team meetings (16 respondents). When an actual day and time was sought, it was found that the largest number would be able to attend on a Wednesday afternoon between 15:10 and 15:50, and that suited only 8 respondents (only half of those interested in attending). Once again scheduling meetings was problematic (see section 5.5).

TABLE 1: Responses to the Green Team questionnaire

CATEGORY OF RESPONSE	THEME OF RESPONSE	NUMBER OF RESPONSES
<p style="text-align: center;"><b>Knowledge</b></p>	<ul style="list-style-type: none"> <li>• The importance of conserving natural resources for future generations (respondents pointed to the role of the WSSD in raising this awareness)</li> </ul>	8
	<ul style="list-style-type: none"> <li>• A desire to improve environmental knowledge</li> </ul>	3
	<ul style="list-style-type: none"> <li>• An awareness of environmental issues</li> </ul>	7
<p style="text-align: center;"><b>Values</b></p>	<ul style="list-style-type: none"> <li>• Caring for the environment. One respondent expressed that she thought joining the Green Team would serve “to make a more personal attachment between me and my environment”, another referred to the environment as a physical link with God.</li> </ul>	4
<p style="text-align: center;"><b>Action</b></p>	<ul style="list-style-type: none"> <li>• A desire to take action usually expressed as “doing something for the environment” or “making a difference”. Interestingly this was usually coupled with a comment that expressed a sense of present ineffectiveness in this regard.</li> </ul>	11
	<ul style="list-style-type: none"> <li>• A desire to serve the community</li> </ul>	5
	<ul style="list-style-type: none"> <li>• A desire to raise environmental awareness in others.</li> </ul>	3

An afternoon was more desirable than a lunch break since the breaks were too short to achieve anything effectively, and, as I had found the previous year, there would often be other unscheduled meetings called at breaks that would cause a clash for some of the pupils. Lessons finish very late at Roedean School, after 15:00 on most days. The exceptions being Tuesdays, which are reserved for sports matches, and Fridays when lessons finish at 14:30. Not one pupil indicated that she would be willing or available to attend a Friday afternoon meeting. Pupils are also frequently involved in activities outside the school, such as horse-riding. Finally it was decided to meet on Wednesday afternoons. Many of those who could not attend the meetings did not continue their involvement with the Green Team in any other way.

The responses to question 5 of the questionnaire, which dealt with what the girls thought the Green Team should accomplish, were, not surprisingly, closely linked to their motivations for joining the Green Team, but reflected ways in which they felt they could act out their environmental commitment. It is interesting to note the ways in which they could envisage taking action and this, in a sense, reflects what they would consider to be pro-environmental behaviour (Kollmuss and Agyeman 2002). Most respondents referred to recycling (7 respondents) and "clean-ups" (8 respondents). Five respondents suggested ways of raising environmental awareness in others through providing information in the form of a notice board or celebrating environmental days. Four respondents referred to planting trees on Arbor Day and two suggested raising money to support environmental causes. These suggestions probably reflected their experience of environmental activity.

The responses to questions 6, 7 and 8 often overlapped, which I found interesting. It seemed that strategies to carry out the ideas suggested in question 5, were strongly linked in their minds, not only to improving the status of the Green Team, but also to raising whole school awareness and involvement.

For example, in response to question 6, many of the suggested strategies for carrying out action plans revolved around generating support and getting whole school involvement. These included having class environmental representatives, publicity through brochures, assemblies, a notice board and presentations, creating "events" around environmental days and recognition for contributions made, which might take the form of prizes in competitions. Remaining strategies for the Green Team itself that were suggested included encouraging membership and team work, assigning responsibility for specific tasks, raising money and setting aside time for environmental projects and excursions.

I included question 7 in the questionnaire in response to the interview I held with the Green Team of 2002 who felt that the Green Team lacked the status of some other school activities (see section 5.6). Suggestions for improving the status of the Green Team revolved around raising the profile of the group. I categorised the responses into publicity, increased activity, badges and acknowledgement and a broader focus for the Green Team.

*Publicity:* Ten respondents saw publicity, particularly through a notice board, as a way to increase exposure and prominence. One respondent said that a notice board and a designated meeting time would show the status of the team: "We have a place!"

*Increased activity:* Seven respondents felt that increasing the activity of the Green Team would lead to an improvement in status. Comments included: "Doing exciting and different things would attract people to join"; and "Once we let the school know what we are doing is important, and once we make a difference, I think our status will improve on its own."

*Badges and acknowledgement:* Four respondents felt that the Green Team should wear badges and that acknowledgement of what the group was doing in assemblies would lead to more status.

*A Broader Focus:* Three respondents said that having a broader focus and increasing whole school involvement would give the Green Team greater prominence.

In terms of improving whole school awareness of, and involvement in, environmental issues as addressed by question 8, most responses (12) focussed on providing information. Suggestions included posters, a notice board, an environmental report or environmental news on 'Daily'<sup>3</sup>, newsletters, talks and assemblies. There was an interesting emphasis by some respondents that this should not take the form of "nagging". "I think we should approach environmental issues in a more pro-active way. It seems that we are always being nagged to help the environment, it should be something we want to be involved in." There was some indication of awareness of the environmental impact of the school. "Make the school aware of its own impact on the environment" and "Make people aware of large companies like Shell who do a lot of environmental work. Big companies are environmentally aware; as individuals and part of a "big" company we too should do our part".

Four respondents referred to organising events like debates, talks and competitions to involve the whole school and two referred to having structures in place to increase recycling and reduce litter.

The Green Team was much more pro-active during the first term of 2003. A committee of six was elected holding the positions of Head of Green Team, Deputy Head, Secretary, Public Relations (two appointments) and Treasurer. These positions were announced in assembly as part of trying to raise the profile and status of the Green Team (see section 5.6).

The Green Team held weekly meetings on Wednesday afternoons for which minutes were kept. I was particularly pleased that these meetings continued even when I was unable to attend to assist and guide them due to being away on school camps and other commitments. This showed an increased interest and willingness on the part of the pupils to take responsibility for the running of the group.

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<sup>3</sup> "Daily" is a set of notices typed up each day and put on notice boards around the school.

Their activities during the course of the term included having a guest speaker on recycling at one of their meetings. They received a two-year gift membership to the Endangered Wildlife Trust from a prominent past pupil. They worked on creating a web page that could be linked to the school website. They now have their own notice board and elected a sub-committee to maintain and update it regularly. They made an effort to raise awareness around reducing water wastage at the school during Water Week in March by holding an assembly and providing statistics on the notice board on the school's water consumption and ways of saving water (see photograph 5 below).



**Green Team Notice Board**

(Photograph 5: Hope 2003)

The Green Team assisted with the paper recycling project (see section 4.4); each member being responsible for emptying the recycling boxes in particular venues. They collected signatures for a petition with regard to saving and protecting whales and sent postcards to the International Convention on whales held later in 2003. All their activities and related correspondence were filed and kept by the secretary of the club to provide a record for future reference.

#### **4.4 NARRATIVE 3 - THE PAPER RECYCLING PROJECT**

This is the story of the inordinate amount of time and energy that has gone into setting up a workable system for paper recycling at Roedean School. The structures needed to make such a seemingly simple exercise effective are easily under-estimated. I shudder to think how many hours I, the staff focus group (see section 4.2.2) and the Green Team (see sections 4.3.2 and 4.3.3) spent trying to make the process workable.

The initiative was initially sparked by an inter-school competition run by Mondi (see section 5.8), that came to the attention of the Junior School during the first term of 2002. Mondi delivered a recycling bin, which was placed in the Junior School, close to one of the entrance gates. It is important to note that efforts to begin paper recycling by past Green Teams had come to nought because the then Headmistress felt that the large orange igloo used to collect the paper would be an eyesore (see sections 1.6 and 5.7). Mondi also supplied large woven plastic bags that were placed in each classroom for paper collection.

The Deputy Headmistress requested that I co-ordinate the recycling of paper in the Senior School at the start of the second term, as part of my aim of developing an environmental focus at Roedean School. I was glad to do so but, by the first focus group meeting on May 20, 2002 (see section 4.2.2), several problems had already emerged. The bags provided by Mondi for collecting paper in the classrooms flopped over or were left folded on a shelf. They looked untidy and it was easier to drop paper in the bin as before, rather than try to find the bag or, having located the bag, find its opening. Some pupils and teachers could not be bothered with the hassle (see section 2.7). Those that did faced further problems, such as what to do with the bags once they were full. If the bags were emptied, they were often not returned. Most people were keen to get involved in paper recycling and I had requests for bags for the staff room, the Physical Education office, secretaries and finance offices and the Deputy Headmistress' office.



During the first focus group meeting, as part of assessing the current environmental projects at Roedean School, these problems were discussed. One of the members volunteered to approach Mondi and ask for more bags and another offered to make labels for the bags. It was decided that the Friday break staff meeting would be used as an opportunity to demonstrate how to fold the rim of the bag outwards so that they would stand upright and open. The inanity of it! In the Junior School the emptying of the bags was not that problematic, not least because the Mondi recycling igloo was located close by, and there were fewer classrooms. The gardeners and the cleaning staff were kind enough to take it upon themselves to take the bags to the igloo. The focus group's solution for the Senior School was to make emptying the bags the responsibility of the Green Team (see section 4.2.2 and 4.3.2).

I have already discussed the fact that the Green Team (see section 4.3.2), at the beginning of the second term, was not a highly co-ordinated or functioning body, but I nonetheless was able to persuade them that this would be a useful contribution to make.

Nothing is, however, as simple as it seems (see section 5.1). Because the bags were so large, once they were full they were too heavy for the girls to lift. In addition, as the Mondi recycling igloo was at the Junior School, it was a long way to haul the load, and there was no suitable place for an igloo at the Senior School. It became clear that practicality was an important factor in facilitating environmental behaviour (see section 2.7).

The girls ended up borrowing catering trolleys from the kitchen. This made things easier but only slightly so, since there were several sets of stairs to be negotiated. Having got the bags to the bin, the girls then had the tedious task of feeding the contents of the bags into the Mondi igloo, a handful at a time through a post box-type slot. This, coupled with the fact that there were 36 venues from which bags had to be collected in the Senior School by only a handful of Green Team members, made it an impossibly time consuming task. It was also found that other rubbish was being dumped into the bags that had to be sorted and removed. In all, the task was most unpleasant. Although the

girls put on a brave face and tried to be cheerful about it, I could tell that Green Team meetings were not turning out to be much fun. If they were not emptying paper bags, they were cutting 'one-sided' paper up into squares with a guillotine to be used as message blocks (see section 4.2.2 and 4.3.2).

More time was taken up in the next staff environmental focus group meeting (see section 4.2.2) with trying to brainstorm ways of resolving these difficulties. The Junior School teachers reported that, once the gardeners or cleaning staff had taken the bags to the Mondi recycling igloo, the security guards were most helpful in transferring the paper from the bags to the igloo. I suggested that this assistance should be publicly acknowledged in some way, since it certainly did not form part of their contract with the school.

It was decided that, subject to the Headmistress' approval, the vice class captains could be asked to empty the bags in their tutor's room. This left 20 venues from which the bags needed to be emptied. Again, subject to the Headmistress' approval, it was proposed that the girls on detention empty these bags. The Headmistress agreed to both recommendations (see section 5.7).

It was also suggested that boxes would be better for collecting paper in the classrooms since they would be neater, would stand on their own and, the fact that they were open and the contents clearly visible, might prevent other rubbish being discarded in them. It was also proposed that the pupils be asked not to crumple the paper so that it would be less effort to 'post' into the Mondi igloo, and that the boxes should have handles to make carrying them easier.

A lengthy discussion then ensued as to where such boxes could be obtained. Proposals included using apple boxes or purchasing plastic crates. It was even suggested that the school caretaker make wooden boxes on castors. I was reluctant that this project should end up generating expense and the caretaker was already struggling to keep up with the demands made on him. I approached a large fruit and vegetable shop but they could not provide fruit

boxes in the quantity we needed because of the demand from the general public for these boxes. Furthermore I did not have a vehicle suitable for transporting the number of boxes required. Again issues of practicality had surfaced (see section 2.7).

In the meantime, I felt as though my life had become dominated by paper recycling. Bags were not being returned to their original classrooms. During break times and lunch times I was repeatedly approached by staff to say their bag was missing or full and would I do something about it. I felt as though I was putting out fires, rather than achieving anything meaningful, because I spent so much time trying to sort out what really became irritating hassles.

The girls on detention were not proving effective at emptying the bags, since there were either too few of them on detention, or the process was not being properly co-ordinated and monitored by the prefects. I also had to keep track of how full the Mondi bin was. At one stage it was full and I phoned Mondi to come and empty it. It took them two weeks to respond. In the interim, I had to keep remembering to phone them and nag in between the other demands of teaching. I became increasingly aware of the time required to properly co-ordinate the environmental activities in a school (see section 6.3 - recommendations). Staff members continued to approach me about emptying the bags and I felt quite harassed as I repeatedly explained that I was working on the problem. Was the hassle and irritation worth it?

As it happened, just when I was at the end of my tether, a solution presented itself and I learned that one cannot ignore serendipity as a factor in bringing about change. A social evening was held in on February 3, 2003 for the parents of the grade 9 pupils. As a tutor of that group, I attended. I was making polite conversation with one of the fathers when the Deputy Headmistress apologised for interrupting, stating that she just wanted to mention to me while she thought of it, that the paper recycling bag in her office was full.

The father, with whom I had been talking, then asked about the recycling initiative, mentioning that he was in the recycling business himself. I was astonished and disillusioned to find that, despite numerous articles about the paper recycling project in the school newsletters, he knew nothing of it. I also could not understand why his daughter had not discussed the initiative with him since he was in the business. I elaborated on the problems we were having and he offered a solution.

He could provide paper recycling boxes for each venue. These boxes stand about waist high and are supplied with a lid with a slot. They are clearly marked paper recycling and have a tree on them as a reminder of the purpose of the project. The boxes are much neater than the bags (an important consideration in the context of the school, see section 1.6) especially since they have a lid. The slot in the lid furthermore discourages paper from being crumpled up before being disposed of, thus saving space and preventing other rubbish from being as readily added. They are eye-catching but neat. The boxes have handles and the lids are removable which facilitates emptying (see photograph 6 on the following page). He undertook to pay us the same as Mondi per ton of paper and promised to come and collect the paper within a day of me calling, since he runs a smaller company and was therefore more flexible.

These boxes have proved most effective. Each vice class captain is now responsible for emptying the box in their form classroom during the extended form period held every two weeks. This has enabled the Green Team to concentrate on the remaining venues for which they are assigned responsibility. The boxes and lids have been marked in terms of the venues from which they come to ensure that they are all correctly returned. In addition, a small storeroom, which is fairly central to the administration block, has been made available for the temporary storage of the accumulated paper. Large bags into which several recycling boxes can simply be up-ended, have been provided, facilitating the emptying process. This system, which has taken no less than a year to put in place, still has much room for improvement.



### **Paper Recycling Boxes**

(Photograph 6: Hope 2003)

The project illustrates that, despite my exasperation at continually being harassed by staff members about the state of their Mondi bags, the staff felt it was worthwhile to recycle paper and were committed to making some sort of effort in this regard.

Another teacher took the initiative from the boxes put beside the staff photocopier and printer, to start a box in her own classroom to collect 'one-sided' paper from unused handouts and presented this to me at the end of the term. This 'one-sided' paper is now distributed to an under-privileged school identified by another staff member who suggested they could make use of the paper we had collected. This is definitely a more viable option than cutting the paper up for message blocks!

## 4.5 IN CONCLUSION

I have artificially separated the three stories of the environmental focus group, the Green Team and the paper recycling project to facilitate the narration of the complex set of interactions that made up the attempt to develop an environmental focus at Roedean School. These stories occurred concurrently and naturally influenced one another, as I have tried to indicate through cross-referencing. In chapter five I elaborate upon the themes that have emerged from these stories.

These patterns include the time constraints and practical difficulties that are repeatedly mentioned by participants in the study and how organisational structures affect these aspects. The role of leadership within the school and the degree to which the Headmistress has the power to influence processes in the school are also discussed. Furthermore, it became evident to me that there is a need for status, legitimacy and recognition if an initiative is to succeed.

My frustration with attempting to keep the process as participatory as possible (and generally not succeeding), has led me to review both the need for participation, the type of participation that is effective, and the role of the individual.

A major insight that I gained through this experience relates to the nature of the change process. It is more difficult, complex and unpredictable than some of the resources in environmental education suggest. In particular it is non-linear. This has led me to understand my role as an environmental educator differently and in chapter five I explore Fullan's (1993) notion of "change agency", as well as the importance of reflexive practice.

## **CHAPTER FIVE: THE CHANGE PROCESS: OBSTACLES & OPPORTUNITIES**

### **5.1 MYTHS OF CHANGE**

Fullan (1993) has stated, and this is echoed by many proponents of critical pedagogy (Eisner 1985, Grundy 1987, Giroux, 1988, Goodson 1990), that the way in which schools are organised and the way that educational hierarchy traditionally operates, is more likely to maintain the *status quo* than to enhance change. Fullan (1993) has further postulated that when change is attempted under such circumstances, it can result in defensiveness, resistance to the change, superficiality or, at best, short-lived pockets of success. This seems to have been that fate of many attempted interventions in environmental education. The findings of Lotz-Sisitka and Raven (2001) in the NEEP-GET project seem to bear this out, as well as the difficulties in incorporating environmental education into the school curriculum reported on by Elliot (1991 and 1999) and Hart (1993). Elliot (1999), reporting on ENSI, emphasised how the phase 2 agenda shifted to not only changing mainstream curricula to foster interdisciplinary inquiry into environmental issues, but also to changing the culture of teaching and learning.

It is thus essential to understand the process of change. Certainly, what has become clear to me in the course of this research is that notions of change as being planned, linear, progressive and controllable seem to be myths. Fullan (1993) describes bringing about a change, such as introducing a school environmental focus, as simultaneous, interactive and messy, rather than a tidy, ordered, finite sequence of steps.

I was quite relieved to find this view of change expressed by Fullan (1993). It is, in my opinion, a weakness in the environmental literature on the whole school approach to environmental education that can be misleading. Several books, such as *Blueprints for Greening Schools* (Gough 1992), *Greenprints for changing schools* (Greig et al 1989), *The handbook of environmental education* (Palmer and Neal 1994), as well as the six-step strategy outlined by

the *School Environmental Policy pack* (see section 2.4) and the FEE's Eco-Schools seven-step programme (see section 2.3), imply a linear model for change. I do not dispute the value of the strategies suggested by these resources. The *School Environmental Policy pack* does, in fact, encourage a great deal of flexibility in its design, and specifically aims to avoid imposition of policy and allow for contextual development of environmental priorities. It is just that these resources do not make the unpredictable and sometimes chaotic nature of change explicit.

When measuring the progress of the initiative at Roedean School against the process outlined by these resources, I felt like a failure and I felt demoralised. I am sure that my experience is not unique. If we are going to equip teachers in school contexts to be environmental educators, then I believe it is necessary to equip them as, what Fullan (1993) has termed, "moral change agents". This means that they need to have an understanding of the change process and the role that they can play in moving it forward. Fullan (1993:5) said: "Productive educational change at its core, is not the capacity to implement the latest policy, but rather the ability to survive the vicissitudes of planned and unplanned change while growing and developing." I suggest that environmental educators need to develop insight into the change process that goes beyond the mindset of effective policy and programme implementation.

One of the lessons that Fullan (1993) describes as part of the new paradigm of change, states that change is a journey not a blueprint – it is loaded with uncertainty and is sometimes perverse. If change involved implementing single, well-developed innovations one at a time, perhaps it could be blueprinted. Schools, however, are in the business of implementing a bewildering array of multiple innovations and policies simultaneously and complex solutions for particular settings cannot be known in advance. Fullan (1993:24) quoted a group he once worked with who described the change process as: "a planned journey into uncharted waters in a leaky boat with a mutinous crew." No slur on the organisation or staff I worked with intended, but I can most certainly relate to the sentiment expressed!



Stacey (1992) is cited in Fullan (1993) as saying that the route and destination must be discovered through the journey itself and the key to success lies in the creativity of making new maps. A risk-taking mentality and climate are critical since dynamic complexity generates surprises that sometimes move the process forward and sometimes worsen the situation Fullan (1993). An element of luck would appear to be involved; but in fact what is important is how we relate to these events, not whether we can prevent them in the first place; and sometimes they will be overwhelmingly frustrating.

Stacey (1992) in Fullan (1993) also holds that success is not the realisation of some shared intention formed well ahead of action, instead it is the discovery of patterns that emerge through actions we take in response to the changing agendas of issues we identify. He further states that productive change is the constant search for understanding, knowing there is no ultimate answer.

Fullan (1993) argues that moral purpose and “change agency” together are generative because they have an in-built capacity to self-correct and continually figure what should be done, while being effective at getting things done. The pursuit and pull of meaning can help organise complex phenomena as they unfold. Moral purpose does not guide the change process (because it is not guidable), it capitalises on it.

Strategies aimed at controlling change do not work because change is uncontrollably complex and in many circumstances unknowable. (Stacey 1992 as cited in Fullan 1993). Unplanned factors are inevitable and unpredictable and these factors produce other ramifications. It is, therefore, not possible to map out all the complexities of a problem. Dynamic complexity is the real territory of change and obvious interventions do not produce expected outcomes because other ‘unplanned’ factors dynamically interfere. This complexity, dynamism and unpredictability are not merely things that get in the way. They are a normal part of the change process. Stacey (1992 cited in Fullan 1993) goes so far as to say that since change in dynamically complex circumstances is non-linear, we cannot predict or guide the process with any precision.

The story of the paper recycling project (see section 4.4) in my research seems, to me, to amply illustrate these aspects of the change process. "What appears to be simple is not so – introducing a small change turns out to have wild consequences." (Fullan 1993:viii). A simple action, such as the introduction of paper recycling at Roedean School, proved to be far from simple and required, as I have narrated, a long and time consuming process of trial and error before a workable solution could be found. Another of Fullan's (1993) lessons in the new paradigm of change is that problems are inevitable and you can't learn without them. "Contending with the forces of change is a never-ending process of finding creative ways to struggle with inherently contentious factors" (Fullan 1993:33).

Fullan (1993) maintains that teachers need to become skilled change agents with moral purpose; a description, I would suggest, that would resonate strongly with most environmental educators, whatever their role. In fact, since there is an international drive that almost extends to rhetoric for education to produce critical thinkers and problem-solvers, education is tasked with a moral purpose to equip students to live in an increasingly dynamic and complex society. Fullan (1993) holds that all teachers are, therefore, precisely in the business of innovation and change, with the aim of making improvements in an ever-changing world which amounts to contending with and managing the forces of change on an ongoing basis. Once again to quote Hart (1993: 119): "The process problem remains because environmental educators have not focused on the real-life working conditions of teachers, their perceptions about change and the support system needed to facilitate change."

## **5.2 BECOMING A CHANGE AGENT: THE NEED FOR REFLECTIVE PRACTICE**

Fullan (1993) identifies four core capacities required for change agency: personal vision, inquiry, mastery and collaboration. The first is having a personal vision for a preferred future. The juxtaposition of a vision (what we

want) and a clear picture of the current reality (where we are relative to what we want) generates what O'Donoghue and Lotz-Sisitka (2002:269) call 'creative tension'. They have found that "knowledge springs from discontinuities and that action competence is grounded in engaging struggle in context".

Fullan (1993) proposes that effective change agents need to be actively involved in inquiry, which he calls a habit of questioning and which would include reflective practice, personal journals and action research. Reflective practice would appear, to me, to be a fundamental requirement for environmental educators as change agents with a moral purpose. Fullan (1993) contends the role of inquiry is to extend what you value while expressing personal vision.

What Fullan (1993) refers to as mastery could also be termed competence. "People must behave their way into new ideas and skills ... they are also the *means* (not just outcomes) for achieving deeper understanding. New mindsets arise from new mastery as much as the other way around" (Fullan 1993:15-16). This is very much in line with Jensen and Schnack's (1997) notion of action competence.

Collaboration, the fourth capacity that Fullan (1993) advocates, can take many forms, as I have narrated in my research story. The ability to collaborate is becoming one of the core requisites of post-modern society according to Fullan (1993). Small-scale collaboration may involve productive mentoring or peer relationships. I have tried to develop the former with the pupils in the Green Team and the latter with my colleagues. On a larger scale, collaboration would involve forming partnerships with other schools, the community and outside organisations. Here again, I believe, is an opportunity for the FEE Eco-Schools initiative to play a role.

### 5.3 THE ROLE OF THE INDIVIDUAL

Much research into environmental education in schools (Fien 1993, Elliot 1999, Janse van Rensburg and Lotz-Sisitka 2000a, Lotz-Sisitka and Raven 2001), as well as my own experience, found that it is largely dependent on the dedication and enthusiasm of individual teachers. This might, in some instances, be considered as a problem to be overcome. An individual may move on or burnout and environmental learning wane as a result. The committee approach is often promoted as a way of ensuring continuity (Eco-Schools (2002). Fullan (1993), however, contends that the building blocks of institutional change are *individual* teachers (1993:10, emphasis his). Instead of developing strategies, such as committee based change processes, Fullan (1993) suggests that individuals be equipped to be effective change agents to avoid burnout, and be provided with the necessary support structures.

Reporting on the findings of his previous studies, Fullan (1993:10) stated that the most frequently mentioned theme for reasons why student teachers wanted to enter the profession was: "I want to make a difference". This points to a sense of moral purpose as a motivating factor. From my interactions with people in the field, I would say that this also holds true for environmental educators. In addition, environmental educators tend to have a quite specific moral purpose that incorporates, not only a concern for the environment, but a sense that they wish to exert their influence beyond their personal life-style choices to encourage others to consider the future of the environment.

Fullan (1993) holds that personal purpose is the route to organisational change.

"...personal purpose is not as private as it sounds. Especially in moral occupations like teaching, the more one takes the risk to express personal purpose, the more kindred spirits one will find. ... Good ideas converge under conditions of communication, and collaboration. Individuals will find that they can convert their own desires into social agendas with others" Fullan (1993:14).

I would agree with Fullan's (1993) view that teachers in general, and environmental educators specifically, need to be agents of educational

change and societal improvement. I also believe that this is why, in recent times, there has been a shift in environmental education towards a socially critical orientation, and the emergence of action research as being particularly suited to the field of environmental education. Fullan (1993) defines change agency as being self-conscious about the nature of change and the change process. He emphasises the need to be appreciative of the semi-unpredictable and volatile nature of change. Fullan (1993:12) describes those skilled in change as: "explicitly concerned with the pursuit of ideas and competencies for coping with, and influencing more and more aspects of the process toward some desired set of ends." He adds that they, moreover, need to be open to discovering new ends as the journey unfolds.

Another interesting finding by Fullan (1993) is that, contrary to currently popular models, such as the *School Environmental Policy pack*, schools that have successfully brought about a change in culture or ethos, did not begin by first formulating a school development plan. Such a plan may represent additional work which has limited value. Less formal planning processes may allow room to manoeuvre to implement innovations in line with what is already happening in the school and its values and priorities. In fact, Fullan (1993) holds that a shared sense of purpose is never fully realised. A whole school change or shift in ethos is built on the individuals' efforts to realise, through their actions, the beliefs and values they share with their colleagues.

"It is only by individuals taking action to alter their own environments that there is any chance for deep change. ... Moral purpose needs an engine, and that engine is individual, skilled change agents pushing for changes around them, intersecting with other like-minded individuals and groups to form the critical mass necessary to bring about continuous improvements." (Fullan 1993:40)

#### **5.4 PARTICIPATION: WHAT DOES IT MEAN?**

It has become clear to me that, in terms of involving staff members in developing an environmental focus at Roedean School, a committee system is unworkable under present circumstances. The committee approach is

almost universally recommended (*School Environmental Policy pack*, the FEE's Eco-Schools initiative and much of the literature (Greig *et al* 1989, Gough 1992, Palmer and Neal 1994)) as a means to promote ownership and participation. O'Donoghue (1999) attributed the emphasis on participation in research and curriculum development specifically to a number of factors. Firstly, participation is seen as extremely important in any decision-making process in South Africa as it develops as a democracy and is related to empowering the previously disenfranchised in particular. Furthermore, this type of approach in education and research is related to the view of knowledge as socially constructed and the rise in popularity of action research. In the light of this, O'Donoghue (1999) has said that participation as a strategic narrative can be a "self-validating ideology" and that it has become something of an icon.

In the reality of my context, I am unconvinced that the committee approach, certainly for staff members, is practical (see section 4.2.2 with regard to the cancellation of meetings and the poor attendance). There is not the same imperative for his type of participation as may exist in other South African communities. Instead people prefer to participate on their own terms at Roedean School.

I discovered that teachers, busy as they are, would rather be asked to help with a specific task that could be accommodated flexibly into their schedule, than sit on a committee and try to make sweeping changes even towards something they believe in. I have yet to be refused or brushed off when asking a teacher if they would assist, for example, to monitor the paper recycling box in the staff computer centre, which is inaccessible to pupils, or to collect the unused paper in examination books from pupils. This type of participation is more appealing and meaningful to staff members than attending committee meetings, which are seen as time-consuming.

This has, in my opinion, much to do with the context and type of person at Roedean School. I have the sense that, since I had shared my vision with them at the opening staff meeting of the second term of 2002 and many of

them had expressed their support, as well as the fact that I clearly had a mandate from the Headmistress to pursue an environmental focus for Roedean School, they were happy to entrust the decision making process to me. A forum did not specifically need to be created in order for them to feel that their input would be heeded. They are quite happy to express opinions, make suggestions and criticisms either in passing to me personally or via e-mail, and appear confident that cognisance will be taken of their input. Certainly if they did not feel I was paying sufficient attention to their views, they would let me know. After all, it was made clear to me in my interview for a position at Roedean School that outspokenness was not only acceptable, but valued as a character trait.

In terms of the action research spiral described by Kemmis and McTaggart (1981) (see section 3.2.3), my reflection and evaluation of this action phase lead me to a new planning phase in which I developed new strategies that I am currently implementing.

My strategy for creating an environmental focus at Roedean School has thus shifted. Rather than having a committee or focus group of staff members, I now communicate issues and concerns with the staff by e-mail. Electronic communication also allows me to keep staff members up to date with plans, progress and possibilities for future action. This has actually increased participation since the whole staff and not just the members of the focus group are kept informed and have a means of responding in a highly flexible and informal manner.

In terms of pupil involvement, I have continued regular meetings with the Green Team. Although the number of pupils able to attend on any given afternoon are small, they have continued to inspire me with their enthusiasm and we have been able to undertake some small projects. I am also pleased that the members now come from grades 8 through to 10 which holds the promise of improved continuity for the future. It is also heartening to note that, in response to requests, there is now a scheduled half-hour in the 2005

timetable for clubs and societies which might further boost membership and therefore the effectiveness of the Green Team.

## **5.5 TIME CONSTRAINTS AND ORGANISATIONAL STRUCTURES**

It would seem to me that the single biggest obstacle in implementing a structured environmental change in the Roedean School context, has been the time required for co-ordination and management of the process. At first, this may appear to be an over-simplification of the difficulties or an excuse rather than a valid constraint. I do believe it is a reality for the people in this context.

There is no doubt in my mind that the demands made on the time of both the staff and the pupils are considerable. Roedean School has a reputation for being a pressurised environment, and since 2003, considerable effort and changes in organisational structure have occurred to increase the support and pastoral care given to the pupils, in an attempt to ameliorate this perception. At every staff forum meeting held, the issue of excessive expectations on teachers to sacrifice particularly private time is raised. The reason for pressure seems to be the ethos of excellence that pervades the school. This is a good thing, but people then feel driven to work very hard to maintain exceptionally high standards. The staff members at Roedean School are, in my experience, particularly committed, professional and diligent and have probably been selected for these very qualities. Therefore, when colleagues say to me that they would love to be involved with, for example, the environmental focus group but feel that they are already over-committed, I am sure that the time pressures they experience are genuine and not an excuse for lack of interest. To re-quote the one teacher in the environmental focus group: "Time constraints – teachers [are] willing and excited to do this [but they are] already stretched to [the] limits."



The primary problem in terms of time, is the scheduling of the necessary meetings to enable the process to progress according to models proposed by resources such as the *School Environmental Policy pack*, the FEE's Eco-Schools initiative and much of the literature (Greig *et al* 1989, Gough 1992, Palmer and Neal 1994). This is evident from the fact that, of the seven monthly meetings of the staff environmental focus group that were planned, three had to be cancelled, and at none of the meetings was there full attendance. It is also reflected with the pupils in the Green Team. While 16 pupils were prepared to commit to a weekly meeting, the best time slot available made it possible for only 8 pupils to attend (see sections 4.2.2 and 4.3.3).

As Blake, cited in Kollmuss and Agyeman (2002), pointed out, practicality can be a barrier to acting in an environmental conscious way. A school can provide structures to facilitate environmentally conscious behaviour but as with the paper recycling project, it should not be underestimated how much time and energy it may take to put such structures in place. It has, nonetheless, I believe been a worthwhile exercise. I do think that paper recycling has become a habit in the Roedean School community. Creating practical structures allows such habits to develop and new norms and standards of behaviour to emerge, by providing both social pressures and opportunities to choose environmental conscious actions.

During the research process, I experienced a great deal of frustration that the paper recycling project was taking so much time and energy, when I viewed it as only a small part of creating an environmental focus at Roedean School. What I have come to realise on reflection is that it is with precisely such seemingly simple actions that one needs to begin. Fullan (1993) has said that cultures get changed in a thousand small ways, not by dramatic interventions. A project like paper recycling had the benefit of involving all members of the Roedean School community.

Being over-ambitious can lead to despondency. I am now of the opinion that one should seek out small, but practical, interventions that over time will become incorporated into the ethos of the school.

Another strategy is to make use of existing organisational structures in the school environment. The evidence points to the need for structures to be in place that make it possible for staff and pupils alike to translate their interest and commitment into practice. I have noted how such structures have been created in the Roedean School context with regard to two other developments within the school under the leadership of the Headmistress who took over at the start of the study in 2002.

The first is the creation of a new tutor system which involved restructuring the timetable to increase the time that tutors spend with their classes, as well as compulsory meeting times for tutors to improve communication and develop their skills as mentors. This places additional demands on the teachers who are form tutors.

The second example is the community service programme. This again was seen to be a weakness in the Roedean School context that required urgent attention. At the beginning of 2004 a full time community services developer and co-ordinator was appointed. Once again the administration of the records of the pupils' community service have fallen to the form tutors. In addition, they are expected to accompany their classes on afternoon visits to the community service partners and supervise the pupils who are working there on a volunteer basis. These visits take place after lesson end and, therefore, do not usually commence before 15:15. While the staff express their support for the importance of such community service, they also express frustration and even resentment of the amount of time that teachers are expected to sacrifice. This is why I feel it is important to avoid environmental activities being viewed as a source of additional work. I would rather promote it as a different way of doing things and incorporate it into existing organisational structures as far as possible.

The link between environmental action and community service has already been made, as is evident from the comment of the Junior School Deputy Headmistress in the environmental focus group meeting (see section 4.2.2); the fact that the Headmistress approached me at the beginning of 2003 to submit proposals for community service projects with an environmental focus; and the nature of one of the community partnerships embarked upon at the beginning of 2004, which involves improving the recreational areas of an underprivileged school. Just recently a pupil, who also happens to be the Deputy Mayor of the Johannesburg Junior City Council, also approached me with an idea for the Green Team to become involved with Eco-access, a project which aims to facilitate the interaction of the disabled with the natural environment. I thus see working closely with the community services developer and co-ordinator as a route for enhancing the social and action orientated aspects of environmental education at Roedean School, especially since the community service programme aims to involve every pupil.

The community services programme offers an opportunity to expose pupils to environmental and social issues from which they are largely isolated and protected. This enables them to encounter issues through first-hand experience. Kollmuss and Agyeman (2002) reported on research findings that direct experience and emotional connection were powerful motivators for action. Community service also empowers pupils because they are able to see that, as individuals or as a Roedean community, they can make a difference to the lives of others. This, in turn, enables them to overcome the sense of guilt or helplessness that major social and environmental issues can sometimes evoke. Blake, as cited in Kollmuss and Agyeman (2002), refers to this psychological notion of 'locus of control' as being very important to a person's ability to act out environmental responsibility.

## **5.6 IMPARTING STATUS, LEGITIMACY AND RECOGNITION**

Another aspect that is indirectly related to the creation of structures to enable an initiative to succeed, is the fact that the very act of making space for a development to occur acknowledges its importance within an organisation. This need for some form of recognition or status was expressed during my initial meeting with the Green Team in May 2002 (see section 4.3.2). When asked to comment on how the status of the Green team could be improved at the start of 2003, the pupils commented on how having a notice board and a meeting time would give the group status. Another strong way of imparting status in the girls' eyes was to increase the level of the group's activity (see section 4.3.3). Without the necessary structures, activity levels and therefore status are inhibited. It was also important to the Green Team that elected committee members were announced in the assembly. This finding that pupils, in particular, appreciate recognition for their efforts, supports the FEE Eco-Schools notion of awarding a Green Flag to schools that show an improvement in environmental management and action (see section 2.5).

Blake, as cited in Kollmuss and Agyeman (2002), described another barrier to environmentally conscious behaviour as lack of environmental concern (see section 2.7). By making it clear that within the school ethos, environmental concern is a valued priority, it may be possible to raise the level of environmental concern among the pupils.

## **5.7 THE ROLE OF LEADERSHIP**

I have recounted two examples of organisational restructuring that has occurred at Roedean School, namely the tutor system and the community services programme (see section 5.5). A point that is illustrated by these examples that is of relevance to the development of an environmental focus in this school and I would suspect many others, is that ultimately the Head is at the helm of the ship and determines the direction of the school. These

examples serve to portray the fact that it is often the vision of the Headmistress that determines whether structures will be altered to create the spaces that enable initiatives to be successful. Fullan (1993) states that it is necessary for the Head in particular to actively support initiatives. He has said that the Head is still a central and powerful figure in most schools in his experience, and they remain in control of developments that take place within the school.

The current Headmistress of Roedean School is neither opposed to, nor unaware of, the need for environmental concern. She has been supportive of my studies and the initiatives I have undertaken and has given permission for almost all suggestions I have made to be implemented. An example is the shift in the Senior School from Mondi collecting paper for recycling to using one of the parents' companies (see section 4.4). Indeed, the fact that she allowed a Mondi paper-collecting igloo to be placed on the school grounds at all, was a shift from the previous Headmistress' viewpoint (see section 1.6). As already mentioned, it was the Headmistress' idea that a community service programme could be coupled with an environmental focus.

I submitted two proposals, although neither was accepted by the board members. This is an example of the first of Fullan's (1993) principles or lessons of the new paradigm of change, namely you cannot mandate what matters. I had a similar experience in my attempt to have 'concern for the environment' included in the Guiding Principles document (see section 4.2.3 and appendix D).

It is my sense that, among independent schools, factors that raise the profile of a school become a priority for Heads. This may be particularly true of private girls' schools in Johannesburg, since they are quite numerous as compared to independent boys' schools and, therefore, competition to attract pupils is intense. In my recommendations (see section 6.3) I have suggested how FEE Eco-Schools might play a role in making environmental issues a priority in this context.

I have, nonetheless, been very fortunate in having the open support of the school leadership and it would have been impossible to even embark on this research without the mandate of the Headmistress.

## **5.8 THE ROLE OF OUTSIDE INFLUENCES**

Outside influences may help or hinder the change process. Since schools are not isolated communities, they will be affected by both changes in education and in the ways in which environment is viewed. Just as Elliot (1999) ascribed the launch of the ENSI (Environment and Schools Initiatives) project in countries in Western Europe to the fact that environmental issues were a high priority on the political agenda and the education systems allowed for a greater degree of school based curriculum development in those countries, so I have seen in my own research the impact of outside influences on environmental education within the school context.

The World Summit on Sustainable Development (WSSD) held in Johannesburg in 2002 gave credibility to my presentation and request that an environmental focus be developed for Roedean School. The Junior School had, in response to this, already planned an enviro-week in the curriculum in the second term and were, therefore, very keen to access resources that I could offer.

The Mondi paper recycling competition provided the initial impetus for paper recycling at Roedean School (see section 4.4). This shows that outside organisations with an environmental focus can be very influential and should therefore be encouraged to interact with schools.

The environmental themes of the Natural Sciences Continuous Tasks for Assessment (CTA) at grade nine level in the years 2002, 2003 and 2004 have opened opportunities and provided resources for cross-curricular work on environmental issues. Roedean School has not moved entirely to a learning-

areas approach, as promoted by the Department of Education. Science, Geography and Biology are taught separately, so that the subjects retain their individual identity and enable the students to develop a clearer idea of where their aptitudes and interests lie in terms of making subject choices at the end of grade 9. The CTA's, in particular, have forced teachers to work together and overcome the traditional subject boundaries, which, in turn, opened them up to the possibilities that this approach holds. Work is now being done on curriculum development to further enhance the co-ordination and integration between subjects, creating further opportunities for environmental education.

I believe that the FEE Eco-School's programme can position itself to be a powerful outside influence for schools in South Africa. If properly managed, it can provide the motivation and support for schools to become centres of environmental excellence and influence in their communities.

Again, the role of outside influences can be linked to what Fullan (1993) has to say about change forces, namely that connection with the wider environment, as well as the ability to reflect on the context in which the change process is imbedded, is critical for success. To be effective, individual moral purpose must be linked to a larger social good. Teachers must look for opportunities to join forces with others. Schools must be "actively plugged into" their environments, responding to and contributing to the issues of the day. "Seeing our connectedness to the world and helping others to see it is a moral purpose and teaching/learning opportunity of the highest order." (Fullan 1993:39).

## **5.9 IN CONCLUSION**

Fullan (1993) has said that being part of the change process means setting goals, becoming immersed in the activity, paying attention to what is happening and enjoying the immediate experience, but that one cannot expect to be in control of the process. This is because the change process

does not follow a fixed path. Instead, the focus is set by the goal but one needs to be open enough to notice and adapt to external events. Innovations may not be objectively coherent over a given period of time, but we must work out the meaning of our subjective experience and sort out our individual stance toward improvement. I found this insight from Fullan (1993) most useful. Once again it gives credence and weight to the role of the individual in setting the tone and providing real development in society. Fullan (1993:141) has said that we will not survive for long without a dialectical relationship with external events.

There needs to be acceptance that the process is tenuous and dependent on a host of factors that gain varying degrees of influence across time and in a multidimensional and fluctuating context (Fullan 1993). Environmental educators, while developing the skills of continuous inquiry and reflexivity, must be aware of what Fullan (1993) has called the dynamic complexity of change: that conflict is inevitable; that visions may come later; that arbitrary intrusions are par for the course; that you never arrive and that sometimes things do not improve despite your best efforts; and all this without becoming demoralised but focussing on being an agent for change. Fullan (1993) maintains that even highly successful innovations cannot be counted on to last, simply because in situations of dynamic complexity, things change. "Educators with moral purpose and the skills of change agency must be prepared to form and reform a variety of relationships across their careers because that will be reality – constant change, sometimes for the better, sometimes for the worse." (Fullan (1993:83). Even if we stay in organisations for long periods of time, others will come and go, changing the organisation.

Fullan (1993) has said that, finding a way forward through a sense of purpose enables one to use certain events as catalysts for intervention or action and turn constraints into opportunities, while minimising impositions that detract. Initiatives can be overtaken by events, such as changes in curriculum or inhibited or advanced by changes in the school (for example, changes in staffing). These things can alter the effect or tempo of developments or plans. Fullan (1993) has counselled to expect the inertia to change to be



considerable. It takes significant time, commitment and energy before results are seen. One needs to commit to continuous improvement through inquiry, innovation and evaluation, that is, to become a reflexive practitioner.

The process of change is not necessarily transportable - each setting has its own complexities, and thus it is important, in my opinion, to be working within a familiar context. It is knowledge of your context first and foremost that enables one to both see and create opportunities for change.

In summary then, it can be seen that the change process, while unpredictable and complex, offers exciting opportunities for the individual with a moral purpose, in conjunction with others that share a vision, to bring about a shift in the values of a system or organisation. This requires time, commitment and a flexible approach to actively seek occasions to move the process forward. A further question that emerges for research is: How can outside agencies assist and support individuals to make a difference, in the varied contexts in which they find themselves, to advance environmental education in South Africa in a meaningful and integrated manner?

## **CHAPTER SIX: REFLECTING ON THE CHANGE PROCESS: CONCLUSIONS AND RECOMMENDATIONS**

### **6.1 FINDINGS**

This research centred on the notion of creating an environmental ethos in a school in order to promote integrated environmental learning. I sought practical strategies to enhance the environmental ethos of the school in which I teach. What I found is that some of the widely promoted approaches to a whole school approach to environmental education do not work in my context.

School environmental policy planning and strategising can represent, as it did in my context, additional work that has limited value. I found it more useful to use a less formal process of seeking and using room to manoeuvre, to implement innovations that are in line with the beliefs and values of the existing culture. This requires more flexible planning and acceptance that unanticipated events are a normal part of the scene (Fullan 1993). Major transformation in the culture of a school is an incredibly complex undertaking. Commitment is needed without being too tightly bound to a particular strategy.

The committee approach was particularly time-consuming relative to its effectiveness at Roedean School. I learnt that participation can take many forms and a committee is not always the most productive way to ensure involvement. Instead, sharing my vision enabled others to join me in the process.

This certainly reflects my experience with regard to the response I received from colleagues on sharing my idea of an environmental focus for Roedean School. This was evident, not only in terms of the willingness of staff members to become part of the focus group, but also to those who chose not to join the group and, nonetheless, took the time and trouble to tell me that they thought what I was doing was important and worthwhile. I have not only received verbal but also practical support. In addition to positive responses to

requests I have made of teachers and pupils, I have noted some spontaneous actions. Examples include a teacher who erected a sign in the photocopy room, requesting colleagues to turn the light off as they leave to save energy, and the library monitors who displayed some environmental books. While these spontaneous acts may not have formed part of any action plan, Fullan (1993:vii) has said: "It is no longer acceptable to separate planned change from seemingly spontaneous or naturally occurring change" since change is ubiquitous.

Has there been a shift in the ethos at Roedean School towards an environmental focus? Has there been an impact on school management practices, school curriculum design choices and the wider school community? This was never intended to be an evaluative study and so these questions cannot be accurately answered. I like to think that there have been some small steps in the right direction. The paper recycling project, the increased activity and enthusiasm of the Green Team, the link between community service and the environment, offer me glimmers of encouragement and so I continue.

## **6.2 CONCLUSIONS**

Post-modern society is dynamically complex and highly political (Aronowitz and Giroux 1991). The change process in this context, however well planned, can be expected to be fraught with unpredictable and uncontrollable problems and opportunities (Fullan 1993). Since the change process is non-linear and unending, we need to develop a flexible process orientation to deal with the erratic and complex nature of change (Fullan 1993).

According to Fullan (1993), the role of the individual in the change process is paramount. A whole school change or shift in ethos can be brought about by the individual's efforts to realise, through their actions, the beliefs and values they share with their colleagues. "Systems change when enough kindred spirits coalesce in the same change direction. You can't mandate what

matters because there are no shortcuts to changes in systems' cultures. But like-minded people, pushing for change do add up." (Fullan 1993:143).

The change process is exceedingly complex and it is the interaction between individuals and societal structures that make the difference. Fullan (1993) advocates the skills of change agency, namely having a sense of purpose, habits and skills of inquiry, and the ability to work with others and deal with change, in order to allow individuals to simultaneously push for change while engaging in self-learning. Being an agent for change means being prepared for a journey of uncertainty, while valuing personal change agency as the route to system change.

Teachers in a school context with a passion for environmental education, nonetheless, need to put their advocacy in perspective. They may be trying to sell an innovation without recognising that it may not be the most important thing on other teachers' minds, even if those teachers are fundamentally in favour of the project.

I have learnt that the change process takes time, probably many years, and so persistence is necessary. Fullan (1993) has said that change comes at us in surprising ways, and thus the capacity to live in a state of constant uncertainty is essential. There will be difficulties, but the most important thing is to learn from them. Worthwhile change, that achieves a new ethos that is coherent and significant, is slow and ways need to be found to keep up the momentum.

Finding and making time for all aspects of the change process is, in my opinion, the single most important determining factor in terms of enhancing the chances of the success of an initiative. The availability of such time and the extent to which organisational structures are likely to be altered to accommodate an initiative is, I am convinced, directly related to the level of priority and value associated with the process. The ethos of the school and, very importantly, the vision of the Head are major determining factors in this

regard. The extensive organisational changes that have occurred under the current Headmistress bear testimony to this.

If a change process is going to occur at all, it needs the Head of the school in particular to actively support initiatives. The aim or vision of developing an environmental focus in a school must have the legitimisation and recognition of the Head if the process is even going to get off the ground.

Because the task can seem overwhelming, the capacity to collaborate is essential (Fullan 1993). This may take the form of external alliances or support groups, as well as a team within the school. Connecting with varied networks of others involved in both similar and different pursuits can stimulate new visions, or help one to conceptualise problems and solutions in new ways. Outsiders can offer complementary insights and information to the situation or process. Collaboration of any sort takes time. It is also necessary to have opportunities to analyse and reflect on the process, which in turn, once again, requires time.

The development of greater professional knowledge and competence among teachers is often highlighted, particularly in the South African context, but little attention is given to the skill and importance of managing change as teachers, and yet change is one of the fundamental characteristics of our society. Pupils, too, need to be encouraged to develop the skills of inquiry, reflection and collaboration that will enable them to cope with an increasingly uncertain future (Beck 1992).

### **6.3 RECOMMENDATIONS**

While an overall vision, such as developing an environmental ethos at a school is necessary, for the sake of practicality, it needs to be broken down into small building blocks. I would advise **the selection of a manageable initial project** such as paper recycling to kick-start the process. Ideally, the

initiative should have **wide involvement, high visibility and concrete results**. The **broader vision**, however, needs to be **kept in the forefront through communication** with the parents and the community; be that through newsletters or notice boards or on the school intranet. The nature of the vision must be open to debate, action and continuous reassessment if it is to remain alive.

One of the comments, which has repeatedly found its way into the literature, is the risk of environmental education being viewed as an “add-on” or a short term project (see section 1.3). The solution that, I believe, has emerged from my experience, is to **look at how environmental education can be integrated into what is already going on**, and, as far as possible, to **use existing or related organisational structures** such as the community service programme.

I do believe that a combination of the ***School Environmental Policy resource pack*** produced by Share-Net, **in conjunction with the FEE Eco-Schools programme** recently launched in South Africa, can play a significant role in increasing the number of schools who are actively seeking to make environmental issues a priority. I can only offer suggestions as to how this might operate in the context of the independent schools in South Africa, as this is the context with which I am currently most familiar.

I would recommend that a presentation be done to the Heads of the Independent Schools Association of South Africa (ISASA) at one of the regular conferences that are held. This would serve to **raise the profile of the FEE Eco-Schools concept**, which in my experience is currently very low. In introducing the concept, I feel that the flexibility of the process needs to be emphasised, as well as ways in which it can be incorporated into the schools' current structures. A large number of independent schools do, for example, have a community service programme, and so the opportunities that the Eco-Schools initiative offers for active engagement with the community may be seen as helpful, while at the same time fore-grounding the social aspects of environmental issues. The opportunity for international links, and the

recognition brought by a Green Flag, are other aspects of the project that are likely to appeal in the highly competitive context of private schools. Initiatives that are seen to advance the profile of a school are quickly spread to others.

**Addressing the Heads**, as a starting point, means that their support of the initiative, which is essential, is garnered from the outset, and they can begin to incorporate environmental concern into the vision for their schools.

Similar **presentations** could then be made **at subject conferences** held annually, particularly for those subjects such as Biology and Geography, where teachers may already have an interest in, and concern for, environmental matters. Enthusiastic teachers, who then approach their Heads wanting to become involved in this initiative, will, at least, find that the Head will have heard of the concept previously and, therefore, may be more open to engaging in the process.

A third avenue for raising awareness of the Eco-School initiative is through **school environmental clubs**. Since the WESSA is a member of FEE and already offers a support network to school environmental clubs, the structures are in place to use this network to further publicise the idea of Eco-Schools. This will enable pupils to become a driving force in initiating programmes in their schools, as well as ensure their involvement in the process.

The draft guidelines for the establishment and implementation of the FEE Eco-Schools programme in Southern and Eastern Africa (Eco-School 2002) recognises the commitment that is required from teachers at schools to make the programme effective. It suggests that in some countries, "Responsibility Allowance" for secondary environmental education teachers could be considered as an incentive for teachers to act as school co-ordinators. Palmer and Neal (1994) concur with the need to appoint **a specific person to act as an environmental education co-ordinator within a school** and my experience also suggests that little is likely to happen unless an individual takes responsibility for this role. **In terms of an incentive** for doing so, I would suggest that **a reduction in the teacher's other responsibilities**

**rather than a monetary allowance** would be more effective. My experience is that additional time is needed during the school day to co-ordinate activities and fewer classes, or relief from other administrative tasks, is more likely to facilitate the process.

Another critical aspect for the success of individuals and schools embarking on an Eco-Schools programme is the need for **external support and collaboration**. I often felt very isolated during my research, and would have valued interacting with someone attempting a similar project, for encouragement or even commiseration with the difficulties I was experiencing. Fullan (1993) has said that support is very important to avoid burnout in committed teachers, and he has also highlighted the importance of collaboration.

It would be my recommendation that there be different tiers at which this support and collaboration takes place. I would propose **the formation of clusters of schools**, in close proximity to one another, who are **undertaking the Eco-Schools programme**. These clusters may be quite small, as few as three, to allow for regular meetings of participants to discuss progress and problems, to share ideas and solutions, and to offer moral support and encouragement. The larger the cluster, the more difficult arranging a suitable meeting time becomes, and hence my preference for smaller groups, in which strong relationships can be formed. These cluster meetings could involve the co-ordinating teachers or the pupil representatives of the schools' environmental clubs or both. This allows for cross-institutional collaboration. While there may be individual differences in the school contexts, there will be at least some similarities due to the schools being in proximity to one another, and, being independent schools, that will allow for possible sharing of projects, solutions to difficulties and sufficient empathy to provide moral support.

I would also concur with the draft guidelines for the establishment and implementation of the FEE Eco-Schools programme in Southern and Eastern Africa (Eco-School 2002) which suggest the appointment of **an external Eco-**



**Schools co-ordinator** who would **oversee and support** a number of clusters of **Eco-Schools**. This co-ordinator would be responsible for offering guidance, as well as being responsible ultimately for the evaluation of the schools' eligibility for a Green Flag. I would further suggest that this co-ordinator keeps the clusters informed of developments in other clusters, nationally and internationally, in terms of the Eco-Schools' programme, to further enhance the sharing of ideas and the formation of wider networks.

People may be at different starting points with different legitimate priorities. I would suggest **the approach of a menu rather than a blueprint**, allowing individuals to be involved at a level that they feel they can contribute to a shared vision, without the sense of an extra obligation. The design of the *School Environmental Policy pack* does allow for this type of flexibility, by having separate folders for different aspects of environmental education. The *School Environmental Policy* resource pack can be used as a tool, source of ideas or starting point, which each school can adapt to the particular context and restraints that it faces.

#### **6.4 FINAL REFLECTIONS**

Often during the course of this research, I wished I had undertaken a quantitative study of some easily definable and objective subject. I longed for the security of my scientific background, with its clearly defined rules for method, data collection and analysis. However, that could not be accommodated by my fundamental motivation for undertaking further studies in the first place. I wanted to improve my practice as an environmental educator. I wanted my research to be grounded in the realities of my experience and, therefore, I embarked upon a journey into the unknown without the comfort of a map.

Instead, I have created a retrospective map of where I have been experientially through this process. I have tried to understand what forces

shaped my decisions at every twist and turn. I have followed some dead ends and have not always taken what, with hindsight, may have been a more direct route. What has emerged may be called an interpretative case study. It may even be called action research, although often I found the *action* overtaking the *research*. Have I achieved what Lather (1986) has called “research as praxis”? I do believe I have become more conscious of my own actions and situation in the world. Have I brought about a change at Roedean School? Is there more of an environmental ethos? I am not sure.

What I do know is that I have not come to the end of my journey, I have simply stopped and reflected on a part of it. I do not believe that I have created a map for others to follow. I only hope that my reflections on my own journey will resonate with the journeys of others, that we will encourage one another to continue to find a way forward.

## **APPENDIX A**

### **ACRONYMS**

CTA	Continuous Task Assessment
EEASA	Environmental Education Association of Southern Africa
EECI	Environmental Education Curriculum Initiative
EEPI	Environmental Education Policy Initiative
ENSI	Environment and School Initiatives
FEE	Foundation for Environmental Education
ISASA	Independent Schools Association of South Africa
IUCN	International Union for the Conservation of Nature and Natural Resources
NEEP-GET	National Environmental Education Project for General Education and Training
OECD	Organisation for Economic Co-operation and Development
SADC	Southern African Development Community
SPCA	Society for the Prevention of Cruelty to Animals
UNCED	United Nations Conference on Environment and Development
UNEP	United Nations Environment Programme
UNESCO	United Nations Educational, Scientific, and Cultural Organisation
WESSA	Wildlife and Environment Society of South Africa
WSSD	World Summit on Sustainable Development

## APPENDIX B

### GREEN TEAM QUESTIONNAIRES

*These questionnaires were originally printed over several pages to allow spaces for the pupils to respond to each question. To avoid unnecessary waste of paper I have removed those spaces in these copies.*

#### GREEN TEAM 2002

#### GREEN TEAM QUESTIONNAIRE

1. How did you come to be a member of the *Green Team*?
2. Why did you join the *Green Team*?
3. What did you envisage the *Green Team* accomplishing this year i.e. what sort of activities did you think the *Green Team* should be involved in?
4. What factors have made it difficult to carrying out your plans? (Describe all the ones you can think of).
5. What solutions to these difficulties would you suggest?
6. What do you think could be done to improve the status of the *Green Team*?
7. What do you think could be done to create a whole school environmental focus at Roedean?
8. What has been the most successful aspect of the *Green team* this year?
9. What has been the greatest weakness of the *Green Team* this year?
10. What advice would you offer next year's *Green Team*?

## GREEN TEAM 2003

### GREEN TEAM QUESTIONNAIRE

1. What made you decide you would like to join the Green Team? Give as detailed an answer as possible as to what influenced you.
2. What do you think of the name "Green Team"? If you could change the name, what would you call it?
3. Are you prepared to commit yourself to a 40 minute meeting once a week?
4. Which afternoon would suit you best? Tick the days and times below when you would be able to attend.

MONDAY	15:10 - 16:00		15:30 -16:20	
WEDNESDAY	15:10 - 16:00		15:30 -16:20	
THURSDAY	15:20 - 16:00		15:30 -16:20	
FRIDAY	14:40 -15:30		15:30 -16:20	

5. What do you envisage the Green Team accomplishing this year i.e. what sort of activities did you think the Green Team should be involved in?
6. How would you carrying out your plans? (Describe the actual strategies you would use to make sure things happen.)
7. What do you think could be done to improve the status of the Green Team?
8. What do you think could be done to raise awareness of environmental issues and encourage whole school concern and involvement at Roedean? How could we create an environmental ethos at Roedean?

## APPENDIX C

### STAFF ENVIRONMENTAL FOCUS GROUP QUESTIONNAIRE

*This questionnaire originally had spaces beneath each question in which respondents could answer. To avoid wasting paper I have deleted these spaces.*

### SCHOOL ENVIRONMENTAL POLICY (Resource Pack)

I would like to use the School Environmental Policy pack as a resource for developing our own environmental policy and management plan. I cannot do this without your help, as it is a committee-based process. In our last meeting it was decided that the most effective way of doing this (especially considering the time constraints we all face) was to divide up the pack and have each person examine a folder from the pack and give me some feedback on their impressions.

Please note down your name and responsibilities at the school so that I know what perspective you are coming from i.e. a Junior school teacher is likely to have different views to that of a Senior school teacher or administrative staff member.

I have photocopied for you the outline of how the pack is intended to work, entitled "Getting Started ..."

Please comment on the overall six-step strategy suggested by the pack.

What do you think of the overall design of the pack? Please comment on strengths and weaknesses.

Please go through the "Getting Started" check list and mark what *your* perception of the current situation at Roedean is. Please add explanatory comments wherever you feel it is necessary. You may want to write these comments on the back of the page with the number of the question it refers to.

The seven areas of environmental education suggested by the pack are:

School Calendar

Enviro Information & Community Knowledge

School Grounds & Fieldwork  
Resource Use  
Action projects & Competitions  
Clubs, Adventures and Cultural Activities  
Healthy Environment

Please select one of these to examine more closely and answer the following questions.

Why did you select this particular folder / topic to work through?

Which of the folders / topics appealed to you least and why?

To what extent could we make use of this folder / topic at Roedean?

On the back page, where it says "Policy", please write a statement on this aspect of environmental education that could be included as a potential policy objective.

Under the heading "Action Plan" please fill in how would you suggest we could effectively implement this aspect of environmental education at Roedean School. This may or may not relate to the suggestions made by the folder.

Under the heading "Evaluation" please suggest how we might evaluate the implementation of the Action Plan.

Please comment on the general usefulness of the particular folder you have examined.

Please give a SWOT analysis of this folder i.e.

Strengths:

Weaknesses:

Opportunities arising from it:

Threats to its implementation:

# APPENDIX D

## GUIDING PRINCIPLES

### **VALUES**

- Truth, honour, courtesy, freedom

### **ACADEMIC EXCELLENCE**

- Achieve the highest academic standards
- Develop and sustain an excellent work ethic

### **MONASTIC SCHOOL**

- Provide the optimum, all-girl environment in which the potential to become a successful independent young woman is nurtured

### **CHRISTIAN SCHOOL**

- A school based on Christian principles and beliefs which observes the Anglican faith

### **PROGRESSIVE CURRICULUM**

- Develop an individual independence of thought that enables pupils to make sound judgements and face challenges
- Develop an ethos of community service and partnership integrated into the curriculum
- Counsel, guide and nurture each girl caring for her emotional well-being
- Provide abundant opportunities to express creative talent across the curriculum including art, drama and music

### **SUCCESSFULLY SOUTH AFRICAN**

- Develop pupils to their fullest capacity to become leading women in touch with the broader issues and community in both a South African and global context
- Sustain our diverse and integrated cultural community
- Link the traditions of Roedean's past with the challenges of the future

### **TEACHERS**

- Develop and sustain a complement of remarkable teachers
- Strive to create opportunities for the development of leadership, fostering a climate of empowerment and participation

### **SPORT**

- Provide opportunities for full participation for all
- Equip pupils with the skills to enhance their achievements
- Ensure that the quality of coaching and facilities are of the highest calibre

### **FACILITIES**

- Treasure the heritage of the school buildings set in serene grounds and beautiful gardens
- Continue to build world-class facilities linked to the progressive curriculum

### **SCHOOL COMMUNITY**

- To foster a sense of community spirit, interdependence and respect that serves as a model for and impacts upon the wider community



## REFERENCES

- Aronowitz, S. and Giroux, H.** (1991). *Postmodern education : Politics, culture and social criticism*. USA : University of Minnesota Press.
- Baker, K.** (1991). The greening of our schools. *IPA Review*, 44(2), 31-38.
- Bassey, M.** (1999). *Case study research in educational settings*. Buckingham : Open University Press.
- Bauman, Z.** (1993). *Postmodern ethics*. Oxford : Blackwell.
- Beck, U.** (1992). *Risk society: Towards a new modernity*. London : SAGE
- Benjamin, A.** (1972). *Parktown 1892-1972: A social history*. Johannesburg: Studio Thirty Five.
- Berger, P. and Luckman, T.** (1967). *The social construction of reality: A treatise in the sociology of knowledge*. London : Penguin.
- Bertrand, Y.** (1995). *Contemporary theories and practice in education*. Madison : Magna publications.
- Brown, S. and McIntyre, D.** (1981). An action-research approach to innovation in centralised educational systems. *European Journal of Science Education*, 3(3), 243-258.
- Bruner, J.** (1986). *Actual minds, possible worlds*. Cambridge, Mass : Harvard University Press
- Cantrell, D.** (1993). The interpretive perspective. In R. Mrazek (Ed.), *Alternative paradigms in environmental education research* (pp. 81-106). Ohio : NAAEE.
- Cohen, L. and Manion, L.** (1994). *Research methods in education* (4<sup>th</sup> ed.). London : Routledge.
- Connole, H.** (1993). The research enterprise. In Connole, H., Smith, B. and Wiseman, R. (Eds), *Study guide: Issues and methods in research* (pp. 17-42). Underdale : University of South Australia.
- Covey, S.** (1989). *The seven habits of highly effective people*. London : Simon & Schuster
- Department of Education (DoE) and Department of Labour (DoL). (1995). *White Paper on Education and Training*. Government Gazette, Notice No. 196 of 1995. Cape Town : Government Printers.

**Durning, A.T.** (1995). Are we happy yet? In Roszak, T; Gomes, M.E. and Kanner, A.D. (Eds), *Ecopsychology* (pp. 68-76). San Francisco : Sierra Club Books.

Eco-Schools. (2002) Draft guidelines for the establishment and implementation of the Eco-Schools programme in Eastern and Southern Africa. Unpublished.

**Egan, G.** (1994). *The skilled helper* (5<sup>th</sup> ed). California : Brooks/Cole Publishing Company.

**Eisner, E.** (1985). The three curricula that all schools teach. In *The educational imagination* (2<sup>nd</sup> ed.) (pp. 87-108) New York : Macmillan.

**Elliot, J.** (1991). *Developing community-focussed environmental education through action research*. Mimeograph, Centre for Applied Research in Education, School of Education, University of East Anglia: Norwich, United Kingdom.

**Elliot, J.** (1999). Sustainable society and environmental education: Future perspectives and demands for the educational system. *Cambridge Journal of Education*, 29(3), 325-340.

**Fien, J.** (1993). *Education for the environment: Critical curriculum theorising and environmental education*. Victoria, Australia : Deacon University Press.

**Fien, J.** (1994). In B. Jensen and K. Schnack. (Eds.). *Action and action competence as key concepts in critical pedagogy*. Copenhagen : Royal Danish School of Educational Studies.

**Fullan, M.** (1993). *Change forces: Probing the depths of educational reform*. London : Falmer Press.

**Giroux, H.** (1988). *Teachers as intellectuals: Towards a critical pedagogy of learning*. Massachusetts : Bergen & Harvey.

**Goodson, I.** (1990). Studying curriculum : Towards a social constructionist perspective. *Journal of Curriculum Studies*. 22(4): 299-312

**Gough, N.** (1992). *Blueprints for greening schools*. Victoria : Gould League.

**Gough, N.** (2001). *Perspectives on research: Reading research and reviewing research literature*. Research in Education and Training, Faculty of Education, masters programme. Deacon University : Victoria, Australia

**Gough, S.** (2002). Whose gap? Whose mind? Plural rationalities and disappearing academics. *Environmental education research*, 8(3), 273-281.

**Greenhall Gough, A. and Robottom, I.** (1993). Towards socially critical environmental education : Water quality studies in a coastal school. *Journal of Curriculum Studies*, 25(4), 301-316.

**Greig, S.; Pike, G. and Selby, D.** (1989). *Greenprints for changing schools*. United Kingdom : World Wildlife Fund.

**Grundy. S.** (1987). *Curriculum: Product or praxis*. London : Falmer Press.

**Hart, P.** (1993). Paradigm of critically reflective inquiry. In R. Mrazek (Ed.), *Alternative paradigms in environmental education research* (pp. 107-125). Ohio : NAAEE.

**Hatch, J.A. and Wisniewski, R.** (Eds.). (1995). *Life history and narrative*. London : Falmer Press.

**Hubner, M.** (1996). Environmental education – aspirations and reality in educational policy. *European Education*, 28(3), 95-98.

**Huckle, J.** (1991). Education for sustainability : Assessing pathways to the future. *Australian Journal of Environmental Education*, 7, 43-62.

**Hungerford, H. and Volk, T.** (1990). Changing learner behaviour through environmental education. *Journal of Environmental Education*, 21(3), 8-21.

**Irwin, P.** (1990). The concept of environmental education and the development of environmental education in South Africa. *South African Journal of Environmental Education*, 11, 3-6.

**Janse van Rensburg, E.** (2001). *An orientation to research*. Rhodes University Environmental Education Unit Research Methods Short Course 2001.

**Janse van Rensburg, E. and Lotz-Sisitka, H.** (2000a). *Learning for Sustainability : An environmental education professional development case study informing education policy and practice*. Johannesburg : Learning for Sustainability Project.

**Janse van Rensburg, E. and Lotz-Sisitka, H.** (2000b) 'Sustainability' from constructivist and socially critical angles: Ambiguous steering ideas in the Learning for Sustainability Project. *Monograph: Learning for Sustainability Project* , (pp. 25 – 40). Johannesburg : Learning for Sustainability Project.

**Jensen, B. and Schnack, K.** (1997). The action competence approach in environmental education. *Environmental Education Research*, 3(2), 163-178.

**Jickling, B.** (1992). Why I don't want my children to be educated for sustainable development. *The Journal of Environmental Education*, 23(4), 5-8.

**Jickling, B.** (1999). Beyond sustainability : Should we expect more from education? *South African Journal of Environmental Education*, 19, 60-67.

**Kanner, A. and Gomes, M.** (1995). The all-consuming self. In Roszak, T; Gomes, M.E. and Kanner, A.D. (Eds), *Ecopsychology* (pp. 68-76). San Francisco : Sierra Club Books.

**Kemmis, S. and McTaggart, R.** (1981). *The action research planner*. Victoria, Australia : Deakin University Press.

**Kritzinger, J.** (1994). The methodology of focus groups : The importance of interaction between research participants. *Sociology of Health & Illness*, 16(1), 103-120.

**Kollmuss, A. and Agyeman, J.** (2002). Mind the gap: Why do people act environmentally and what are the barriers to pro-environmental behaviour? *Environmental Education Research*, 8 (3), 238-269.

**Lather, P.** (1986) Research as praxis. *Harvard educational Review*, 56(3), 257-273.

**Lather, P.** (1992). Critical frames in educational research: Feminist and post-structural perspectives. *Theory into Practice*, 3(2), 87-99.

**Le Roux, K.** (1999). *Getting environmentally organised with a School Environmental Policy initiative*. Unpublished.

**Lincoln, Y. and Guba, E.** (1985). *Naturalistic Inquiry*. Newbury Park, California : Sage.

**Lotz-Sisitka, H.** (2002). Curriculum patterning in environmental education : A review of developments in formal education In South Africa. *EEASA Monograph: Environmental Education, Ethics & Action in Southern Africa*. Pretoria : Human Sciences Research Council Publishers.

**Lotz-Sisitka, H and Janse van Rensburg, E.** (2000). *Contextual profile : Profile of environmental education developments in South Africa*. Johannesburg : Learning for Sustainability Project.

**Lotz-Sisitka, H. and Raven, G.** (2001). *Active learning in OBE: Environmental learning in South African schools*. Report of the National Environmental Education Programme – GET pilot research project. Pretoria : Department of Education.

**Lotz-Sisitka, H.** (2002, July) Personal communication. Interviewed as part of the M.Ed participatory research project: How do environmental education support materials support environmental learning?

- McIvor, C.** (Ed.). (1999). *The earth in our hands*. London : Save the children.
- O'Donoghue, R.** (1993). Clarifying environmental education : A search for clear action in Southern Africa. *South African Journal of Environmental Education*, 28-38.
- O'Donoghue, R.** (1999). Participation : An under theorised icon in research and curriculum development. *South African Journal of Environmental Education*, 19, 14-27.
- O'Donoghue, R.** (2001). *The Environment and Active Learning Processes in Outcomes Based Education. National Environmental Education Programme (NEEP) Guidelines for Facilitating and Assessing Active Learning in Outcomes Based Education*. Ministry of Education through Share-Net: Howick, South Africa
- O'Donoghue, R. and Lotz-Sisitka, H.** (2002) Some insights on the gap. *Environmental education research*, 8(3), 261-269.
- Palmer, J. and Neal, P.** (1994). *The handbook of environmental education*. London : Routledge.
- Posch, P.** (1999). The ecologisation of schools and its implications for educational policy. *Cambridge Journal of Education*, 29(3), 341-348.
- Robottom, I. and Hart, P.** (1993). *Research in environmental education : Engaging the debate*. Victoria, Australia : Deacon University Press.
- Stake, R.** (1995). *The art of case study research*. London : SAGE.
- Terre Blanche, M. and Durrheim, K.** (Eds.). (1999). *Research in practice: Applied methods for the social sciences*. Cape Town : University of Cape Town Press.
- UNESCO-UNEP. (1997). Tbilisi principles of environmental education.
- United Nations Conference on Environment and Development (UNCED). (1992). *Agenda 21*. Rio de Janeiro : UNCED.
- Van der Mescht, H.** (undated). *Four levels of rigour in interpretive qualitative research*. Department of Education, Rhodes University Grahamstown, Research Methodology course notes.
- Wals, A.** (1994). Action research and community problem solving : Environmental education in an inner-city. *Educational Action Research*, 2(2).
- Winegardner, K. E.** (undated). The case study method of scholarly research. The graduate school of America. (10/1/01) Online: <http://www.tgsa.edu/online/cybrary/case1.html>

World Commission on Environment and Development. (1987). Our Common Future, the Brundtland Report Oxford University Press: Oxford

Yin, R. K. (1994). *Case Study Research: Design and Methods* (2<sup>nd</sup> ed.). Thousand Oaks : Sage.

**Websites:**

<http://www.panda.org> (18/04/2002)

<http://www1.unep.org> (18/04/2002)

<http://www.eco-schools.org> (10/07/2002,16/07/2002, 18/07/2002, 25/11/2004)