



EEASA 2004 Keynote Address Environment as Life: The journey of an environmental educator

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Editor's Note

The EEASA Journal will publish a keynote address from the annual EEASA Conference and workshops on an annual basis. In 2004 we were privileged to have Professor Danie Schreuder with us at the EEASA Conference, held in Mooiriver, South Africa. Danie's paper opens this journal with a reflexive autobiographical account of 'being an environmental education practitioner'. Danie shares his story (a distinguished professional journey reaching over four decades) of engaging with life through his educational practice and his pedagogy. It opens this journal, by challenging us all to think deeply about life, and our roles as educators in enabling and sustaining life. Danie's story, as told here in the journal, was received with standing ovation at the EEASA conference, as EEASA members recognised his humility, honesty, scholarship and deep respect for all forms of life, which is articulated through an equally deep commitment to education, and environmental education in particular.

Abstract

In this paper I discuss the constructs environment and human existence in terms of the lessons I have learnt from biological life processes. I draw on personal experiences in my journey as an educator and the influences that local, international and global changes in environmental education have had on my practice and on my understanding of key concepts. I link the development of some of my critical understandings to my personal, lived experiences as a biology teacher in times of political turmoil and change in South Africa. I argue that the development of my key understanding of both environment and education is rooted in my experiences and encounters in the natural world and that, for me, environmental education processes are about appreciating, celebrating and preserving life and the place where life is possible, thereby helping people to become inhabitants and not merely residents. Environmental education is a critical pedagogy that should focus on and critically expose practices, ideologies and hegemonies that oppress and undermine people and their thinking and, in effect, threaten not only the quality of human life, but also the capacity of the earth to sustain life.

Introduction

Each of us tells stories, and each of us is a story. Not just each of us humans, but each of us creatures – spruce trees and toads and timber wolves and dog salmon. We all tell stories to

ourselves and to each other... roses do this when they flower, finches when they sing, and humans when they speak, walk, dance, sing, swim, play a flute, build a fire, or pull a trigger. (Robert Bringhurst, 2002:14)

Since I started my teaching career in 1966, the concept of *life* – its complexities and mysteries, the millions of ways in which it is expressed, the astonishing array of adaptations to ensure that it is sustained and propagated – has fascinated me and had a dynamic and constant influence on my practice. Now, towards the end of my teaching career, I have come to a point in my career in environmental education where *life* has become the all-encompassing focus and theme, not only of my philosophy of education, but of my religion and my political views.

In this story of my journey I will stop from time to time, as I did when taking people on field trips, to point out some of the significant moments that have had formative influences on my pedagogy.¹

Reflecting on all the significant moments that shaped my story was a most rewarding task, and one that I can strongly recommend. Remembering oneself and those significant influences is meaningful, as Gough (1998:67) states:

We need to examine the stories in which we participate very carefully – to recognize the myths and meanings in their sequences and structures..., and to have a self-critical awareness of how our interpretations of these stories influence our thoughts and actions.

My story is one of a teacher finding his way in a new field with many opportunities, and just as many closed doors. It is one of a slow learner, trying to make sense of the many movements, trends and concepts that came and went like flavours of the month; perplexed by paradigms and paradoxes, trying to keep up with new ways of thinking, and trying to understand the real meaning behind popular terms and labels in order to at least be able to participate meaningfully in the discourse of the day.

During this journey I often stopped to adjust to new situations and scenery, looking around, consulting maps and checking out descriptions of the place. I also found it useful, before resuming the journey, to check with my gut feel and retrace my journey up to a specific point. I suppose this metaphor describes the *modus operandi* of a reflective practitioner who continuously strives to improve his/her work. Like the traveller, the reflective practitioner uses different sources of information – experience and gut feel, empirical ways of knowing and finding, and applying theories (Singh, 1996:352).

So why do I regard myself as a slow learner? Because I, like many other teachers, lean heavily on experience as I reflect critically on significant moments in teaching/learning situations, trying to learn from them and improve my understanding. And this often happened very long after these incidents took place, when I would find support and explanations in literature and in my own research. Theory not grounded in experience, which I could not link to lived encounters, never gave direction to my journey.

In reliving this journey, I realised that my journey as an educational practitioner was crisscrossed by another journey, one through a field of politics, which started while I was

growing up in an era of apartheid. This was a time when I, like many other South Africans, was being lied to by educational, political and religious leaders. Significantly, these journeys became 'joined' into one exactly halfway through my career.

A growing understanding of environment

To give structure to the story, I will refer broadly to the useful views of Lucie Sauvé (2002) where she refers to a number of dimensions of peoples' relationship with the environment that shape their understanding of the environment.

Environment as nature, as a resource to be managed

I believe that my own understanding of the many facets of environment is firmly rooted in the field of biological sciences. My enrolment in biological sciences at university was not really planned, but soon the various aspects addressed in the study of plants and animals – their evolution, relationships, physiology and anatomy – captivated me. In the mid 1960s, one of my lecturers introduced me to ecology, a new field of study of the world of relationships between living and non-living.

This fascination with and understanding of living creatures deepened when I was appointed to the Zoology Department at the University of the Western Cape (UWC) in 1966. For three years I had the most wonderful opportunities to do research, help build a museum and go out on collecting trips with well-known people like Jan Skinner. I was privileged to see, handle and examine live specimens of animals (especially invertebrates) that most people only read about in books.

When I decided to go into school teaching it was because I was well on my way to becoming a researcher – and the prospects, although I found most of the discoveries fascinating, did not appeal to me. I wanted to share my excitement about life and living with others, especially children, and not become an expert on a limited number of species only (as is often the pattern in the 'pure' sciences).

My first teaching post was at Thornton High School. My appointment in 1970 coincided with the inclusion of ecology, biochemistry and some physiology in the matric biology syllabus. Soon I was identified by the Western Cape Education Department (WCED) to serve in in-service training programmes of biology teachers. My responsibility was the ecology section, and this, together with the profound influence of Dr Kampe Smith, laid the foundation for the direction in which my biology teaching would go.

My work as a teacher was rewarded in 1975 when I was promoted, after five years in schools, to a teachers' college as a senior lecturer in biology. By this time I had established a reputation for teaching biology in a new way, moving away from dead and dreary subject content and concentrating on the wonders of life and the fascinating stories of plants and animals in their natural state. Essentially, there was a strong conservationist message in my teaching and an ongoing plea for a greater respect for and love of nature. This would become the focus of my MEd studies, namely a case for a stronger emphasis on the natural environment in the training programmes of biology teachers. The study itself did not make much difference to my pedagogy or my views on the environment, but it did open another door for me.

In 1983 I was introduced to EEASA at its second annual conference in the Hohenhort Hotel in Constantia, Cape Town, where I was offered the new position of Head of Environmental Education at the Cape Department of Nature and Environmental Conservation (CDNEC). This would offer me the opportunity to teach people in the natural setting of nature reserves and share with them with the splendour and wonders of nature.

My time in this new career was spent enjoying the freedom to develop environmental education centres, identifying 'target groups' and developing programmes to effect a deeper understanding and appreciation of nature and natural processes and developing a pedagogy that I preferred.

The time spent at the CDNEC became one of the most gratifying parts of my journey. It was very rewarding to involve a variety of target groups in basic ecological education dealing with the diversity, richness and complexities of our natural environment, and to define a human niche within the ecosystem (Sauvé, 2002:2).

One weekend in the mid-1980s, a group of children from a poor Cape school visited the centre where I was presenting the programme. As was the custom, I handed out a simple questionnaire afterwards to provide me with feedback regarding the educational quality of the programme. To my shock, a substantial percentage of the children responded in similar fashion to the question 'What did you like most about the programme?' The warm showers, having slept in their 'own' beds and the food were among the most popular responses.

I know that, at that moment, I formed a new picture of the concept *environment*. Up until then, environmental issues (for me) were represented by those conditions that pose risks to the capacity of natural systems to support and sustain life, including human life. I then realised that human living means so much more than survival, and that the human *oikos*, our 'home-of-life', is supposed to let *humans live their niche*, or to be *human*. Being in a position, in an *oikos*, where one is allowed, provided with the opportunities to live one's niche as a human being, is what *quality of life* is about. I realised that millions of people are denied this basic right to quality of life due to impoverished environments, which, in turn, are the result of political, economic and social conditions.

This fateful weekend was the point at which my professional journey merged with my political journey, where the niggling questions of my youth about the social injustices towards other people fell into perspective. It was also the point at which I began to understand the enormous power of hegemonic thought and ideology, and how I had been held captive by many ideologies for many years. It was, most importantly, the early beginning of a crude, critical pedagogy that would guide me as a teacher in the future.

Shortly afterwards I was offered a post at the Education Faculty of Stellenbosch University. What is significant is the fact that I had unsuccessfully applied for the same position 16 years earlier, at a time when environmental education was not at all part of my vocabulary – let alone a critical pedagogy. It was only after leaving Cape Conservation that this detour in my journey, this short and eventful time outside formal education, made sense; not only did I now have a much better grasp of the key concept of *environment*, but I was ready to engage with the critical dimensions of environmental education.

Life and Work in an Academic Environment – A New Struggle

Having been appointed as senior lecturer in Biology Didactics, I had the framework for my work with student teachers cut out – I wanted to help teachers develop a deep concern for life, and for the environment in which life is sustained. Together with my students, I explored those powers and hegemonies that impact negatively on the capacity of the earth to sustain life. I was now also ready to help other teachers understand how education can liberate and empower people to improve their quality of life, and to expose those ideologies and educational theories that inhibit the optimisation of human potential. I was openly challenging long-established educational and didactic theories and principles that served as theoretical frameworks in the faculty.

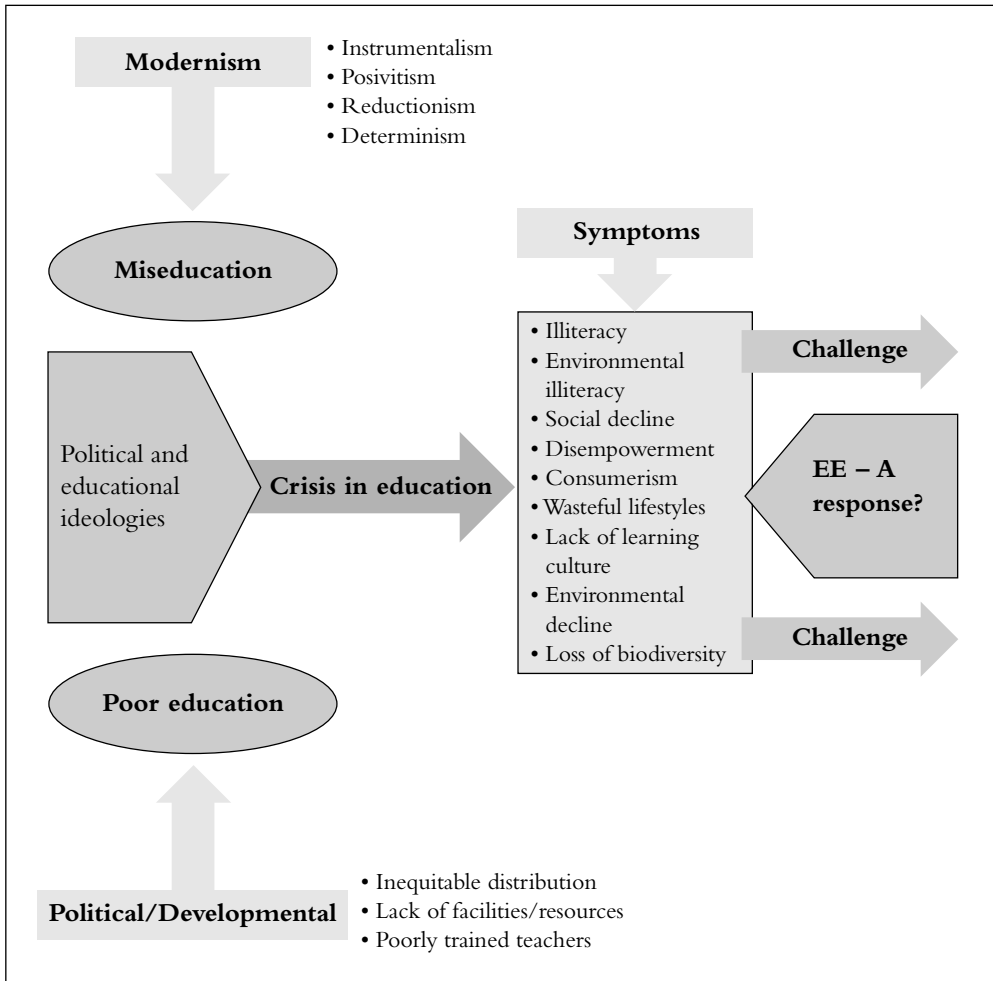
I was very critical towards political, educational and religious hegemonic ideologies and regarded these as the main causes of what I called *bad education* (to which millions of marginalised and underprivileged were subject). *Miseducation* (the education of the privileged minority), on the other hand, was the result of the devastating influence of modernist mind frames on education theory and practice (Schreuder, 1995) – see Figure 1. This, in my opinion, was one of the main reasons for the crisis in education and, in effect, also of the dreadful state of the South African environment (including its political, social, bio-physical and economic dimensions).

My critical, emancipatory pedagogy (Clegg *et al.*, 2003:50) was therefore established on the premise that the current educational theories and practices themselves underpinned and maintained oppression and exploitation on a socio-political level and needed to be interrogated and challenged. In this new academic environment I could, for the first time, really understand how social structures – like the government and universities – reproduced ideologies and thereby determined individual consciousness (Maddock, 1999:45) or, should I rather say, false consciousness. Environmental education as a critical pedagogy, I believed, offered many opportunities for exposing some of the conditions and roots of this false consciousness.

This also explains my involvement in lobbying for a much more prominent status for environmental education in national education policy documents. In 1993, Thinus Joubert of the Department of Environment Affairs and Tourism (DEAT) and I, with the assistance of a few local enthusiasts and the support of the South African Nature Foundation (SANF), established the Environmental Education Policy Initiative (EEPI). This initiative was the forerunner of the Environmental Education Curriculum Initiative (EECI) (1995), which in turn paved the way for the National Environmental Education Programme (NEEP).

The biggest challenge of my job remained, however, to establish environmental education in a particularly conservative academic environment where tradition played a major role and new courses were difficult, if not impossible, to establish. Being one of the oldest education faculties in the country, this Faculty of Education at Stellenbosch University was home to some of the major proponents of Fundamental Pedagogy and, as such, one of the principal allies of the apartheid government, which favoured this approach to education, as it could be used to justify discriminatory practices in schools.

Figure 1. Schematic representation of my views on the roots of the environmental and educational crises, and environmental education as a possible response (Schreuder, 1995)



Environmental education initially featured only in the programmes of the Life Sciences, but I grasped all opportunities, for instance having it accepted as an optional module in the BED programme in 1989.

In the same year, I was approached by the SANF (later WWF SA) to lead a materials development process to produce suggestion materials to help teachers develop learning programmes focusing on local environmental issues. The ‘We Care’ materials proved popular and useful, and when, in the same year (1989) the Environmental Education Programme, University of Stellenbosch (EEPUS) was born, we had the foundations laid for a scholarship based on the triadic relationship of research, curriculum development and materials development.

In that same year, a restructuring of the Higher Education Diploma (HED) programme saw my efforts rewarded when environmental education was included as a permanent module – ever since, I have been assured that every single high school teacher leaving the faculty would have some kind of understanding of the importance of the environment as a focus in school programmes. Gradually, environmental education also became part of all the B Prim Ed programmes, especially as a result of the work done by Heila Lotz at EEPUS in the early 1990s.

A new philosophical framework was emerging as the basis of my pedagogy and, as an alternative to the still predominant fundamental pedagogy, I presented the ideas of Brahm (1988:11), who regards education as a process of optimising human (species) potential by optimal exposure to the environment. This also tied in with the *niche* concept, as I believed that, in order for humans to take up a functional role in their environment, all dimensions of human potential need to be optimised. Western models of education have obviously not succeeded in this. Likewise, apartheid education denied millions of our people the opportunity to optimise their species potential by creating highly discriminatory and inequitable positions with regard to the provision of teachers and services.

A new responsibility became obvious at this time – my involvement, as an academic, in research and publication. My personal struggle to find suitable research orientations (as was seemingly ‘required’ by some members of the local environmental education community) is described in an unpublished paper (Schreuder, 1999).

My first venture into research was commissioned by the SANF and the South African Broadcasting Corporation (SABC)² (Le Roux & Schreuder, 1990) and, in the design of the project, I resorted to the only model that I felt comfortable with because of my science background – a classical educational experiment. The results were statistically calculated, ‘proving’ a distinct difference between the experimental groups, one of which was exposed to We Care materials. In my PhD research (Schreuder, 1990), I decided to further develop a technique of generating ‘rich’ data, namely the use of line drawings to elicit open responses instead of multiple choice questions in a Likert-type research design. Although I was not exactly sure what was meant by ‘positivist’ research at the time, I had instinctively decided that there must be other ways to generate data, namely by interpreting open responses and listening to people. This somewhat curious mix of positivist/empirical and interpretivist research is indicative of my pursuit of a ‘paradigm’ within which my work as a teacher and scholar could be justified.

The establishment of the Schools Water Project (SWAP) at EEPUS in 1992, and the extraordinary research and development work done by Heila Lotz with the ‘We Care’ project and by Ina de Lange with the SWAP project, opened new doors to research (Lotz, 1996; De Lange, 1997). Many research projects followed where teachers and school children participated in investigating environmental problems by studying local streams and rivers (Schreuder, 1994; 1997; De Lange, 1997). This process – working with teachers and students in a participative action research process for the development of suggestion resource materials – became the basis of an EEPUS scholarship for teaching, research and community service.

Environment as the Biosphere, As a Place to Live

Being offered the opportunity to coordinate the development of Windows on the Wild (WoW) materials in South Africa by WWF (US) (the home the WoW materials) in 1995 presented me with a chance to develop my understanding of sustainability and opened up new perspectives for the teaching of Life Sciences in an outcomes-based approach to learning programme development. While the US materials focussed exclusively on biodiversity and its meaning, importance and other aspects, I was given the freedom to draw on existing WoW activities, while developing a resource around a different, locally relevant rationale described in a number of papers (Schreuder *et al.*, 1999; 2000; Schreuder & Waghid, 2000).

The rationale for the South African version was to open windows on natural systems in order to investigate those principles that enable sustained ecosystems, such as diversity, interrelationships, population control and resource use and recycling. Despite initial criticism, especially from the sponsors, the materials, as well as the rationale, were received very well by teachers participating in piloting processes.

Apart from the similarities in the processes of development of the three EEPUS resources, the basic organising concept of all these resources can be described as a *study of place*. In my opinion, *this is a fundamental organising concept for education*. David Orr (1990:50) stresses the difference between educating people to *reside* vs educating people to *inhabit*. While education for the resident is based on the supply of theoretical and abstract knowledge with the purpose of control, education for the inhabitant occurs, in part, as a dialogue with a place. Inhabitants have a much more intimate knowledge of the place where they live and take responsibility for its management more readily. Residents tend to know just enough about the place where they live so they can benefit and exploit. I think that a crucial task of education is to help learners understand that they are part of the natural world, and that this place that we share with millions of other forms of life has limits. And, for this reason, the old and somewhat discarded concept of 'environmental literacy' should remain the basis of all environmental education (Cutter-MacKenzie & Smith, 2003), and a key element of ecological literacy.

I have often been criticised for having a narrow view of environment. I do not think so. It is just that I have learnt so much about life, as processes and as a phenomenon, and about its multitude of expressions, and about how every single form of life is adapted to not only survive, but also to make the place where it lives better – more liveable. And how humans, because they are not properly educated, often make the place where they live worse. This, I still believe, is where teachers of Life Sciences have a special responsibility – a focus on Life, more than Science, and a focus on our common habitat.

Environment as Life

Like many others, I also asked the question about what life is all about – the purpose, the rationale behind diversity, the never-ending striving for survival – until I got to understand the *niche* concept. According to this concept, every species has a niche, a specific functional role for which it is very specifically adapted. This role can always be associated with making a specific

place more liveable. Every single creature, therefore, not only lets life flow *onward* through reproducing its own kind, but also *outward* in creating conditions for life. This, for me, has always been the key to sustained ecosystems – that, by living, every creature contributes to the ecosystem and, ultimately, to the earth's capacity to sustain life.

This also forms the basis of my understanding of human life – our lives not only flow onward, but also outward, making the place where we live better. This is the essence of the quality of human life, which sets us apart from other living creatures, but at the same time links us with all other forms of life – we have not escaped the key role of life and living, which is to create more space for life and living.

For this role we need to be educated in order to optimise our species potential and, apart from the intellectual dimension, we need to focus, in our education processes with children, on the development of all other dimensions of being human. These include the aesthetic, psychosocial, religious and physical (an understanding of our place).

For me, environmental issues (problems, risks) are not only those factors that threaten the earth's capacity to sustain life, including human life, but also those that threaten the *quality* of human life. Whether they are political, social or economic – if the environmental conditions of any community are such that the capacity of the people in that community to optimise their species potential and make their place better is threatened – they become environmental issues. This is also the key to my understanding of the critical nature of environmental education – a continuous, critical interrogation of the popular hegemonies, ideologies, myths and illusions which permeate our society and regulate our religions, education, economies and political systems and are often at the heart of inequalities in communities, human suffering and environmental risks and issues. The development of a critical awareness of these hegemonies is the pursuit of emancipatory knowledge – the basis of critical theory.

Conclusion

The development of environmental education in South Africa over the past 30 years is a fascinating story. I have been fortunate enough to attend environmental education conferences on almost every continent across the globe, but I have always been struck by how the concept has developed locally, not so much as a result of international trends and influences, but more in response to local socio-political developments and people thinking and working together.

There have been many international developments, conventions, declarations and landmark publications that must have had major influences on the direction of the developments in environmental education locally. We have been visited by some of the most prominent environmental educators from across the globe, and many of us have participated in major international events. And yet, the current status and nature of environmental education is home-grown, coming from the soil and the souls of this wonderful land.

My own journey may not be unique or spectacular, and maybe it is pretty boring. All I have tried to do is to show a few snapshots of some of the scenes on this journey, to show how the place where we find ourselves at a particular time can nourish and shape our lives so that we become transmitters of life. I was indeed fortunate to journey through wonderful places where

life flowed into me in astonishing ways, and where I was fortunate enough to be a teacher so that I could let it flow onwards, and outwards.

And if, as we work, we can transmit life into our work
Life, still more life, rushes into us to compensate, to
be ready
and we ripple with life through the days...
(DH Lawrence, 1963)

Notes on the Contributor

Dr Daniel Rossouw Schreuder is regarded as one of the founders of environmental education in South Africa. Since the mid-1970s he has been actively involved in promoting the concept and principles of environmental education in formal curricula and developing professional development programmes as well as resource materials. He has spent most of his working life in the field of teacher education, first at Wellington Teachers College and also to date at Stellenbosch University. He was also the first Coordinator of Environmental Education at the Cape Provincial Department of Nature and Environmental Conservation. Schreuder was instrumental in developing environmental education resource materials such as 'We Care', Windows on the Wild (SA): Science and Sustainability and also Schools Water Project (SWAP). He is currently Professor in the Department of Curriculum Studies at Stellenbosch University. Email: drs@sun.ac.za.

Endnotes

- 1 The term **pedagogy** is used in this text as an educational practice '... in which one acts with the intent of creating experiences that will organise and disorganize a variety of understandings of our natural and social world in particular ways' (Giroux & Simon, 1998:12).
- 2 'We Care' formed the basis of a series of educational programmes for children, broadcast in 1989/90, and the SABC funded a research project to investigate the effect of these programmes on children.

References

- Braham, M. (1988). The Ecology of Education, in Briceno, S. & Pitt, D. (Eds), *New Ideas in Environmental Education*. New York: Croom Helm. pp.3–30
- Bringhurst, R. (2002). The Tree of Meaning and the Work of Ecological Linguistics, *Canadian Journal of Environmental Education* 7 (2). pp.9–22.
- Clegg, S., Hudson, A. & Steel, J. (2003). The Emperor's New Clothes: Globalization and e-Learning in Higher Education, *British Journal of Sociology of Education* 24 (1), pp.39–53.
- Cutter-MacKenzie, A. & Smith, R. (2003). Ecological Literacy: The missing paradigm in environmental education (part 1), *Environmental Education Research* 9 (4), pp.497–524.

- De Lange, I.A. (1997). *'n Gevallestudie in Omgewingsopvoeding: Die Skole Waterprojek*. Unblished MEd Thesis, Stellenbosch University.
- Giroux, H.A. & Simon, R.I. (1988). Schooling, popular culture and a pedagogy of possibility, *Journal of Education* 170 (1), pp.9–26.
- Gough, N. (1998). *Decolonizing Sustainability: Environmental education as post-colonialist textual practice*. Proceedings: EEASA Conference, University of Botswana, Gaborone, July 1998, pp.64–76.
- Lawrence, D.H. (1963). *Selected poems*. London: Penguin Books. pp.145–146.
- Le Roux, A. & Schreuder, D.R. (1990). An evaluation of the effect of 'We Care' enriched teaching on pupil orientation toward the natural environment and conservation. Unpublished Research Report, Department of Didactics, Stellenbosch University.
- Lotz, H.B. (1996). The development of environmental education resource materials for Junior Primary Education through teacher participation: The case of the We Care Primary Project. Unpublished DEd Thesis, University of Stellenbosch, Stellenbosch.
- Maddock, T. (1999). The Nature and Limits of Critical Theory in Education, *Education Philosophy and Theory* 31 (1), pp.43–61.
- Orr, D.W. (1990). Environmental education and ecological literacy, *Education Digest* 55 (9), pp.49–54.
- Sauvé, L. (2002). Environmental Education: Possibilities and Constraints, *Connect: XXVII* (1/2), pp.1–4.
- Schreuder, D.R. (1990). Determining Pupil Behaviour towards the Natural Environment and Conservation. Unpublished DEd Thesis, Stellenbosch University.
- Schreuder, D.R. (1994). The Schools Water Project (SWAP): A Case Study of an Action Research and Community Problem Solving Approach to Curriculum Innovation, *Australian Journal of Environmental Education* (10), September, pp.35–46.
- Schreuder, D.R. (1995). Environmental Education at the Crossroads: Rhetoric and Reality in Educational Reconstruction in South Africa. Proceedings: 24th Annual Conference, NAAEE, Portland, Maine.
- Schreuder, D.R. (1997). Issues of inequity, health and water: reflections on the schools water action programmes in post-apartheid South Africa, *Health Education Research: Theory and Practice*, 12 (1) pp.101–108.
- Schreuder, D.R. (1999). Of Boeings and Bicycles – Stories of a Journey in/to Post-positivist Research. Unpublished paper, University of Stellenbosch.
- Schreuder, D.R., Reddy, C.P.S. & Le Grange, L.L.L. (1999). Science and sustainability: Exploring new perspectives in Science and Environmental education, *SA Journal of Education* 19 (2), pp.127–130.
- Schreuder, D.R., Reddy, C.P.S. & Le Grange, L. (2000) Windows on the Wild (South Africa): Science and Sustainability, in Jarnet, A., Jickling, A., Sauvé, L., Wals, A. & Clarkin, P. (Eds), *The Future of Environmental Education in a Postmodern World?* Whitehorse, Canada: Yukon College.
- Schreuder, D.R. & Waghid, Y. (2000). Can nuances of sustainable living contribute towards educational transformation?, *SA Journal of Education* 20 (2), pp.85–90.
- Singh, M.G. (1996). Reflective Teaching Practice, in Gilbert, R. (Ed.), *Studying Society and Environment*. South Yarra: Macmillan Education.