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**THE POLICY AND PRACTICE OF ENVIRONMENTAL  
EDUCATION IN SOUTH AFRICAN SCHOOLS**

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**The Policy and Practice of Environmental Education in South  
African Schools**

**by**

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of the requirement for the degree of**

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**DECLARATION**

**THE POLICY AND PRACTICE OF ENVIRONMENTAL  
EDUCATION IN SOUTH AFRICAN SCHOOLS**

Is my own work, that all sources used or quoted have been indicated and acknowledged by means of complete references, and that this mini-thesis was not previously submitted by me for a degree at another University.

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Signature

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Date

## DECLARATION

I, ...CHRISTINE JANE BRIDGET MASON..... as Language Editor, declare that I edited

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## SUMMARY

This study sought to investigate how teachers (educators) included Environmental Education in their practice in the context of the new curricula (RNCS) in South Africa. The study goes further to find out how the policy and practice of EE can be understood and explained in some schools and what are the provisions of the new curriculum policy on Environmental Education i.e. what does the new Environmental Education curriculum policy say to teachers about: subject matter, teaching and teaching approaches and teachers' conceptions and beliefs in South Africa.

A qualitative research study was undertaken where three educators, an HOD and Subject advisor were observed in practice and interviewed. A major finding is that teachers (educators) have begun to prepare their lessons according to the new policy. There is evidence that the teachers are striving to include EE as principle in their daily classroom practice.

There is also evidence that the teachers are grappling with the newly introduced approaches that encourage hands-on learning.

Although the teachers' practice seems to be changing in line with the environmental education policy, this study suggests that it is still influenced rather negatively by past experiences, beliefs, policy contradictions and overcrowding in the classrooms.

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## CHAPTER 1

### 1.1 Introduction

South Africa has gone through a complex process of transformation since abandoning apartheid as an official policy of the state and the dawn of a democratic dispensation in 1994. Education is one of the sectors which went through major rationalisation and transformation during the transition period following the 1994 democratic election in the country. Pampallis (1998) argues that, prior to 1994; the education system in South Africa was extremely complex, with about fifteen different education ministries and each with its own school models, its own funding formula and its own governance arrangements.

Clearly this chaotic situation needed to be transformed and rationalised and this had to be done in line with the new government's principles of democracy. As part of this agenda for transformation, in March 1997, the Ministry of Education launched a new Outcomes-Based Curriculum for the General Education and Training (GET) sector. This curriculum was to be gradually phased into all schools in South Africa up to the year 2005, hence its name Curriculum - 2005 (C-2005).

This new curriculum initiative effectively marked an end to the education system of the past and introduced a new, outcomes-based organising framework for teaching and learning. Curriculum 2005 required major changes to the teaching and learning processes. Firstly, the focus became different, with learning now focused on the development of skills, knowledge and values, as opposed to the over-emphasis on content and theory-based learning of the past. Secondly, C-2005 introduced changes to the terminology and concepts in use. For instance, subjects became 'Learning Areas' and subjects across the curriculum became a 'Phase Organiser', while a Lesson Plan became conceptualised as 'learning experience'. The change of the old terminology to the new was an attempt to emphasise the holistic approach for which the new concepts supposedly stood. For example, unlike subjects in the previous dispensation, learning areas now

attempt to cover vastly integrated subjects in order to build dynamic and holistic knowledge and skills (Dept. Education, 1996). A notable shift regarding the teaching and learning of subject matter was around the new concept of Phase Organisers. The Phase Organisers became the tools by which the outcomes were to be grouped for planning purposes. Environmental Learning was identified as one of the Phase Organisers for the GET curriculum, which meant that environmental learning now had to be offered within the learning experiences of every learning area in the new C-2005. Similarly, there were other Phase Organisers which were identified to complement environmental learning, such as Society, Entrepreneurship, Personal Development, and Health and Safety. Environment as a Phase Organiser therefore became a vehicle for exploring Environmental Education issues in the new curriculum dispensation, unlike the old system, where environmental issues were covered in a specific subject called 'Environmental Studies'. This critical distinction has given rise to the present study.

In this study, I seek to understand what these changes mean in practice; that is, what they mean for the teaching and learning of Environmental Education in primary schools. How then does the teaching and learning of Environmental Education look in the many primary school classrooms of South Africa? For the purposes of my study, I explore the teaching and learning of Environmental Education in a section of schools which fall within the province of North West.

## **1.2 Background**

The North West province is one of the nine provinces of South Africa. It is located in the North West of South Africa and shares a border with a neighbouring country, Botswana. The entire province was formerly known as Bophuthatswana, one of the so-called independent homelands of South Africa.

Environmental Education gradually appeared as Environmental Studies in Bophuthatswana only in the 1980's, and was taught only in primary schools. Prior

to 1986, the number of trained Environmental Education teachers had always been low, partly because Environmental Studies was a relatively new subject. From 1986 onwards and only after the intervention of government officials, the Bophuthatswana National Parks and University of Bophuthatswana academics, the number of the teachers began to progressively increase. The intervention ensued after the results of a survey (done by the National Parks), which established that the levels of knowledge about environment in schools and community was indeed very low (Shongwe, 1992). Bophuthatswana National Parks subsequently organised nature clubs, called Lengau, which unfortunately were largely ignored by the schools and the community. The National Parks further initiated collaboration with the then Bophuthatswana government and the former University of Bophuthatswana on teacher training in Environmental Studies. By 1986, 16 teachers had been trained in Colleges of Education (COE). This number increased to 38 in 1987, to 320 in 1988, and reached peak levels of 929 and 884 by 1991 and 1992 respectively (Shongwe, 1992). In many ways, this was the pattern across many of the homelands of South Africa prior to the 1994 dispensation. These processes were interrupted by the broader political changes of 1994, and the incorporation of former homelands into a unified Republic of South Africa.

The new C-2005 and its now revised and streamlined version called the Revised National Curriculum Statement brought in a new approach to Environmental Education in schools across South Africa. The focus would now be on Environmental Learning across the entire curriculum spectrum and not only in one subject area called 'Environmental Studies/Education' which is a significant change indeed! If this new curriculum policy on Environmental Education were to be successful, the provision of Environmental Education in schools would look very different from what it used to be prior to the new dispensation.

### **1.3 Rationale**

I was drawn to this study by a number of personal drivers. As a school manager entrusted with the responsibility of supervising and implementing the Environmental Education (EE) policy at school level, I am privileged to study the continuous struggles of the teachers at school while they attempt to include environmental education in their practice. Based on limited observations in my own school, I became interested in finding out what the bigger picture looked like in respect of these struggles by the teachers engaged in teaching and learning of EE in schools. I became interested in exploring how primary school teachers make sense of this new conceptualisation of Environmental Education and how the learning experiences were organised and presented in each school and classroom. Specifically, my research sought to understand the policy and practice of Environmental Education in a section of South African primary schools located in the North West Province (formerly Bophuthatswana schools); how the new curriculum policy on Environmental Education influences teachers' perceptions and presentation of Environment as a "cross-curricular" principle in the various lessons presented. How do teachers include Environmental Education in their day-to-day practice?

### **1.4 RESEARCH QUESTIONS**

To address the research problems identified above, I investigated the following three major questions:

questions of the study:

1.4.1 What are the provisions of the new curriculum policy on Environmental Education i.e. what does the new Environmental Education curriculum policy say to teachers about:

1.4.1.1 Subject matter

1.4.1.2 Teaching and teaching approaches

1.4.1.3 Teachers conceptions and beliefs

1.4.2 How do the teachers include Environmental Education in their daily classroom practice with reference to the new RNCS?

1.4.3 How can the policy and practice of Environmental Education in some of the schools in South African be understood and/or explained?

### **1.5 The Significance of the study**

The environment is a subject of global discussion and concern and it is important that any aim to improve the vehicle (schooling) of capacity building in environmental issues be investigated. This study provides the basis of additional studies in the sense that it exposes the presently changing practices of teachers as per understanding of policy, personal beliefs and other factors which exist in developing countries like South Africa. Through this study, I intend to contribute towards the development of teachers' pedagogic knowledge and practice, specifically in Environmental Education, in the sense that the study serves as a reflection of their practice. The study also provides feedback to the government and policy makers about the performance of the new policies, and specifically Environmental Education policy.

## CHAPTER 2

### LITERATURE REVIEW

#### 2.1 Introduction

This chapter reflects on the literature by drawing principally on the research dealing with policy implementation, especially Environmental Education policy, in the schools. I chose to concentrate on general research on policy implementation in order to seek new interpretations and deeper understandings of the relationship between educational policy and classroom practice, with special attention to Environmental Education. My review is guided by the research questions in the study, which seeks to investigate how South African teachers, particularly those in the North West province, include Environmental Education in their practice, and how they make sense of the new curriculum provisions in Environmental Education.

The study is informed specifically by several bodies of literature, which helped to locate the study and its conceptual frameworks. Firstly, I reviewed the literature on the challenges and issues around the teaching and learning of Environmental Education in some of the countries worldwide and in South Africa with specific focus to the new curriculum, RNCS. Thereafter I look at the developments on the teaching of EE in those countries and link them South African developments in the same field. I further take a look at the literature on relation between policy and practice, with a particular focus on education policy. I conclude this chapter by outlining my conceptual framework.

#### 2.2 Challenges and developments of the teaching and learning of EE around the world.

I randomly sampled the following countries: England, Slovenia and Hong Kong to help get an idea of how other countries grapple with the implementation of EE policy and how their state of practice of EE can be explained.

## **2.2.1 Teaching and Learning of EE in:**

### **2.2.1.1 England**

Environmental Education was first reorganized in England with the introduction of National Curriculum for 5-16 year olds in 1988 (Grace M & Sharp J, 2000). Environmental Education was designated a non-statutory, cross-curricular theme and accompanying documents (NCC, 1990) urged schools to consider EE from sociological, economic, political, technological, aesthetic, ethical and spiritual perspectives. Teaching environmental matters through the national curriculum (QCA, 1996) remains the latest official guidance on EE in English schools. It re-emphasizes the importance of EE rather than in the past where it was just a subject with no special attachments. It lays down its existence as a cross-curricular theme stating, "It is for the schools to decide how to teach environmental matters through National Curriculum and how far to go beyond statutory obligation (QCA, 1996) This was to address the following problems that persists in the teaching and learning of EE: lack of time, resources, appropriate training for teachers and expertise or motivation (Grayford, 1991).

### **2.2.1.2 Slovenia**

Palmer, (1999) indicates that the distinctive education system and curriculum of Slovenia pre-date independence in 1991. In 1983 EE was purposely included within the country's programme of elementary and secondary education. According to Palmer, (1999) in Slovenia, EE is not a separate subject in primary schools, but some of its elements are integrated in different broad subject areas such as science and social studies.

### **2.2.1.3 Hong Kong**

Similarly, according to Lee, (2000), Hong Kong like England took EE as non-statutory in their curriculum, meaning EE practice was not of priority and teachers were independently using their non-developed EE knowledge. This picture was changed when in 1992 it was allocated status of non-compulsory cross-curricular status in the national curriculum. The guidelines stipulated that EE consists of



three interrelated components, education about the environment, education in or with environment and education for the environment (Robottom 1987; Gough 1989; Fien 1993). The guidelines suggest that EE be implemented through both the formal and informal curricular and in a cross-curricular manner (Lee, 2000).

There are few issues that address the nature of EE teaching and learning in these countries. England and Hong Kong's teaching and learning of EE evolved from non-compulsory and non-statutory status to non-statutory cross-curricular status. The understanding is that all though EE is regarded as a cross-curricular theme it is not compulsory and its practice is not regulative within the policy. The problems emerging are that of lack of training of teachers and resources for such teaching among others. The expertise on the side of the teachers is thus low. Slovenia on the other hand has different set-up where although EE is regarded as cross-curricular theme it is only integrated with few subjects, such as science and social studies. This picture on EE is definitely different from the South African one.

### **2.3 The present and past Environmental Education policy and practice in South Africa.**

The understanding derived from an article entitled '*Patterns of abstraction in Environmental Education*' [O'Donoghue & Russo (2004)], is that previously most of the environmental activities took place outside of formal schooling. In the 1970's, Environmental Education was confined to Centres in Natural Reserves, which were also regionalised. Poverty levels in black communities meant that some schools were unable to visit such centers however. A programme was established in order to address the environmental issues in the Southern African region, known as the Southern African Development Community Regional Environmental Education Programme (SADC REEP). Furthermore the Umgeni Valley Project was one of the early Environmental Education field centres in

South Africa. Share-Net was formed as part SADC REEP, with the intention being to develop Environmental Education material.

In my introduction, it was indicated that the South African curriculum has been evolving since 1994 and C-2005 has been modified and streamlined to become the National Curriculum Statement. The new curriculum is underpinned by principles which are derived from the South African Constitution. Environment is one of these principles, meaning that it is a theme across the curriculum. At all levels of South African school education, (GET and FET), and in every learning area (subject), environmental issues are to be addressed through this theme.

Notable materials and methods which were produced and advocated through these programmes are on Share-Net and includes:

- *Hands-on field guides*, associated fieldwork kits and information materials for use in exploring local environments and environmental issues.
- *Enviro-Picture-Building materials*, for introducing language and images for environmental learning activities.
- *Indigenous Knowledge materials*, bringing forth an earlier capital of sustaining ways of knowing and doing things in African environments.
- *A Schools and Sustainability Tool Kit with a Year of Special Days* calendar, for Environmental Education and sustainable management activities.

In 2004, the South African National Environmental Education Project produced the Air Quality Kit, Health and Sanitation Pack and a Democracy Education Pack called *Hadeba Island*, in response to Outcomes Based-Education (RNCS). The NEEP further produced a series of policy interpretation guidebooks for the RNCS to help educators to interpret 'environment' in eight Learning Areas Statements. The purpose of this was also to develop Lesson Plans which support environmental learning through the National Curriculum Statement. The new policy, the RNCS, expects teachers to facilitate and intervene between the subject-matter learning and the learners, by involving learners in hands-on learning, such as investigation and action research. The learners are expected to

have a feel for the environment; the approach should be practical and learner-centred. The teachers are occasionally taken for two to four day's workshops and are requested to practice according to the prescribed policy. Course instructors and monitors state that, when they visit schools, they expect to find the teachers practicing as required. Among these changes and developments, the question still remains on how effective are the current practices in South African schools.

The implementation of the EE policy in South Africa differs with that of other countries in the sense that in South African situation, EE is mainly a principle across the curriculum, meaning that it is compulsory for the teachers to integrate EE in all subjects. This is unlike in the said countries where EE is regarded as non-statutory cross-curricular theme and is also integrated in few subjects.

It will be interesting at this point to explore the literature on EE policy and practice in order to develop some understanding of why the policy and practice of EE in some of these countries is as it is.

#### **2.4 Environmental Education Policy and Practice**

In the introduction of this chapter, I mentioned that Environmental Education policy in most cases is not an isolated entity or document. It is embedded within the school education and other policies. As in the case of South African Environmental Management Policy, (Department of Environment and Tourism's document 1998), Environmental Education is addressed as capacity building. It also considers school education as one of the major vehicles to carry environmental awareness to society. Therefore, in most cases where we look at Environmental Education and its practice, we are compelled to address that in terms of entire Educational Policy or curriculum at school level.

The nature of Environmental Education as being an 'integrating' concept appears to have been bought by most countries. In the examples of South Africa, England, Hong Kong, Cyprus and Slovenia, Environmental Education as a cross-curricular aspect, or as a subject in their curricula, has been integrated. The

South African policy will be discussed further later in this document. Summers et al (2003) noted in their study, *Teaching Sustainable Development in Primary Schools*, that England's curriculum was revised in 2000 and, now known as the Revised National Curriculum and Education for Sustainable Development, has been made a cross-curricular subject. Cyprus also included Environmental Education in their curriculum as 'Education for Sustainable Development'. In the seminar they attended, Barraza et al (2003) mention that there was no agreement as to whether to opt for Environmental Education, or for Education for Sustainable Development, as an appropriate name. The problem is not the existence of a wide range of concepts of Environmental Education. Rather, it is the fact that there is often a wide gap between discourse and practice, and this leads to confusion and loss of effectiveness (Sauve', 1999)

Nevertheless, Van Petegem et al (2005) believe that the implementation of Environmental Education is a complex, unpredictable and time-consuming process which, despite the introduction of cross-curricular attainment targets, is often ignored by teacher training curricula. One of the problems they cite is that Environmental Education is usually restricted to ecological topics in biology and geography. They raise a critical statement that the translation of new approaches of Environmental Education into practice often does not happen.

The literature gives us an idea as to how teachers generally interact with education policy, because it actually reflects the way they understand and interpret Environmental Education policy. It is imperative because the South African Environmental Education policy is embedded in the educational policy, the National Curriculum Statement. Researchers do not put teacher's learning from policy in clear perspective. Rather, they consider it from different perspectives, addressing the control questions of how teachers might learn from policies and what they might need to learn in order to implement them. For instance, much of the policy implementation literature focuses on external factors in teachers' environments, which shape their response to policy. These include aspects such as the structure of schooling (Meyer & Ronsan, 1978; Weick, 1976);

the relationship between policy makers and practitioners (Firestone, 1989; McLaughlin, 1990); the nature of policymakers' and practitioners' work (Lipsky, 1980); and the conditions and circumstances in which practitioners operate (Johnson & O'Connor, 1979; Liberman, 1982; Schwille, 1983). The literature is helpful, in that it suggests that policies and practice are not tightly linked and that "policy as implemented often seems different from policy adopted" (Baier, March & Sactren, 1988, P.150). A few policy researchers have examined policy/practice relationship as being one which individual practitioners construct. Contrary to this is Vulliamy et al, (2004), in another paper arising from York-Waikato, New Zealand, where they indicated that teachers felt that such prescriptions concerning pedagogy enhanced their professionalism, despite the fact that it reduced their autonomy in the classroom. They had developed new understanding as to how to achieve their underlying professional values. They have, in turn, become the base for a new professionalism, which is a synthesis of past and present ideologies. What we are learning from these authors is that, notwithstanding the fact that teachers' professionalism is improved by prescribed policy, the fact remains that such prescriptions compromise their autonomy in the classroom and that may tend to minimise their (teachers) effectiveness.

Contingency theory (Works of Huberman) indicated that teachers make decisions based on the immediate and specific challenges presented in the course of teaching or planning, rather than on fixed, pre-determined long-term courses of action that are resolutely implemented as planned. The authors appear to agree that policy practice or interpretation and implementation is the prerogative of teachers. Weiss & Cohen, (1991), suggested that policy should be regarded as individual construction, meaning that it takes the teacher's external and internal influences, such as his/her beliefs, conceptions, the environment of practice and the level of training, to make sense of prescribed policy.

It is with this broad understanding of educational policy that I approached Environmental Education Policy in South Africa.

## **2.5 Education Policy and its implementation**

Some scholars of policy have suggested that policy reforms designed to improve the quality of schooling have been more rhetorical than substantive in their impact in classrooms and schools, thus exposing the misalignment between policy aims and practice. Jansen (2001a, 2001b) invokes the construct of 'political symbolism' to suggest that the incapability of policy is a direct result of the over-investment of the state in the political symbolism of policy rather than in its practical implementation. It is symbolic in the sense that the aim of the policy is to create a vision of the ideal situation towards which the policy makers are working (de Clercq 1997, 128). Jansen (2002: 199) therefore takes the view that, despite unprecedented investments in policymaking and policy production in South Africa, there appears to be very little change in the daily routines of schools and classrooms of the nation. Supporting this view, Garn (1999) posits that other research on the implementation of policy indicates that policy ideas rarely translate smoothly into classroom practice, and that those responsible for implementation often undermine or alter policy intentions. Elmore & Sykes (1992) share the same view about the classroom practice and report that researchers revealed that innovations were seldom implemented in the classroom in exactly the way they had been intended by the developers. It is this kind of situation which this study would like to investigate, with reference to the teaching of Environmental Education under the policy of the Revised National Curriculum Statement (RNCS). Jansen reported his view of little change in the daily routines of school and classroom, even though the policy was in place, in 2001, before the new Environmental Education within the context of RNCS was introduced in South Africa. Whether the picture has changed to date remains to be established by this study.

Policies and practice are not tightly linked and "policy as implemented often seems different from policy adopted" (Baier, March & Sactren, 1988, P.150). Apart from Elmore & Sykes, (1992) who argue that innovations were seldom implemented exactly in the classroom, other studies point towards low individual

practitioners' (teachers) perceptions of policies as ways in which policies play out (Cohen & March 1972). In the educational evaluations and policy analysis [EEPA], (1990) and Mc Laughlin, (1987) it is suggested that how policies are attended to and how they are received are shaped by practitioners' existing beliefs and capacities. Concurring with this perspective, Weiss & Cohen, (1991), who suggested that at the end it appears that the practice is informed by the teacher and other factors, thus becoming an individual construction. Indeed Cohen & March (1972) observed more than thirty years ago that people assign meaning and make their own interpretations of policy messages. They use own experiences and knowledge to construct meaning out of a given policy. Therefore, at the end of the whole process, the policy adopted by policy makers may not be the same as the policy implemented.

McLaughling (1998:73) maintains that implementation signals mutual adaptation, in the sense that policy and local realities undergo mutual adaptation. Pressman & Wildavsky (1970) suggested in their research on complexities of policy implementation, that implementers did not always do as they were told; nor did they always act to maximise the policy objectives, but responded in what often seemed quite idiosyncratic, frustratingly unpredictable, if not downright resistant, ways. Fullan (2001b), contends that changes in understanding and beliefs, to which he refers as 'first principles', are the foundation of achieving sustainable reform. Allington (2000) also supports the suggestion that the implementation of educational policies entails translation of the policy by individual teachers.

This review of the literature is important because it helps us understand the history, realities, nature and difficulties which are encountered in the implementation of policies, including Environmental Education policy. In view of the foregoing factors, which help to shape policy implementation in the classroom, this study will focus on the following set of issue as identified in this review.

- Teachers' perceptions and beliefs about the policy
- Local policies and national policy provisions
- Teachers' individual constructions of policy in their classrooms
- Teachers' knowledge of the policy.
- Teachers' practice as policy adaptation

McLaughlin (1998:72) further identified two critical variables: capacity and will to change as vital to understanding change. Hariparsad (2004) offers a very interesting example in South Africa, where the policy is interpreted, transformed or reinvented between one bureaucracy level and another and, in this case, from national to provincial to district to school level, and finally to classroom level – four bureaucratic levels of interpretation. Hariparsad (2004) indicates that if one follows the above re-invention logic, the implication is that the policy interpreted by the classroom teacher will be substantially different from that of the policy-maker at national level: political will and local capacity will play themselves out here, because will and capacity are not neutral concepts.

Almost all researchers and scholars attach the nature or outcome of implementation to the teachers in the classroom and the factors which influence their practice. Hariparsad (2004) argues that, although she agrees with local influence on teacher practice, she does not regard teachers as a homogenous group who respond to change in uniform ways. This literature ensures that the sampling of files of data should consider differences in localities, so creating a proposition that policy is not only an individual construct as attached to teachers, but can also be an institutional construct, or even district to province, as Hariparsad (2004) suggested.

### **2.5.1 Political Factors/Monopoly**

Policy/curriculum has become a battleground. It is no longer an issue of educational ideologies: disciplinary vs. interdisciplinary studies, tradition vs. 'progressivism', content vs. procedures, but of competing political ideologies: academia vs. egalitarianism, vocationalism/instrumentalism vs. liberalism – and



especially of agencies vying with each other for control of the policy/curriculum, advocates of external political control pressing their claims more forcibly and vociferously than ever, irrespective of the experience of the teachers themselves (M. Dowry & A.V. Kelly. 1986, 182).

### **2.5.2 Teacher beliefs and perceptions**

Broadfoot P. et al, (1988), argue that teachers' practice will not change unless teacher conceptions (beliefs, ideas and attitudes) about teaching are taken into account. Beliefs and attitudes are rooted in national tradition, as well as the realities of the classrooms contexts in which teachers work. 'If policy attempts to change teacher's practice without due regard for those conceptions of professional responsibility which are deeply rooted in particular national traditions as well as more general classroom realities, it will result in a lowering of morale and decreased effectiveness.' Teachers' practice is mostly based on their beliefs about teaching and learning. Beliefs are moulded by values and cultural understanding (Ken Harley et al, 1999).

### **2.5.3 Teachers' demands - 'pressure of expectation'**

Ken Harley et al, (1999) argue that teachers are subject to varied and conflicting pressures and expectations and that these constrain the range of teaching styles available to teachers. The complexities of these demands are also echoed by (Louw 1991:24), that teachers must: guide and aid the pupils in discovering the full spectrum of their abilities and options; synchronize the pupils' talents and possibilities in order for them to strengthen each other; utilise the pupils' innate enthusiasm, imagination and creativity as points of departure in designing the formal teaching situation in order to strengthen and explain these attitudes and qualities; aid and support pupils in mastering learning contents, which are meaningful, worth the effort and basic to a future existence as an adult.

#### 2.5.4 Teacher training

Teacher practice is influenced by lack of time, lack of appropriate resources, lack of appropriate training, lack of expertise or lack of motivation among some teachers (Gayford, 1991). In their research of the topic 'Level of Teacher Preparation and Implementation of Environmental Education: Mandated and Non-mandated Environmental Environment Teacher Preparation States', (Plevyak L.H. et al, 2001) discovered teachers who were involved in pre-service EE preparation delivered a higher and better performance than those who were not prepared. McDonnell and Elmore (1987) also suggest that practitioners may need to learn to build their capacity in order to carry out policies. Van Petegen et al (2005) raise interesting points in their article ('Implementing Environmental Education in pre-service teacher training') - that the implementation or practice of Environmental Education depends on the following: participation engagement, instructor credibility, intention, functionality, self-efficacy and school climate. '*Participant engagement*' means that educational professionals – teachers, department heads, non-teaching staff and students - are the key players in Environmental Education. Fullan (1994) suggested that classic implementation instruments, such as setting goals, writing out plans, developing methods and evaluation, do not always suffice for implementation of Environmental Education purposes. By simply following the guidelines, the chance of achieving the objective is minimal. Very important is the involvement and motivation of the participating individuals (Lagerweij & Lagerweij-Voogt, 2004). *Instructional Credibility* refers to the fact that Environmental Education should be introduced in teacher training by credible leaders. Credibility, in a sense, is derived from insight into environmental issues and an overview of entire teacher education - in this case, Environmental Education.

*Intention* refers to the extent to which participants are committed to Environmental Education, and development of an environmental care system at the institution. The intention of environmentally sound measures and decision-making educational objectives increases the chance of genuine engagement. Personal goals are fundamental for implementation on a daily basis.

*Functionality* refers to the fact that Environmental Education should be structurally embedded in an initial teacher training programme and in curricula, rather than being an incidental item.

*Self-efficacy* refers to the fact that teachers need to feel comfortable in the process of developing new cognitive approach frameworks (Winther et al., 2002). In a later phase, when teachers feel more comfortable with subjects, they can try out other methods.

*School climate* refers to the fact that, while educators try to make a difference with individual students, they must also strive towards a school-wide change (Van den Berg & Vandenberghe, 1999)

### **2.5.5 Teachers' attitudes/receptivity to change**

In many countries, a move is being made to bring about sound changes in policy, but this has not gone without challenges and hindrances. Teachers' attitudes can be crucial in determining the success and the failure of an innovation (Brown and McIntyre 1982). However, receptivity to change is critical to successful innovation – specifically because innovations differ in their characteristics and pose various degrees of benefit or threat to an individual (Giacquinta 1975). Age, sex and experience are also factors affecting teacher receptivity to change (Bridges and Reynolds 1968, Kelleher 1981). Insecurity and active or passive resistance may slow down the process. However, these feelings are to be preferred over total apathy, and can be seen as necessary elements in a development process. Individual emotions and perceptions are difficult to influence, but they play a crucial role in the implementation process or practice (Hargreaves, 1998).

In conclusion, I would like to highlight the themes which have emerged from this review. I have discovered that the implementation or practice of policy depends on various factors as indicated and discussed herein. Policy, in the process of implementation, becomes an individual construct (Weiss & Cohen, 1991), because educators use their beliefs, conceptions, experience and the

background of the school to implement a working product. Huberman,s 'Contingency' theory also emphasises that teachers make decisions based on the immediate and specific challenges presented in the course of teaching. In turn, the practice should not be vague - it should be directed by policy so that it can address the national political, social and economic goals of a particular nation and in so doing, become policy adaptation.

## **2.6 Conceptual Framework**

My intention in reviewing literature on policy and practice, as well as educational change, was to provide the conceptual platform to build the theoretical framework for this study. This study sought to address three policy-specific questions regarding teacher's understanding and interpretation of policy: how do the teacher's practice of Environmental Education in the classroom, and the impact of their beliefs and conceptions on the practice? This framework is founded on the notion that the maximisation of achievement of outcomes of the policy process is facilitated by understanding of policy and content, adaptation to the process of change and autonomous teachers' practice.

The study represents a theoretical experiment, designed to explain Environmental Education policy implementation/practice in South African primary schools by using the construct of Contingency theory. The conceptual framework of Contingency theory recognises different factors which influence and shape the practice of the policy, such as beliefs, conceptions, knowledge (policy and subject), resources and location of the institution.

There are various approaches for which one can opt in the formulation of a conceptual framework. In this study, my conceptual framework has been extracted from the literature. Having reviewed some of the critical literature in the area of policy and practice from authors and scholars as reflected in the literature review, I am provided with various concepts around which a conceptual framework can be built, such as policy as an instrument in teacher professional upliftment. This is borne out by a statement made by Osborne et al. (2000) that,

although prescribed policy restricts mobility of teacher and classroom autonomy, the teacher's professional status is enhanced. I had the option of anchoring my argument to this statement, but I think it is important to focus on a concept or theory which is more specific as to how teachers interact with policy in the classroom. Another possibility is to examine the implication of classroom autonomy in the learning of Environmental Education (Falk, 2005). This could be pursued by examining the relationship between Environmental Education, learners and teachers, and the practice which looks at learner responses and their roles in the study of Environmental Education. In this case, however, my concentration is entirely on how Environmental Education appears in the teachers' practice, and not the outcome of the practice. Another consideration is the relationship between policy makers and practitioners (Firestone, 1989; McLaughlin, 1990). Using this as a lens in my study, I could have dwelled on the policy-making process and its influences.

There is a theory which frequently appears within the literature which explains the teacher practice - Contingency theory. I thought it was an ideal theory for my study since I sought to understand teachers' practices. My framework has three major themes: Practice as policy adaptation (Baier, March & Sactren, 1988, P. 150); Policy implemented versus policy adopted (Ken Harley et al, 1999), Policy as individual construction (Weiss & Cohen, 1991) and the Contingency theory (Works of Huberman) - that teachers make decisions based on the immediate and specific challenges presented in the course of teaching or planning, rather than on fixed, pre-determined long-term courses of action which are resolutely implemented as planned. I think the point made is that the implementation or the practice of the prescribed policy will, in most cases, depend upon factors affecting the educators. Some of the factors have already been mentioned, such as attitudes, beliefs and training. Ken Harley et al, (1999) indicated that there is a clear distinction between the prescribed policy and the practice. In this study, it will be interesting to investigate the extent to which teachers in South Africa

influence or shape the practice of Environmental Education policy. This can be done in the form of lesson observation and talking to them.

The Environmental Education in Primary Schools study done by Shongwe D. P, in 1992 in former Bophuthatswana refers: 'A case study in curriculum implementation'. The approach to the study was critical, evaluative and reflective, drawing upon both historical perspectives and the analysis of empirical data collected during the research process. He apparently discovered that there was a clear sense of purpose, a strong participatory approach to policy formulation and decision-making, and elements of the practice of critical evaluation by environmental educators. Shongwe had a good approach in the sense that it was critical, evaluative and reflective. But he failed to reflect the actual practice of Environmental Education at primary school at that time. He actually focused on the level where Environmental Education development was focusing – colleges - and in the meantime schools were 'doing their own thing'. I think his conceptual framework was not direct, which is why he did not report on what was actually happening at primary school. It appears that he did not observe lessons, which could be the reason why his report is outside of the school system. In my own study, direct themes have maintained the focus. Torr R. D did another study in 1996, the topic being transforming school policy and practice: a case study of a participant observer of an Environmental Education teacher at St Francis Adult Education Centre. His aim was to review and gain an understanding of the kinds of changes taking place in a pilot project of education reform in the Western Cape.

The study describes the implications for learning programme development for Environmental Education. Torr did a study, which is relevant to the proposed study, but this was some years ago, before the current situation became apparent. He focused mainly on adult schools and did not address the policy and practice in mainstream education. His conceptual framework looked thin because he did not base his study on a specific theory. I have adopted Contingency theory (Works of Huberman) as a basis for determining the type of data I should

collect, and the school level at which it should be collected. Arising from the conceptual framework, the study posits two propositions:

Proposition One: *Teachers may find that traditional way of teaching Environmental Education holds greater efficacy in classrooms than new approaches required by the new policy.*

Proposition Two: *Teachers may not have a thorough understanding of Environmental Education knowledge even if they are willing to implement as a cross curricular principle in the new curriculum.*

### **2.6.1 Themes of the conceptual framework**

#### **2.6.1.2 Contingency theory (Works of Huberman)**

The study was based on the Contingency theory (Works of Huberman): that educators' practices surpass the symbolic, regulative and procedural functions of the policy. I tried to indicate different perspectives of this theory, which required me to go into the classroom environment to observe educators practicing or teaching. I also interviewed the teachers on their understanding and interpretation of the Environmental Education policy. In other words, the theory determined the data on which I should focus. There are other themes which emerged from the literature to support the Contingency theory and which also helped to appropriately collect relevant data and analysis.

#### **2.6.1.3 Policy as individual construction. (Weiss & Cohen, 1991)**

The indication from the Contingency theory and the literature is that teachers in their practice are influenced by various factors already mentioned. Ultimately it appears that the practice is informed by both the teacher and other factors, so becoming individual construct (Weiss & Cohen, 1991). Concurring with Weiss & Cohen are March, Ohen & Cohen (1972), when they stated that people assign meaning to, and make their own interpretations of, policy messages. They use own experience and knowledge to construct meaning out of a given policy. In this

study, one of the questions I pursued is how individual teachers construct meaning from the new Environmental Education policy. That is, what do the teachers understand about the new policy? What are their perceptions of the new policy? How do they make sense of their practices in the light of the new policy?

#### **2.6.1.4 Practice as policy adaptation (Baier, March & Sactren, 1988, P.150)**

This theme suggested that, for the teachers to practice there should be a form of programme which will bring commonality to their practice, throughout a country - or a system at least. I therefore think that, in many ways, practice is directed by policy, while still acknowledging that other factors may deter it from being practiced literally. The procedural function of policy refers to instructions and guidelines, explaining who is going to take action and through which structures and processes such action should be taken (Ken Harley et al. 1999). Using this lens, I ask the following: What is the alignment between what teachers do and what is expected in the policy? To what extent do the practices of the three teachers look alike, or different? We know now what the RNCS policy instructs the teachers to include Environmental Education, which was to be established by this study.

#### **2.6.1.5 Policy implemented versus policy adopted.**

Previously mentioned is the fact that the teacher in the new dispensation is regarded as a self-directed professional with a strong sense of responsibility and commitment, and the ability to constantly reflect on and improve his/her practice. In his/her practice, there are factors within the teaching environment and beliefs, ideas and attitudes which decide the nature of practice. Ken Harley et al, 1999, indicate that, if policy attempts to change teacher's practice without due regard to those conceptions of professional responsibility, it will result in a lowering of morale and decreased effectiveness. Therefore, at the end of the whole process, the policy adopted by policy makers may not be the same as the real implemented policy. Based on these deliberations and observations, I tried to find out from the practice of three teachers the following: To what extent do their



beliefs, conceptions, ideas and classroom situation influence their practice? How different or similar is their practice in this regard?

The study subjects these themes and propositions to empirical and theoretical verification, using the data from two case study reports.

## CHAPTER 3

### 3.1 Introduction

I have advanced a broader conceptual framework for this study in the previous chapter and, in this chapter; I describe my role as a qualitative inquirer; an outsider and a non-participant researcher, intending to capture the understanding and practices of two teachers of Environmental Education in relation to the new Revised National Curriculum Statement (RNCS) in South Africa.

I started with the description and explanation of my strategies for obtaining data which would cast new light on the relationship between Environmental Education policy and its practice, and specifically to respond to the three research questions which provided the script of this study.

*1. What are the provisions of the new curriculum policy on Environmental Education i.e. what does the new Environmental Education curriculum policy says to teachers about:*

*1.1 Subject matter*

*1.2 Teaching and teaching approaches*

*1.3 Teachers conceptions and beliefs*

*2. How do the teachers include Environmental Education in their daily classroom practice with reference to the new RNCS?*

*3. How can the policy and practice of Environmental Education in some of the schools in South African be understood and/or explained?*

### 3.2 Methodological approaches used:

The methodology for which I opted was as a result of the research literature already established. The research questions which I seek to answer through this study requires me to give an in-depth description of the environmental policy and its practice in South African primary schools. Hariparsad (2004) contended that schools are educational institutions and the individuals, including teachers, who are involved in and with them are a heterogeneous group of beings having

different human attributes, abilities, aptitudes, aims, ideologies, values, perspectives, needs and experiences.

Since my study intention is to capture this heterogeneity from each teacher's perspective, a suitable methodology would be qualitative. Qualitative methodology enables the researcher to consider experiences from an informant's perspectives (Bogdan and Biklen, 1982).

The purpose of this study aligns perfectly with this methodological perspective, where I expect to obtain the views and perspectives of the teachers as key informants, i.e. what they say, understand and do. According to McMillan and Schumacher, (2001, 143), the researcher using qualitative method attempts to give detailed descriptions of the situation, events, people, interactions, observed behaviour, views of the people about their experience, attitudes, beliefs, and thoughts. This view regarding the qualitative method is corroborated by Tuckman (1988), in his contention that this method attempts primarily to describe, and secondarily to analyse. I chose this method as the most appropriate to provide a detailed description of the policy and practices of Environmental Education in selected primary schools in the North West province in South Africa.

Furthermore, according to Cresswell (1994), the qualitative approach enables the researcher to be on site and observe as to how informants derive meaning from practical interaction with the policy (of Environmental Education). This allowed me to draw references directly from the views of the participants, since this type of research is based on the belief that events cannot be understood unless one understands how they are perceived and interpreted by the people who participate in them. Had I chosen to use a quantitative method, I would have been unable to capture numerically the practice and understanding of policy of my co-researchers. The study investigates the policy and its influence on practice, in the real environment of the practitioners, i.e., the classroom. I also explored the perceptions of the teachers about Environmental Education policy and their interpretation of policy in the context of their own classroom practices. As an interpretative researcher, a characteristic of qualitative research (Bassegy, 1999) I focused on describing, interpreting and explaining what I heard, read and saw in

each teacher's practice, in the search for better understanding as to how beliefs translate into policy practice.

Hariparsad (2004) asserted that, according to the literature on case studies, there are a variety of positions and meanings taken by various authors (Basey, 1999). It is from this pool of ideas and perspectives that I adopted the McMillan and Schumacher (2001) ascription, that qualitative research uses a case study design - meaning that the data analysis focuses on one phenomenon which the researcher selects to study in depth, regardless of the number of sites or participants for the study. This resonates with my study, because I sought to understand the practice of environmental policy in particular, mindful of the fact that there are propositions which warrant research. A case study is unique and has the capacity for understanding complexity in particular contexts (Simons in Bassey 1999:36). These positive characteristics attracted me to this approach. I was mindful of the disadvantages, namely, the problem of generalising through a single case (Hariparsad 2004). Hopefully, this case study would result in a new and alternative understanding of the relationship between Environmental Education policy and practice in the context of educational change in South Africa.

The above discussion reflects why I chose a qualitative case study strategy to conduct this research study. It resonates with the rationale, the purpose and with the four research questions of my study. This is a case study of three teachers in primary schools of Temba District in the Eastern Region of North West Province, South Africa. The case study illustrates how these teachers present subjects and how they include Environmental Education in the process. It also illustrates their understanding of the policy and their beliefs and perceptions regarding Environmental Education.

To pursue my research goals, I have opted to use a qualitative case study approach, obtaining in-depth views and information about Environmental Education policy and practice in the context of the new C-2005 and its offshoot, RNCS. A Case Study is defined as "a specific instance that is frequently

designed to illustrate a more general principle” (Nisbet and Watt, 1994: 72). Through a case study approach, I explored an ‘instance in action’ (Adelma et al., 1980: 32). This region, as with schools in other former homelands, was subject to homeland education policies

### **3.3 Description of the Field**

The study was conducted in the Temba district in the Eastern Region of North West province in South Africa. North West province is one of the nine provinces which comprise South Africa. It was formerly known as Bophuthatswana, one of the homelands, which used to divide black people according to their ethnicity and race in the apartheid era. In all homelands, there was unique administration of departments, including the Department of Education. Each homeland had its own education system. There were four other rich, white-occupied territories known as provinces, which had their own, well-supported and well-resourced systems. From 1994, North West province evolved with the rest the provinces, in the sense that all provinces are now governed and administered by similar and centralised policies. The majority of this province is rural, known for poverty and for being under-resourced. Schools are mostly old buildings without libraries or laboratories. These are black communities, with variety of ethnic groups, including Tswana, Northern Sotho, Ndebele and Zulu. There is a high level of unemployment when compared with other urban and semi-urban areas. Other prevalent characteristics are the low level of literacy among old people and the high drop rate at high school level. Most of the youth cannot further their studies at university through lack of income. Few of these students obtain government or privately funded bursaries. After completion of their studies, they permanently reside in urban areas. I chose this part of South Africa because it has urban, semi-urban and rural areas within a reachable perimeter. That is, between an urban area and the nearest semi-urban is about 70km, and 80km to the nearest rural area. These areas are administered by Temba district (Department of Education). Coverage of these areas will reveal other propositions and factors which may justify some teacher practices. I concentrated on the Eastern Region

because, based on the Provincial Administration perspective, all regions are operating as directed by Provincial Government, which derives its governance from Central Government. It is assumed that all of the regions have common operations as required by the policies, as do the nine provinces. It is anticipated that the provinces, based on the provision from Central Government, have common practices. In that regard, I chose a region which was easily accessible. The same applies to the district - accessibility was taken into consideration. In choosing schools, I made sure that I chose one from each category, that is, rural, semi-urban and urban. Since the objective of this study was to collect data based on what the teachers were saying, doing and understanding in the practice of Environmental Education, different locations of school would reveal what were the actual contributing factors in the understanding and practicing of Environmental Education. To gain access in these locations, I wrote a letter to the district office, requesting permission to conduct my study in their schools. The district manager requested that I explain the purpose of my study, granted permission and signed the letter in my presence. He then referred me to one of juniors who coordinates and supports schools in general – the Institution Support Coordinator (formerly known as a ‘circuit manager’). I complied with the district manager’s request that I supply him with a list of schools in which I proposed to conduct the research and I complied after obtaining the relevant Principals’ permission. To gain entrance to selected schools, I wrote letters requesting permission from the Principals, including statements regarding their teachers’ position and rights in the study, as required by the University of Pretoria Research Ethics. I visited all schools myself and delivered the letters to the principals. At school A (Seka), we had a lengthy discussion with the principal before I was granted permission. I then handed him a letter of request. A bone of contention was that, as principal, he had an obligation to ensure that his teachers are protected from any kind of danger within the school. She called the teachers ‘mostly foundation phase’ and I was requested to explain the study again. Most of the teachers claimed that they didn’t have enough time to be involved in the study. Ms Loka, who is teaching grade 3, agreed to work with me. We arranged

that we would meet in two day's time, when I would give her a pre-observation schedule to complete. I went to school B (Mola) and the principal was not there. I had to wait for about an hour before he came. We happen to know each other since we hold the same positions. I handed him a letter of request. I explained to him my reason for the visit and he indicated that he needed to talk to the teachers first and that I should explain myself to them as well because he assured me that they would definitely ask questions. He called them and I explained to them the purpose and nature/form of my study. The same response as at school A (Seka) prevailed, the teachers claimed lack of time because they were busy doing RNCS assessments, which were giving them problems, they claimed. Ms Lele, who is also teaching grade 3, volunteered to work with me. We arranged for the completion of pre-observation schedule in two days time. When I arrived at school C (Felo), it was toward the end of the school day and I was fortunate to find the principal. I explained myself to him and handed him a letter of request for permission to do the study at his school. My study also included two subjects who are in overseeing positions with regard to implementation of the policy - Head of Department in Kwati Primary School and the Subject Advisor in the district office.

I went to Kwati the following day and handed over a letter of request to Ms Cathrine (HOD) who was supportive and agreed to work with me. I contacted Ms Maria telephonically to make an appointment (she is rarely found in her office because she drives around supporting teachers with the implementation of the RNCS). She told me to drop the letter in her office and she would call me.

As indicated, I had difficult time in convincing the teachers that what I was doing was 'just a study', and I had nothing to do with the Department of Education. Most of whom I approached declined to work with me and informally told me that they would feel uneasy under observation because I knew them. One teacher at school A (Seka) told me point-blank that she was afraid because her principal would pressurise me into disclosing my findings, and that she could be victimised. To make things easier for my co-researchers, I maintained a 'passive observer' position, and sat at the back of the classroom in all schools.

### **3.4 Sampling**

I wanted to include teachers and schools willing and able to participate in the research. The sample, or the key informants, for this study would be three teachers, each from rural, semi-rural and urban locations. All the teachers were female, because in South Africa it is a tradition that mainly female teachers teach at 'foundation phase'. There was no option in this regard. These schools are typical in the context of a developing country such as South Africa. Additional or supplementary informants were a Subject Advisor from the district office, and a Head of Department from one local school. The aim in including these two was to try to get a clear understanding of the supervision of the new policy, which I anticipated may have a substantial influence in the practice of the Environmental Education policy. One may argue that the sample size was too small, but I think that this is a reasonable sample because the study is not a survey which would demand a large sample size. A qualitative case study requires information rich in depth and description, and in context, about this particular aspect of educational life, and a large sample would be irrelevant to the purpose of the study.

The South African system is as follows: Grade R-9 is called General Education Training Band. Within this band there is Foundation Phase (Grade R -3), Intermediate Phase (Grade 4-6) and Senior Phase (Grade 7-9). Another band which includes Grade 10-12 is known as Further Education Training Band. Three lessons (per school) were selected for data collection. The lessons would be in all three Learning Programmes; Numeracy, Literacy and Life Skills in the foundation phase. I targeted foundation phase because, according to the management plan of introduction of RNCS (NSC), they are expected to be more advanced in their practice than the other phases, which is where valid data could be gathered to form the basis of this study. Another important point is that the policy identifies Environmental Education as a principle across all phases. That is, all teachers, irrespective of the phase or grade, are expected to include Environmental Education in the teaching of all subjects. The intention in selecting three lessons per school was to get a closer look at how the teachers make sense of the Environmental Education policy in their practice. The data which I



was looking for was to record and transcribe all the steps of the lessons and scrutinise them to find out how Environmental Education is presented in the lessons. The observations were accompanied by interviews before and after every lesson. The intention of the pre-observation interview was to get a clear picture of what the lessons would look like and what to expect. This would help in establishing whether or not the teachers teach according to the preparation, and if not, a proposition could arise as to why the teacher could not fully present what s/he had prepared. This would be helpful to put their practice in a clearer perspective. It was not as difficult as I anticipated to collect my target data in this regard, through both interview and lesson observations. I did have to deal with the fact that most teachers were not comfortable with English during the interviews and I had to translate in the transcription. Another factor which posed a challenge was the size of the class, with the desks and a large number of learners, it was difficult for me to sit at the back, which was the least distracting position for the learners.

### **3.5 Data Collection Methods**

My data collection plan included various methods to obtain information from the research sites, namely, tape recorded interviews - both pre- and post-classroom interviews, non-participatory classroom observations, lesson plans of the teachers, and departmental documents. I chose various methods so that information received from the various sources could be used to corroborate or refute evidence. I used the technique of non-participatory observation during my interactions with the teachers. While interacting, I constantly had the sense of being an outsider who was 'looking in', catching glimpses of a different world. This is the reason why I chose a non-participatory data collection style - I didn't want interference with the data, or to compromise my objectivity, because it would have tampered with the validity and reliability of the data. This allowed me entry into their world, enabling me to interpret the common sense notions of the participants. I chose to conduct this level of my study in the fourth term of school year, because at this time the foundation teachers in particular are more settled

and confident because they feel they have 'done their bit' for the year. Their presentations are more confident. Two interviews were conducted with each of the teachers in each learning programme (subject) - a pre-teaching and planning interview, and a post-teaching interview. This meant that each teacher was subjected to six interviews. Each interview lasted between 30 and 40 minutes. One lesson observation was conducted in each learning programme (subject), lasting for an hour. That is, each teacher was observed three times and there were nine observations in all.

### **3.6 Collection of data**

I developed variety of methods and tools to collect the data. This gave me confidence as a qualitative researcher that the research was credible and justifiable as 'research'. The different data methods and tools primarily provided teachers with the opportunity to produce data in a variety of forms. Each method and tool was informed and aligned with each of the four critical research questions. The appendices provide clear information as to the tools, (Appendix A, Appendix B, Appendix C and Appendix D).

To the response to question 1: *What are the provisions of the new curriculum policy on Environmental Education? I.e. what does the new Environmental Education curriculum policy says to teachers in respect of:*

3.1 *Subject matter*

3.2. *Teaching and teaching approaches*

3.3. *Teachers conceptions*

- Documents collection, RNCS policy document and NEEP-GET: A policy interpretation guidebook for the RNCS for GET. (Appendix D)

*To get the sense of what the teachers would be teaching when I came to observe and to determine whether their lessons were relevant to my study.*

- Pre-observation interview (Appendix B)

To the research question 2: *How do teachers include Environmental Education in their daily classroom practice with reference to the new RNCS?* I chose four data methods, namely,

- Interview schedule which was semi-structured to collect information before the classroom observation (Appendix B).
- Classroom observation protocol, to capture how teachers practice/include Environmental Education in the their classrooms.(Appendix C)
- Analysis of teacher preparation, lesson plans. (Appendix C)
- Post-lesson interview, to elicit their responses as to why they taught the way they did.

To the response to question 3: *How can the policy and practice of Environmental Education in some of the schools in South African be understood and explained?*

- Interview schedule that was semi-structured to collect information before the classroom observation (Appendix B).
- Classroom observation protocol, to capture how teachers practice/include Environmental Education in the their classrooms.(Appendix C)
- Analysis of teacher preparation, lesson plans. (Appendix C)
- Post-lesson interview, to elicit their responses as to why they taught the way they did.

I presented and defended my proposal in the annual University Research Seminar known as 'Research Indaba' and I was allowed to continue with data collection. But before I could collect the data, I tested the accuracy, reliability and validity of the research instruments, trying them with one of the schools (Odirile) which was not earmarked for the study. I did not require permission for piloting from the principal because I happen to be the principal. What I did was to negotiate participation by the two foundation phase teachers, Emly and Matseleng in the piloting process. The teachers had no problems with the following: tape recorded interviews, lesson observations and scrutiny of their lesson plans. I did the piloting and the data collection was without incident. I did

data analysis and was pleased with the fact that the data related to all the research questions. I decided that I would use the data as an addition to my study in the reporting of the findings. I then went on to use the research tools.

### **At school A (Seka)**

I began with the data at school A (Seka), my intention being that I would be spending 3 days in each of the three schools ,i.e. do one learning programme (subject per day), one with the HOD and one with the subject advisor. I visited Teacher A, (Ms Loka) one day prior to the observation, as with all of the research partners. I made provision for the storage of data by creating files for each research partner. Audio tapes were systematically placed.

I arrived at Seka primary school (School A) and arranged with the principal and Ms Loka. The school is located about 70 km from the city centre. It is in deep countryside - almost in the jungle. It is in a poverty stricken village and most of the houses are old structures. The school enrolment had been going down in previous years because young people are leaving the village in droves, and is thus turning into old age village. The main road which passes through the village has been tarred and is approximately 1km from the school. The school was built by the community in 1975 and has grades 1 through to grade 7. The total enrolment is 458, with 15 educators, one principal and two Heads of Department. The school has one photocopier and one computer, which are mainly used for administration.

On my arrival there were no teachers and learners were arriving sporadically. I waited about thirty minutes at the parking outside the school premises, which gave me time to prepare myself to meet the principal and the teachers. I rehearsed the way I would introduce myself and show respect in order to win their confidence and trust. This is crucial for research - to build a good relationship with the informants - because the entire study depends on their willingness and sincerity. The school starts at 8h00 and I arrived at 7h20. The principal arrived and requested that I wait in the staff room. The school is old there is evidence of cracked walls and peeling paint. The staff room is small and

accommodates no more 15 teachers. There are old chairs in the staff room. There is a vegetable garden at the corner which looks dry and its plants not so good. This might be because of lack of water. There is lot of learners who did not put on their school uniform and the impression I had is that they stay mainly with their grannies, and that they don't have money. Most learners looked untidy. The environment around the school premises is covered by tall grass and a dusty road leads to the school from a nearest tar road 1km from the school. The community is indeed living in poverty. The teachers began to arrive and Ms Loka was one of those who arrived after the principal. At 8h00 the bell rang and the learners and teachers gathered for morning devotion. The principal invited me as well. After a short devotion and announcements, the learners marched to their respective classrooms. The principal called me into the office, where he made me sign the log book and record the purpose of my stay in her school. I didn't have to explain my study again as I did that on my first visit, when I submitted letters of request for permission to conduct the research. Ms Loka conducted me to her classroom and she was so relaxed and looked happy and confident. This was important, because achieving a trusting relationship with the research participants is central to the success of any research study (Howe & Moses, 1999). I requested that I interview her for few minutes before the lesson observation and after the lesson. She had no problem. My arrangement was that I would spend two days at School A (Seka) with Ms Loka and move to another school. As anticipated, I didn't encounter any problem with the arrangement because, at foundation phase, they use class teaching instead of period teaching. Her time table suited me very well. She indicated from the beginning that, after lesson observation, I should wait for her in the staff room for the post-observation interview during her lunch time. We did the pre-observation interview and she gave me her lesson plan in the staff room. I sought to get an idea of what she would be doing in the classroom. She left me in the staff room to continue browsing the lesson plan and she promised to come back for me because she needed to make some classroom arrangements. Within 5 minutes she came back for me and she took me to the classroom. She had arranged that I stay in

front of the learners and I requested that I sit at the back because I didn't want to distract learners. She gave me a chair and I sat at the back of the classroom. Before that, I greeted the learners and Ms Loka explained to them that I was just visiting and they should just relax as usual. This was an old classroom with old furniture. Next to where I was seated, the window was broken. There were potholes on the floor, no ceiling and one bar florescent light. The school has electricity, installed as part of the RDP reconstruction development programme. I observed her lesson according to the Observation Schedule and audio taped it. I waited for her in the staff room and we did a post-observation interview. The following day was no different and I left for school B (Mola).

### **At school B (Mola)**

In my previous visit, when I delivered my letter of request for permission to do my studies, I was requested by the principal to explain in detail the purpose of my study, which I did. Ms Lele, who is teaching grade 3, volunteered to work with me. My expectation was that, since the principal and my research partner knew about the appointment, it would be easy to start with data collection right away. Mola primary school is located next to the main tarred road which connects two popular shopping complexes and townships, Temba city and Mabopane Central city. It is a bit far to Mabopane but it is only 5 km to Temba. The school is situated in a semi-rural village. It serves the community, which is rapidly growing as a result of RDP houses which are erected in the backyard of the school.

Mola is a modern school, built in 2000. The classrooms are big enough and tiled, there is a large administration block with a modern principal's office, a deputy principal's office, a sick room, a big staff room, a reception area and a strong room. There is a computer centre with twenty computers and a large, well stocked library. There are flushing toilets, with educators toilets situated within the administration block, all making use of borehole water. The boys and girls have more than ten seats each and, the boys have urinals. There is a photocopy machine, a music centre, a refrigerator, two television sets and a video machine. The school has enough furniture for both educators and learners. Three phase

electricity is in use in the school. For some undisclosed reasons they don't have a telephone and rely heavily on the principal's and deputy principal cellular phones. The school enrolment is 923 and all learners are black, but of different ethnic groups. The prevalent ethnic groups are Tsonga, Ndebele, Tswana and Northern Sotho. There are 25 teachers, 9 male and 16 female.

On the day of my visit I arrived at 7h30, thirty minutes before the school started. I have made it a habit that I am on time so that I should not disturb the normal operation of the school and attract unnecessary attention. On my arrival, the deputy principal was already there, controlling the cleaning of the surroundings. I happen to know him and when he saw me, he said "That day has come Ms Lele is ready for you, I heard her saying this yesterday when we went home" I was excited by the news, but I kept my control and greeted him with due respect. He ushered me in his office and requested that I make myself at home. He insisted that I have tea, and I reluctantly accepted. The teachers and the learners arrived and at 8h00 the bell rang and they assembled for morning devotion. I didn't see the principal coming; she called me to her office. I didn't have to explain anything and she welcomed me with respect. She had everything ready for me and even offered me RNCS policy. She told me that Ms Lele would be with me in few seconds and that she was leaving for a principal's meeting to be held at the district office. Ms Lele came and we exchanged greetings and the principal wished me good luck. I explained to Ms Lele the programme which I needed to follow during my two day's stay with her. We started with pre-observation interviews, the intention being the same as in school A (Mola) and which would be repeated with school C (Felo). After finishing the interview we headed for the classroom. I requested her to allow me to sit at the back of the classroom. I greeted the learners and made my way to the back of the classroom. That was a modern school - the classroom was big enough and there were posters on the wall. A noticeable factor was overcrowding. In that classroom there were 48 learners. Ms Lele then gave me the lesson plan, requested before pre-observation so that it could inform the interview. I observed the lesson according

to observation protocol and on the following day. After two days at Mola, I left for school C (Felo).

### **At School C (Felo)**

The school is located in the middle of the urban Temba Township; 300 m from the Temba City shopping complex. A busy road passes by just 100 m from the school. There is a clinic down the road on the southern side and 300 m away. The ratio of the unemployed is proportionate to the employed. This can be seen by the constant movement, throughout the day, of people loitering aimlessly around. There is a lot of illegal gambling in the community. The dwellings are mostly four-roomed houses built during the apartheid era. Felo primary is an old school, built by the former Bophuthatswana government in 1980. The classrooms are small but many, and accommodate all the learners. Though it is an old school it is well taken of with a beautiful flower garden and a food garden. The school is nicely painted and windows are intact. The school enjoys the luxury of piped water, a telephone, and a nearby post office. There is a new photocopy machine, a fax machine, a modern typewriter, ten new computers, a music centre, three television sets, three video recorders and four overhead projectors. The school has enough furniture for educators and learners.

It looks as if the teachers are not worried about school's starting time, which is 8h00. As the bell rings, one could see some teachers strolling to school, some even overtaken by the learners as they rush to their praying places. The learners live near the school, but they are usually late. The principal could be seen with a stick, trying to control latecomers, and late teachers just passed by to their classrooms. My co-researcher indicated that she usually used corporal punishment because the learners don't take other disciplinary measures seriously and this was making them ineffective. The enrolment stood at 601 and there were 20 teachers; 14 female and 6 males.

As in schools A (Seka) and B (Mola), I agreed with the principal and the research partner the date of my data collection. I arrived at 7h15 and waited until 7h50, when the teachers began to arrive. They greeted me and passed. The bell rang



just when the deputy principal arrived and he hurried past me to assembly. I was a bit confused because I was not sure whether he had noticed me or not. After the morning devotion, the learners marched to their classroom, but some could be seen still come down the road leading to school. I left my car and went to the principal's office, where I found the deputy principal. I greeted him and told him about the arrangement with the principal and Ms Tlala (teacher C). He knew about the arrangement, but apologised that the principal would not be attending because there was a meeting at the district office. "How often are meetings held in the district office?" I wondered silently. To throw my plan way out of control, Ms Tlala reported in sick. I rearranged with the deputy principal that I would telephone him to find out when Ms Tlala would be back. This was a dilemma I did not anticipate because of the assurance I received from the principal. Did he forget? "May he didn't take me seriously", I contemplated.

### **Revisiting School C (Felo)**

Ms Tlala called me after she was told that I had been to her school and apologised for not requesting the rescheduling of our appointment. She indicated that she would be at work in two day's time and we arranged to meet. I called the deputy principal and he referred me to the principal. The principal also apologised, claiming overwork as the reason for being forgetful. I told him of my arrangement with Ms Tlala which he supported. On the second day I went to Felo primary. I arrived at 7h45 and the principal was already there. He was controlling latecomers and he had a stick in his hand. He ushered me to his office. Immediately after the morning devotion, Ms Tlala came into the office and we discussed the programme we would follow during my stay at the school. I did a pre-observation interview with the other research partners. We then proceeded to the classroom, which was a grade 1 class. It excited me because I was dying to find out how Environmental Education at that tender level of schooling would be like. We arrived in the classroom; I greeted the learners and occupied the seat at the back of the classroom as previously arranged with the teacher. The classroom had class policy, learner's list, time table, and was not overcrowded as

in the previous schools. There were posters on the wall and what caught my eye were the posters of different plants, insects, wild animals and domestic animals. Ms Tlala introduced me and she started with her lesson. I set my audio tape, recording her whole lesson. She finished, I bid the learners farewell and we made our way to the staff room, where I conducted a post-observation interview with her. As with the other informants, I tape recorded all lessons and interviews. The following day was no exception - we followed the same programme. After we had finished, I thanked the principal, Ms Tlala and other staff members. I then remembered that I had to interview the Head of Department at Kwati Primary School. I immediately called on a cellular phone and she told me that she had not forgotten and that we would meet the following day. That excited me, because my plan was still on track.

**At Kwati primary school with the HOD (Ms Cathrine):**

The following morning I was at the gate of Kwati Primary at 7h35. The learners and the teachers were getting ready to assemble for morning devotion. The principal arrived, I greeted her and she invited me to her office. I explained to her the intention of my visit. She knew nothing about it. I had initially only informed Ms Catherine because she promised me that the principal wouldn't have a problem and that she would do it during her flexi period. It was a serious oversight on my part not to obtain confirmation. The principal called Ms Catherine to the office and she told her that she was not allowed to be involved in any activity within her school without her knowledge. I apologised to the principal for causing a misunderstanding and Ms Catherine apologised too. To save the situation, I suggested that I leave and do the research with an HOD of a neighbouring school. The principal stopped me and indicated that she was not chasing me away, but simply ensuring that things were being done according to protocol. She requested me to reschedule the interview to after the formal lessons session at 14h00. "Oh...another long wait", I contemplated, but I had myself to blame for taking things for granted. I used this time to call another research partner, Ms Maria, the subject advisor, to confirm our appointment for

the following day. She confirmed the time at 10h00 the following day. The long wait gave me a chance to arrange my data in the files which had been opened for each participant. I even started the exhausting work of transcribing the taped interviews and lessons.

At 14h00 Ms Catherine came to fetch me from the car and made her way to her office, where we did our interview. I had to deal with lack of audibility because school was school out and the learners were making noise outside. At 15h00 I bade her farewell and I left. At that time only a few teachers and the caretaker were still on the school premises.

**At the district office with Ms Maria, the subject advisor:**

The following day I arrived at 9h00 because, as the employee in the district, I knew that the district officials have a tendency to cancel meetings and appointments just like that. I called her and made her aware that I was waiting outside. She told me to come in her office and requested that we reschedule our appointment for the following day because she had to attend a meeting at the regional office. Why didn't she tell me the day before? Was she inconsiderate? Maybe she genuinely forgot. What about her diary? An official is supposed to check her diary before making other appointments, I contemplated for few seconds.

She was the master and she had what I wanted so I agreed to her request. Her vehicle was already idling outside because her colleague had arrived to fetch her. This was another setback and dilemma that I met in the process of data collection.

The following morning I was there at 8h50 and I saw her car parked outside. I parked, took all the necessaries and went to her office. She was waiting for me. Instead of waiting for 10h00 we started right away at 9h15. Our interview was interrupted by one of her colleagues, the one who had come to fetch her the previous day. My tape recorder was on the table and we were both maintaining formal postures in deep conversation when she just crashed into the office and started chatting loudly. Ms Maria made her aware that we were in the middle of a

tape recorded interview, but she ignored her and continued talking. I was so fed up I wanted to have a word or two but, as a researcher, I had to restrain myself. “How inconsiderate”, I contemplated. Ms Maria read my frustration and she insisted that she leave the office, “Lizzy, how can you do this? I told you I was doing an interview, please go”. She left and I could tell their friendship would need some repairing after I left. Ms Maria apologised for her colleague’s behaviour and we continued. I was so relieved when we ultimately finished because that was the most elusive data I obtained in my study. I thanked her for her time and left. That was the last interview before I started analysing.

### **3.7 Data Analysis**

I kept written records of what I observed and heard, and document(s) received from each teacher for each visit in each teacher’s file. The dates, times and places were noted. As already mentioned, to manage my data I kept files for each research participant’s data. I transcribed the tape recorded data. I followed the style illustrated by McMillan and Schumacher (2001) 468-471, where they provided steps to be followed in developing organising systems from data. I carefully read through the data to get the sense of it and I noted ideas arising from the data. I actually used summative data analysis. I coded the data according to topics which were generated from the data in the following way: Common themes/factors from the data - grounded theory building; differences and similarities in practice and policy knowledge of the educators; themes pre-identified in the theoretical framework. After coding, I arranged/grouped in chunks: the passages which had the same meaning were arranged together, and those with different meanings were arranged together for reference when making the report and interpretation of the whole study.

### **3.8 Validity and Reliability**

According to Cohen, et al. (200:105), validity is an important key to effective research. ‘Validity’ is defined as the degree of relevance of the instrument used

in the study to gather data. As for the validity of the entire study, I had fundamental political concerns which I had been confronted with from the beginning. It was the fact that I had to deal with dual roles imposed on me by the study itself - one as an employee within the Department of Education, managing a school and implementing policies, and the other as researcher of the same policies. I had to deal with the subjectivity element. What would be the response of my employer to the findings of the study? Would they question my loyalty? To address that, I reminded myself of the speech that the National Minister of Education delivered at the Annual Research Indaba of 2004 held in the University of Pretoria. She indicated that South African universities should be encouraged to do more scholarly research in the field of education. My study was in line with that in the reflection on the performance of the education system, for further study and improvement.

I went through the data on several occasions to see if constructs, categories, explanations and interpretations made sense (Patton, 1980: 339). This revealed the interaction between the researcher, the topic and the 'sense-making' process and is referred to as "validity-as-reflexive-accounting" (Creswell and miller, 2000: 125). I gave the data back to the teachers to verify whether the data did indeed represent their realities and what they had said (Creswell and Miller, 2000). This exercise of involving the participants shows impartiality on the research side and ensures credibility of the study. Yin, (1994) describes that as "ensuring construct validity". To ensure the reliability, validity and accuracy of the data collected, I used live interviews and taped records to enable me to cross-check the transcript over and over again. My intention was to give the final draft to neutral people to criticise and give inputs.

### **3.9 Ethical Considerations and Dilemmas**

When one decides to attempt to enter the world and to study it, the field worker arrives at a true moral, ethical, and legal existential crisis (Soloway, I., & Walters, J. (1997). Workin' the corner:

Qualitative researchers become involved in the settings and the everyday lives of participants and these researchers are often drawn into morally problematic situations (McMillan & Schumacher, 2001)

During my studies, I had to deal with the fact that I had to get consent from the informants. I have cited cases where it was difficult to access the data and where I was sometimes turned back until the following day. I made it clear that the research was a study purpose and nothing else. I gave assurances that I would make the data available for their scrutiny and to check that the data represented their realities and what they said. I explained to them that I would keep their identities confidential and that I would use fictitious names, so maintaining their anonymity.

The practical dilemma came when the university with which I was doing the study introduced a compulsory system, where consent forms were required to be completed by the informants. Failing to obtain these would mean that I would not be given a clearance by Ethics Committee to do my research. The challenging part was for me to run around again to access my research informants and it was not easy because the sight of me was met with question, “What now?” “I hope you are not going to bother us again”. I addressed that by just laughing it away and showed them the consent forms. The question that I had to deal with was, “Why didn’t you bring them along the first time?”

## CHAPTER 4

### Findings

My study report is built around a case of Ms Loka of Seka Primary school. Although my data collection included three teachers (Ms Loka, Ms Lele and Ms Tlala), HOD (Ms Catherine) and their Subject Advisor (Ms Maria), I developed my write up around one case and used the data from the other informants as a references to substantiate and strengthen the case. I chose to develop the one strong case of Ms. Loka in order to generate more in-depth data for exploring my research questions, and to further ensure the reliability and validity of my study. In this chapter, I describe Ms Loka's practice of Environmental Education, examining how she included Environmental Education in her teaching and her understanding of the EE policy.

Ms Loka is a short, dark woman with a very distinctive Afro-hairstyle, and who is very pleasant and engaging in conversation. She is in her early forties. She is a Sepedi-speaking level one educator/teacher with eighteen year's teaching experience in the Seka Primary school. Ms Loka is formally qualified to teach the primary grades, with a Primary Teachers Certificate obtained in 1984 from a college of education in the former homeland, Lebowa<sup>1</sup>. She has since completed a Further Diploma in Education with the University of Pretoria to improve her qualifications and enhance her professional status. Ms. Kola's journey into teaching was nether neither easy nor straightforward. Coming from Lebowa, she was not allowed to practice in the Bophuthatswana homeland because of the then apartheid separation policy. When she was eventually able to change her 'citizenship' by acquiring the necessary citizenship papers for the homeland of Bophuthatswana, only then was she able to find a job (two years after completion of her teaching qualification). Once inside the profession, Ms. Loka had to grapple with the challenge of teaching in Setswana, a medium of instruction in the then Bophuthatswana.

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<sup>1</sup>one of the former homelands which is now known as Limpopo

She was born and raised as a Sepedi speaking person in the Lebowa province. These contradictions and personal challenges of the apartheid policies of the past are clearly illustrated in these experiences of Ms. Loka and in other informants to whom I spoke during this study. The transition was not an easy one for Ms. Loka, as she described it to me during one of the interviews:

*“Those were difficult days I was instructed to teach in Setswana. You know it is difficult to learn Setswana as Sepedi speaker. I think you can even pick that Sepedi accent even now as we speak”.*

Ms Loka has taught the Foundation Phase (grade 1-3) from the time it was known as Sub A-B and Standard 1 during the apartheid era. She has been teaching this Phase for eighteen years. In the foundation phase, Ms Loka teaches the grade three class all three learning programmes, Numeracy, Life Skills and Literacy. Her contact time is four hours, with two breaks of ten and forty minutes every day. Ms Loka is also a member of the School Governing Body, a co-coordinator of Sports and a School Choir conductor.

As far as training for the new curriculum (RNCS) is concerned, Ms Loka has received general training in outcomes-based education and the RNCS, but the training was not inclusive of all the information now contained in the RNCS document. These were 2-3 days workshops organized by the Department of Education in 1996 and 2003 respectively. In the introduction of Curriculum 2005 in 1996, the main focus was on teaching and assessment strategies, Outcome-based Education and subject matter. Outcome-based Education is regarded as the foundation of the curriculum in South Africa (Department of Education, 1996). The department seemed to be in hurry to eradicate the old order by changing what was known as teacher-centred methods of teaching, and the distorted subject matter.

In one of my visits to her school, Ms Loka showed me her lesson plans, which described everything which she planned to cover with the learners during my observation. In our conversation, she described to me that she intended to cover



the theme on Environment, in the context of Domestic Animals. She intended to introduce the lesson by drawing from the learners' experiences with domestic animals and build on that to involve them in group work, where they would investigate the domestic animals' habitat, food, how they are useful to human beings and how to care for them. In response to my questions regarding which environmental issues she intended to address and how she would do that, she responded as follows:

*The environmental issues in my lesson are how to relate to domestic animals, what are their habitats? How useful they are to human beings? How can they be looked after? I will be using a poster to engage them in discussion as a class and thereafter they will do the rest in groups. They will discuss the domestic animals' habitats, food and how they are useful to us and how to care for them.*

Her major goal was for the learners to be able to recognize all domestic animals, their food and habitats. Ms. Loka was very aware of the new requirements regarding Environmental Education in her teaching. She had attended several workshops on the new curriculum policy and was proud to discuss that with me during the interviews and observations. In one instance, she captured this experience for me as follows:

*We have been attending courses on RNCS. As you can see (showing the lesson plan) this is the new way of preparing a lesson plan. The policy requests us to include Environmental Education as a principle in our lessons. You see, in this lesson environment is a theme, that is similar to principle. The domestic animals are part of environment, so the learners are learning environment. In our lessons we also have what we call Learning Outcomes (LO), that specifically explain what the learners should be able to know and do at the end of the lesson. There is also Assessment Standards (AS) that provides us with the context of the lesson, like in this case the AS would be; the learners visit a farm to have hands-on activities*

Although Ms. Loka seems to be aware of the expectations of the new curriculum regarding the teaching of Environment Education, she is not very clear about the levels of achievement which are expected from the learners. Her description of

the expected assessment standards was a bit off the mark. 'Assessment Standard' is statement, or criteria, which provide a standard or level of acquisition of new skills, values and knowledge (Department of Education, 1996).

The lesson plan structure used by Ms. Loka was employed by the other teachers, Ms Lele, Ms Tlala and the others, as a standard framework. They all agreed that it was the new way of doing a lesson plan (Appendix E), as suggested in their curriculum training workshops. I noticed that all the teachers I interviewed and observed were approaching the teaching of EE in a similar manner. They all had Environment as a theme and Domestic animals (Ms. Loka); important buildings in our township (Ms Tlala) and Caring for School Grounds (Ms Lele) as contexts. I wondered (aloud) whether they had prepared the environmental lessons because they knew I would be coming to observe. In response, they all assured me that it was a normal process for them, and went on to show me a few learners' workbooks and charts on the walls with drawings of plants, wild animals and models of windmills and other environmental concerns and issues. During my observation of Ms Loka, she informed me that her learners would be working in groups to investigate, among others, information about domestic animals. She also planned a visitation to a farm as part of the lesson, although that would be arranged in collaboration with the principal in due course and would depend on parents paying for their children to go on the excursion. Emphasizing the challenge of arranging educational excursions, Ms Loka indicated that:

*Sometimes we are only able to afford only one or two educational excursions in a year, and normally we visit Pretoria Zoological Garden because we feel it covers most of the learning areas<sup>1</sup> and programs. This is a poor village, but even though we cannot visit a farm or Zoological garden the village still maintains the type of life that resembles that one in the farm. There are most of the domestic animals that they can see.*

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<sup>1</sup>Formerly known as subjects

This was the situation at the other schools as well, Mola and Felo, where Ms Lele and Ms Tlala also organized visits to the nearest farms, factories and dams as reinforcement to some of the Environmental Education topics. In my interview, Ms Tlala indicated,

*“My learners like going out to the neighbouring factories, farms, game reserves and Pretoria Zoological Garden, it is part of the school’s tradition that these educational excursion are taken annually. This also grant the learners to interact with real environmental issues”*

The only challenge that Ms Lele was confronted with was that, although her situation may be better when compared to Ms Loka’s, most of the excursions at her school were not successful because of weak response by the parents.

Ms Loka’s observed practice.

In the pre-observation interview of Numeracy and Life Skills, Ms Loka re-emphasised that her preparation was guided by the new policy of the RNCS.

*In all my preparation I try hard to follow the lesson plan samples that I have received at the workshops. They are ready-made and all what is required of me to do is to fill the information. That is why my lesson plans are the same.*

Ms Loka told me that her inclusion of Environmental Education was the same in all learning areas. She explained:

*The way we have been taught to include Environmental Education in our lesson is the same across the learning programs and areas. We include it as a principle, that is, a theme across the curriculum. Look, in the Literacy domestic animals have been used as a context, this is the same as in Numeracy and Life Skills. It doesn’t matter what subject matter I am doing, the context or the theme will in most cases address environmental issues. After some weeks or so, I will be using a new context or theme, which also addresses environmental issues, ‘saving water.’ That will continue for the rest of the year. At the end of the year I should have covered substantial number of environmental themes. They will also continue with more abstract themes as they ascend to the other grades. As you can see the context domestic animals in this case is not so abstract only the basics are treated.*

A similar explanation was obtained from Ms Lele who in her case; showed me posters showing environmental issues like water sanitation, forestry, farming, domestic animals, wild animals etc. She claimed these were from the department of education and that they had been advised to use them in the preparation and inclusion of Environmental Education in their teaching. Ms Lele commented as follows:

*Look at these posters, (pointing at the posters) we are requested to use them to explain and illustrate some environmental issues. Therefore I usually use them in most lessons depending on the content that I am teaching. They are always useful because Environmental Education as a principle is supposed to be included in all my lessons; I am trying to do that though it is not easy. We are channelled.*

She indicated that Ms Maria, the subject advisor, usually stressed the fact that the policy should be followed to the latter. Ms Maria's view was that:

*The government has invested much money on teaching and learning material and policy at large, it will be unfair if the teachers would not practice according to the policy. I cannot really condone a situation where the teacher ignores the policy.*

Ms Lele corroborated the sentiments expressed by her colleague, Ms Loka when she asserted that:

*The department of education has given us booklets titled 'Enabling an environmental focus in learning areas' that specifically and systematically illustrate how Environmental Education should be included in our daily teaching. There is a booklet per learning area. Look, (pointing in the lesson plan) I have included LO1 and LO3 because they are specifically singled out in the booklet as the relevant LOs to address environmental issues, that is, investigation of life pattern of domestic animals".*

During my observation Ms Loka advised me to pay particular attention to how the learners perceive and understand the existence of domestic animals. She noted that the difficulty that the learners usually meet in her lessons was the language. The medium of instruction is Setswana and English. The material which I use is

written in English, and not the learners' Home Language. Apparently most of her learner's Home Language was TshiTsonga. Therefore they are learning in 1<sup>st</sup> Additional Language and 2<sup>nd</sup> Additional Language and that is more challenging. Ms Loka indicated that she intended to take them for fieldwork where they would go out of the school yard, 500 meters away from the school to do a quick investigation on available domestic animals within the area.

I captured the classroom observation data through my classroom observation protocol (Appendix C). Ms Loka's classroom is old and small. The learners were arranged in five groups of ten, with a total of fifty in the classroom. The tables were arranged in a circular pattern and they were sitting in circles. All the learners were black and the boys and girls mixed evenly in groups. There were posters of all three learning programs visible hanging on the wall. Among the pictures, there were pictures of wild animals, mathematical symbols, alphabets, and a map of the residential area. There were different corners, and storage for learners' profiles and portfolios. Ms Loka displayed learners' work strategically throughout the classroom. I was attracted by learners' drawing on environmental issues, specifically, veld fires, water sanitation, clinics, post, and different kind of birds, animals and plants. There were also different models; among them were a windmill and a hand water pump, which were crafted by two boys, Siphon and Mano. From my position, I could see the chalkboard and Ms Loka clearly and I could see most of the learners, but not all, because of the large number in the class.

Ms Loka introduced me to the learners and they gave me a welcoming applause. Immediately afterwards, I settled down to observe the lesson. She asked them to stand up and they began to chant a song about domestic animals, (chorus) *I can hear moo, moo in the farm, I can hear maa in the farm, I can hear chik, chik in the farm*. They were singing about farm animals and the sounds of the animals. They were dancing, and the activity lasted for about five minutes.

This was actually done by all the other teachers with whom I worked. Ms Tlala of Felo made them imitate the movements of the farm animals as they danced. They would go like:

*Chorus: There is moo...moo in the kraal (showing with their hands how the horns are and at the same time imitating the movement of a cows)*

*Chorus: There is a baa...baa in the kraal (crawling on their knees and hands, imitating the movement of a sheep)*

After the singing and dancing, Ms Loka then pasted a poster of domestic animals on the chalkboard and asked the learners to identify the animals in the poster. For example:

*“What animal in the poster do you know and where did you see it”? Yes let’s hear Lebo?*

*Lebo: A pig, it stays in a kraal.*

*Ms Loka: A pig stays in a kraal is it correct children? Is that correct?*

*Learners: (chorus) No madam! (They raised their hands)*

*Ms Loka: Yes Siphho.*

*Siphho: In a pig sty.*

*Ms Loka: Good boy, all of you!*

*Learners: (chorus) in a pig sty!*

Based on the poster, Ms Loka discussed with the learners the names of different domestic animals, the products obtained from domestic animals, their dwelling places, the sounds they make and the food they eat. She used mostly, the question and answer method and allowed learners to express themselves about the animals. Interestingly, she always asked the learners to repeat a given answer in a chorus.

In the same context, Ms Lele did this differently. She asked learners the previous day to bring along pictures of domestic animals and asked the parents to help their children with the naming of the animals. The whole lesson thus took a

relatively much shorter time to complete than the one I had observed in Ms. Loka's classroom. For Ms Tlala, the focus was slightly different. Her class was a grade one class and her environmental theme was about location of important buildings, like the clinic and the accessibility thereof. She was also using a poster of a residential map she had collected from the municipal office. All of these teachers were trying to integrate the environment theme into their literacy lessons, albeit in slightly different ways.

After Ms Loka had discussed the poster with the learners, she asked them to work in groups and discuss the possible location of the different animals in the community. Each group had specific animal(s) and their possible location. Some groups had the same animals but she ignored that. She asked them to go out of the classroom and school yard and to walk not more 500 meters from the school, trying to find within that area the animal they had chosen, what was it doing, eating, its features and its size in terms of either big or small. They were armed with recording sheets. We went out, and as we passed by the office, the principal came out of her office, probably disturbed by the noise the learners were making. He asked Ms Loka about the little fieldwork and she told him that she had made prior arrangements with her Head of Department (HOD). We then moved out of the schoolyard with the children.

As mentioned, the school is in the countryside and I could immediately see a few animals from a distance. The learners were excited and running, claiming to be the first to have spotted the animals. Ms Loka called them back and instructed them not to run and to be careful not to get hurt. She also told them to maintain their groups and that they had only 15 minutes to complete the task. I went with the group that spotted a cow and a calf grazing just few meters away from the school fence. They started their investigation. One learner was recording what other learners were discussing about the cow and the calf. The following is a part of their discussion:

*Sipho (group leader): Guys let us be orderly so that Martha can record what we are discussing properly.*

*Peggy: Look it has a child.*

*Adam: No, it is not a child it is a calf.*

*Sipho: Yes Adam it is a calf. Look at it is brown.*

*Lebo: I don't think so, it is maroon or red.*

*All learners: (laughing) No, it is brown.*

*Mano: Look, what they are eating, grass look how dirty it is they will fall sick.*

*Peggy: Look, the calf is chewing a plastic don't you it is dangerous Sipho?*

*Sipho: Yes my father told me it is dangerous for cows to eat plastic they may even die. He told me we should always pick up papers in put them in the rubbish bin.*

*Mano: There is lot of paper around our school we should pick them up so that they cannot harm the animals. What do you think Martha?*

*Martha: Yes, we should tell Madam. Where do these cows stay?*

*Lebo: In the bush can't you see where they are now?*

*Martha: Don't be a fool, you heard Madam telling us that these are domestic animals they live with us at home.*

*Lebo: (angry) don't call me a fool...I...*

*Sipho: Hey guys stop it, this is not necessary. Look we have only five minutes remaining. Let us finish this go to the classroom. What else can we record about these two animals?*

*Peggy: We get milk from it...and meat.*

*Martha: the skin as well, they make shoes and belts with it, my mother told me.*

*Sipho: Lebo said they stay in the bush actually they stay in the kraal. I think is time up, look, Madam is calling us, let's go. (Ms Kola waving her hand to all groups to go back to the classroom).*

In the classroom, Ms Loka gave each group about three minutes to report. From the reports the following emerged: The animals which the learners had managed to spot were, goats, donkey, cow and calf and sheep. The reason why they



spotted them so easily is that the school is situated in the countryside, where the animals usually graze. All the groups gave reports according to the sub headings which were provided by Ms Loka, i.e. habitat, food they eat, products and what their babies are called. Siphon's group put forward the suggestion to clean up the surrounding area to avoid unnecessary suffering of animals. They shared with the class their experience in the field where they saw a cow eating a plastic bag. Ms Loka explained that further that it was not good to litter because, yes, animals may eat the litter and could die. *"In order to ensure that our animals are safe we should keep our surroundings clean"*, she said.

In conclusion Ms Loka summarised the lesson by asking the learners re-capping questions: What are the names of domestic animals we have learned about today? Where do they stay? What do they eat? What do we call their babies? What should we do with our surroundings in order to keep our animals from harm? Ms Loka then told the learners that she was trying to organise a trip to the nearest farm to go and learn more about the animals and other farm activities. She would be sending notices to the parents to inform them about the trip.

Assessment: Ms Loka gave the learners an assignment.

1. They were to make charts of domestic animals including those they did not discuss during the lesson.
2. They were to go home and ask family members about other things which they should not do, besides the littering which can be harmful to animals and human beings.




Ms Loka's approach to this literacy lesson and EE was similar in other learning areas (numeracy and life skills). The difference was the subject matter, but the context was the same - domestic animals. Taking the numeracy lesson for example, the lesson was about number operation and relationships. The entry point for the lesson was to look back to the previous lesson on domestic animals

from the poster. Ms Loka requested them to name all the domestic animals after they had done a rhyme about farm animals.

In her lesson plan (Appendix F) she indicated the following: In doing addition and multiplication, she would be using domestic animals, their body parts, i.e. legs, horns and other parts as teaching aids. She noted:

*I will integrate Natural Science LO1 which is about scientific investigation, learners will be investigating how many specific parts do certain and particular domestic animals have. They will then apply the operations, addition and multiplication and thereafter the relationship symbols”.*

According to her, at the end of the lesson the learners should have been able to apply addition and multiplication symbols correctly. She also indicated that the learners would be able to increase and recap their knowledge of domestic animals, names in particular. Indeed, in her presentation she used animals' parts to illustrate the concepts of addition and multiplication. The learners worked in groups to find solutions to the problems which she gave to them, by referring to the poster. E.g. how many legs do two cows have? The learners solved it this way: 1 cow has 4 legs, therefore 2 cows with 4 legs each will be:

	4 legs	+		4 legs	=	 8 legs 2 cows
1 cow		+	1 cow		=	

(First cow with 4 legs) + (second cow with 4 legs) = 8 legs, therefore  $4 + 4 = 8$ . Ms Loka illustrated to them another way of solving the problem by using multiplication: If one goat has 4 legs and if there are 2 goats, it can be written as  $2 \times 4 = 8$ .

In the assessment she requested them to solve the problems by using only numbers. Add the following

A. (I)  $2 + 4 =$

(II)  $4 + 5 =$

(III)  $3 + 1 =$

(IV)  $1 + 7 =$

(V)  $6 + 3 =$

B. Multiply the following

(I)  $2 \times 2 =$

(II)  $4 \times 2 =$

(III)  $3 \times 3 =$

(IV)  $4 \times 3 =$

(V)  $6 \times 2 =$

Although the numeracy lesson incorporated environmental learning as described above, it almost immediately reverted to usual mathematical operations and number sentences, with no trace of the environmental content.

In the presentation of Life Skills lesson, Ms. Loka continued to emphasise the theme, domestic animals. Life Skills is a learning area which teaches learners about daily life and how to associate with and relate to their immediate environment. As in the other lessons, Ms. Loka began with a rhyme and then discussed the animal poster. She introduced the lesson to the learners by drawing their attention to the fact that they would be re-examining a few of the points that they had made in numeracy and literacy.

*“I think up to so far we understood what domestic animals are and their life style. I want us today to specifically look at the life cycle of some of these animals and the importance of these animals in our daily lives. I want you to work in our usual groups and choose one animal; make a report on its life cycle, a collage and how that particular animal is important to our daily lives. You have twenty minutes to complete this task. Choose someone to report on behalf of the group, and please choose new people”.*

I sat next to one of the groups and managed to record the following conversation. The leader of the group was Thabiso.

*Thabiso: Ok guys you have heard let us work. Which animal do we choose?*

*Malebo: Goat!*

*Lesego: Cow!*

*Thabiso: Ok, guys let's agree on one. How many of you prefer a goat?*

*Learners: (Three learners raised their hands)*

*Thabiso: Seven! And how many think we should choose a cow?*

*Learners: (Seven raised their hands)*

*Thabiso: Ok, our animal is a cow. Ok let's start working. I think we should start with the life cycle*

*Suzan: It is simple my grandmother told me that cow give birth to a baby called calf and grows into a cow, simple.*

*Paul: I think that is the truth, I agree with Suzan.*

*Thabiso: Who want to say something on that? (None responded). Ok, then lets look at how important this animal can be to our daily lives. What can we say about this?*

The groups reported as they had done in the other lessons.

Ms Tlala of Felo and Ms Lele also used the same approach in their lessons. Ms Lele used the 'same theme' technique as Ms Loka and also used group and field work. Ms Tlala indicated that their visit to the clinic, a nearby dam and a farm was scheduled for the following week. Ms Lele was still arranging the similar trip. Ms Lele explained:

*One thing that I like about RNCS is field work and hands-on and the learners as well like it ...well in their case for different reasons. I think you saw them when they went out, they were really enjoying themselves. They were even not afraid to report on their findings. You remember Moshe? He even went on to facilitate the reporting session that was good. They always report on their work.*

I had an interview after every lesson with Ms Loka, i.e. after Literacy, Numeracy and Life Skills. I used post-observation interview schedule (Appendix J) to find out and capture Ms Loka's understanding of the policy and explanation of her practice, the inclusion of Environmental Education in particular. This was also done with other two educators, Ms Tlala and Ms Lele. I asked Ms Loka the

questions as they appear in Appendix D and to obtain a deeper understanding, I used prompting questions, to make my interview more open-ended in nature. I narrated the responses I got during these interviews. I also included some of the responses I got from other informants, including that of HOD, Ms Catherine Subject Advisor, Ms Maria. The intention is to provide a broader picture of Ms Loka's practice and of her understanding of the new policy RNCS, with special reference to her beliefs. The following is a report of the post-observation interview I had with Ms Loka after Literacy lesson.

Ms Loka noted that the lesson went according to her plan and actually exceeded her expectations, because she even managed to take them for fieldwork. The enthusiasm with which the learners had worked was amazing and she really enjoyed that. There was nothing in particular which disappointed her about the lesson. She indicated that, when she is in the classroom, she strives to involve all the learners, and wants everyone to participate. The following is an excerpt from our conversation:

*Look, when I am teaching I make sure that I reach every child, but that is difficult given the number in my classroom. I usually use groups because in so doing at least I feel they are all involved”.*

In responding to where she had learnt this approach, she said:

*This is one of the oldest approaches in teaching fraternity. It is just these days is emphasize more”*

In the lesson layout, Ms Loka spent a lot of time talking and the learners listening. Some seemed to be bored. She explained that there was no way she could avoid talking at length because the kids need a thorough explanation to build new knowledge.

*“The kids need to be taught before they could do the applications, like fieldwork investigation. What knowledge will they apply and enrich if there is none that they have acquired from me or in the class? None! So I am forced to teach them*

*extensively, although the new policy wants us to allow learners to do more talking. What are they talking about if they didn't acquire formal knowledge?"*

I asked her to defend her practice in relation to the new RNCS. I asked, "Are you not defying a document of authority?" She responded by arguing that, as a professional, it is expected of her to be innovative in order to help her learners no matter what the circumstances (Harley, 1999). She was assertive in her response:

*"The document cannot teach these kids and whoever has drawn it. It is I who gets the blame if my kids perform badly. Therefore it is upon me to come with better ways of improving the learners' performance."*

She encouraged the learners to repeat in chorus almost after every answer provided by either a learner or herself. She indicated that, as a teacher, irrespective of it being associated with the past educational system, she couldn't do without the 'chorus'. She alleged that it helps learners to memorise important information and involves even the shy and quiet learners in the classroom.

*"Don't you think it actually makes non-participators to hide behind other learners?"* I asked. Ms Kola: *"It depends on your intention and what you want to achieve. If I individualise my lesson I am likely to miss a bigger number of my learners, at least through this method almost everyone can open his/her mouth"*

During our conversation Ms Loka hinted that she didn't actually go overboard in preparing the lessons to impress me, she claimed that it was her usual practice.

*"If I try to impress you I am going to frustrate my learners and that won't help them."* she argued.

The observations, and the responses by Ms Loka and her co-teachers, flashed the following in my mind as one of the themes in this study:

*Implementation of new practice is done within context of past practice, experience and beliefs.*

As we proceeded with our conversation, I specifically asked her what she understood about Environmental Education, to which she responded by saying that Environmental Education is the study of the surroundings, with reference to the relationships of all components which are within that particular area. That includes living and non-living. She explained:

*“It is about human beings’ role in taking care of surroundings, keeping it clean by avoiding air and land pollution. Through Environmental Education we are able to help the learners understand their role in taking care of nature, i.e. water, electricity, animals, plants etc. We observe environmental days like Wetlands and Arbor in that regard”*

She highlighted the point that this understanding was not properly arranged and conveyed to the learners in the past, because Environmental Education was confined to few grades and in her school they used to do ‘manual work’ during those particular periods. By ‘manual work’ is meant gardening and cleaning classrooms and school surrounding, without and formal input as to why this should be done.

*“This principle, environment was known as a subject called Environmental Studies. It was mainly associated with boys because of its physical work”, Ms Kola noted.*

I went on and to ask her to explain Environmental Education as a principle, as she had touched on it. She explained,

*“Environment as principle was brought about by the new curriculum, RNCS. We don’t teach Environmental Education as learning area anymore but as a theme across the curriculum. That is done in all grades. That is why you saw me using domestic animals as a theme in all my lessons in different learning programs. I use different environmental themes, like in the past two weeks I used ‘Saving Water’ as a theme. I can either use it as context in my lesson as I did in Literacy and Numeracy or address one environmental component or issue as a topic in a lesson, although that would depend on the kind of skills and values I want to convey to the learners.”*

The observation made on the practice of Ms Loka and other observed teachers and the conversation we had illustrate the following as another theme of this study:

*Opportunity to teach deeper concepts of EE and how they relate to our lives, versus an approach of teaching only surface knowledge of environment...three lessons illustrate this theme.*

Ms Loka thinks that the new policy provides a better set-up and basis for the teaching and learning of Environmental Education. She alleged that this opportune situation is far better than in the past, where Environmental Education was treated with less knowledge and more contempt.

*“In the past when you referred or talked about the environment, people would associate you with then undermined farming. But in the new dispensation the picture has changed the department is making a lot of noise about Environmental Education. We have better support material. We received a series lately known as Enabling an Environmental focus in all learning areas. It provides options on how Environmental Education should be included in the teaching of all learning areas”, she explained.*

Based on this claim, I suggested the following as another theme:

*Importance of focus and support in the new curriculum provisions...policy more focused on EE and support also forthcoming thus enabling the practice.*

According to her, however, there are some problems in the new teaching of environment. She cited several factors which serve as challenges in her practice.

*“The new policy has its own problems. The fact that it is still changing confuses a lot. Within ten years of the new dispensation it has already changed from curriculum 2005 to RNCS. What is confusing is that our practice is also requested to change, and those officials want to change our practice by arranging a two-three days workshop, that is very unfair. Look Environmental Education in the past was known as environmental studies; seven years ago it was changed to what was called Phase organiser. It was taught as a cross-curricular entity with the other three or so...phase organisers. Seven years down the line it has changed to Revised National Curriculum Statement. As I said*



*earlier environment in the new policy is known as a principle with other principles. The challenge is that all the other principles like Environmental Education need to be included in the lessons, that leave me with less option, but to see how I can make ends meet for my learners. I have to come with ways to make sure the learners are learning environment and other principle of the new curriculum. That entirely depends on me.”*

As indicated in the above statement, Ms Loka was open about what she thought about the new policy and its opportunities and disadvantages. Concerning her perception of her own practice as far as the new policy is concerned, she explained:

*“I cannot claim that I practice according to the new policy. I believe no teacher can make such a claim, because of the difficulties that I have already mentioned. Well if you know what RNCS is all about, you may have realised that I was combining the new methods and old methods. Look, I made them work in groups, investigate and report, and that is what the new curriculum advocate. On the other hand I substantively narrated the meaning of the lesson and other concepts in the lesson, I made them to memorise some concepts as they answered and repeated in chorus, one will term that rote learning. It works for me and my learners. So I don’t take entirely everything from the policy document.*

Ms Lele echoed a similar thought, citing lack of teacher’s autonomy as a problem. She said:

*“As a professional, I cannot just be forced to do things that don’t work in my classroom; I have to do something, so I innovate. The policy in most instances is not realistic of the factors within the environment of teaching, factors like overcrowding, learners socio-economic background etc. Another thing is the supervisory official who want us to do exactly and everything as advocated by the policy and we are unable to do that though.”*

Ms Loka stuck to the same argument in all post-observation interviews I had with her. Ms Tlala was more forthright and indicated point blank that:

*“You know I take from the policy only what is important and relevant to the situation of my learners, after all the main aim of policy is to provide framework not dictate as some of our supervisory officials are doing.”*

Mmataseleng of Odirile primarily indicated that some of the things which are advocated by the policy and the subject advisors are unrealistic, so for the sake of progress of her learners she ignores them, though they cause serious arguments when the officials visit her in the classroom. During our conversation, she alleged that:

*“Environmental issues are integrated in my lessons but I can’t always include environment in my lesson, what about other principles, they need to be addressed too, and I can’t include all principles in my lesson or different in each lesson that will confuse my kids. Therefore it depends upon the teacher how to come up with a suitable approach that will help her/his learners. So not all my lessons include Environmental Education”*

Another theme emerging from these deliberations is:

*Policy-practice contradiction and the resulting teachers’ choices*

The RNCS as mentioned has principles that have been derived from the constitution of South Africa. This policy demands that all the principles should be integrated with the practice of the teachers. The principles are Social Justice, Human Rights, Inclusivity, and Environment as Healthy Environment. Other principles that from the framework for teaching are Outcomes-based Education, A High Level of Skills and Knowledge for All, Clarity and Accessibility and Progression and Integration.

Mmataseleng’s comments that she cannot always include EE in her lesson because she need to make way for other principles, reveals the difficulty that the teacher are confronted with of translating the policy in the to classroom situation as the results of what seem to be contradiction within the policy.. The policy looks to be over ambitious and it doesn’t take the factors that exists in different contexts of the schools and communities and that includes, funding, teachers level of knowledge in the new policy (as a result of quick fix kind of training) level of literacy in the communities, physical resources and teachers’ beliefs and conceptions.

Having captured data on the practice of Environmental Education of Ms Loka, and her understanding of the RNCS and Environmental Education, I would like to provide some interpretation of this data and provide an analysis of her practice and understanding of the new policy, continuing to make reference to data from the other informants as well. The next chapter provides this interpretation and analysis and identifies four/five themes that have emerged from this data on the case study of policy and practice of EE at school level. I will conclude the chapter by examining what the possible implications of these findings are, and what other possible areas of research would be useful in pursuing a more complete understanding of the policy and practice of EE in South African schools.

## CHAPTER 5

### ANALYSIS OF THE FINDINGS, CONCLUSIONS AND IMPLICATIONS FOR POLICY AND RESEARCH

I am drawing from data collected using several instruments to describe Ms Loka's practice of Environmental Education policy. My objective is to systematically outline what insight this case generates in terms of teacher's understanding and beliefs relating to the Environmental Education policy (new RNCS), and in the teacher's teaching practice in the classroom. I needed to closely look at the case in search of patterns which illustrate the relationship between policy and practice in the context of environmental policy (RNCS).

I developed this case analysis to address the three overarching research questions of the study:

*1. What are the provisions of the new curriculum policy on Environmental Education i.e. what does the new Environmental Education curriculum policy say to teachers about:*

- 1.1 Subject matter*
- 1.2. Teaching and teaching approaches*
- 1.3. Teachers conceptions*

*2. How do the teachers include Environmental Education in their daily classroom practice with reference to the new RNCS?*

*3. How can the policy and practice of Environmental Education in some of the schools in South African be understood and explained?*

The order that I will follow is to first look closely at Ms Loka's practice against the required practice as illustrated by the policy. From the discussion of her practice I will highlight the themes that emerged from the case study/literature. I will as well highlight what my literature and conceptual framework say about the themes. I

conclude by highlighting the issues that this study couldn't answer and need to be research further, and the implications and major conclusions of my findings.

**Ms Loka's classroom practice of Environmental Education and understanding of Environmental Education policy (RNCS)**

The policy expects teachers to include Environmental Education as principle in their practice. That means the environment should be included in the all lessons of different learning programs and learning areas. According to the policy, environment should form part of the context or be a theme of each lesson. E.g. a subject matter can be taught using the environmental context where environmental issues are addressed. If the teacher is dealing with measurement of quantity of water, for example, the teacher should also convey a message of the importance of saving water and the consequences of not doing so. The measurement of the amount of water dripping from a tap can be done. As the learners gain mathematical knowledge, they also are made aware of the amount of water which is wasted by the dripping taps in the school and community. The amount in rands and cent as result of the dripping taps can also be calculated. The policy also calls this 'integration'. Ms Loka's presentation of her lessons showed that she has an idea of how the policy expects her to include Environmental Education in her lesson. She used an environmental theme and context in all her three observed lessons, a practice which was also observed in all other informant teachers. Ms Loka went on to indicate that she prepares according to the new policy. As her lessons continued, Ms Loka's practice reflects the following elements of old way of teaching: teacher narration, chorus answering, drilling and memorisation. She made them memorise the names of domestic animals. Her practice also is characterised by an approach which is encouraged by the new policy - group work and investigation. Although she spent time narrating, she also allowed learners to talk about the environmental issues in groups, and to make reports. She also involved them in research action method (or investigative) fieldwork, where they did hands-on and interacted with a real environment (see Chapter 4). Hands-on activities include educational

excursions, where learners interact with real environmental issues. The observation of Ms Loka's lessons and her explanation of her practice indicate that, although the policy has had an impact on her practice, the policy is not implemented in its entirety. She explained that she only considers from the policy those things which contribute positively towards the learning of her learners. She deliberately applies or makes use of some of old methods in teaching Environmental Education and also other themes, because she feels and believes that it is beneficial to the learning of her learners. Ms Loka's practice is also characterised by other approaches not mentioned in the policy, even though the subject advisor Ms Maria and HOD, Ms Catherine alleged that they ensure that the policy is properly implemented and followed accordingly. Ms Loka is in agreement with other observed teachers, Matseleng, Ms Lele, Ms Tlala and Emly.

#### **Themes emerging from the literature and data**

Four major themes emerged from the data, which explain the present policy and practice of Environmental Education in South African schools in terms of Ms Loka's case. With regard to the first theme: *Implementation of new practice is done within context of past practice, experience and beliefs*. The case revealed that in the process of grappling with implementation of the new environmental policy, Ms Loka always resorted to methods and approaches that are regarded as old in her practice. She and other research informants believe that approaches like memorisation, teacher narration, chorus answering and drilling are very vital in their practice. She made it clear that she only take from the policy what she thinks is important and beneficial to the learners. My finding is corroborated by Elmore & Sykes, (1992) that innovations were seldom implemented exactly in the classroom. Concurring with this perspective, McLaughlin (1987) and Weiss & Cohen (1991) suggest that how policies are attended to and how they are received is shaped by practitioners' existing beliefs and capacities. One of the themes that made up my conceptual framework is that, the policy is personal construct (Weiss & Cohen, 1991). Taking it even beyond is Huberman in his 'Contingency' theory, that teachers make decisions based on

the immediate and specific challenges presented in the course of teaching or planning, rather than on fixed, pre-determined long-term courses of action which are resolutely implemented as planned.

The second theme '*the opportunity to teach deeper concepts of EE and how they relate to our lives versus approach of teaching only surface knowledge of environment*' reveals that the new policy provides teachers with an opportunity to teach deeper concepts of EE in the sense that the teachers can either include environment as a cross-curricular principle or as topic in a lesson. This is unlike in the past where it was confined to few grades as manual work. In her presentation Ms Loka included EE as principle although she indicated that she had an option of including it as topic where she could put more emphasis on it. The study revealed that the policy is shaped by teachers' beliefs, conceptions and other factors within the area of practice. I think this put the teacher in a position of trust that as a professional she/he can make correct options in her teaching for better knowledge acquisition by the learners. Ken Harley et al, (1999) describe teacher as a self-directive entity, who can make informed decision. As much as this might be the case, I think one thing that needed to be highlighted in this case, is the level of content knowledge of the learning area in the decision-making of how EE concepts can be taught. This is not to overlook the support that Ms Loka indicated they obtain from the department of education. It is clear that the little autonomy in the classroom is not advocated by the policy, but by the teachers themselves as cited by most scholars in the literature.

The third theme emerging from the case is '*the importance of focus and support in the new curriculum provisions...policy more focused on EE and support also forthcoming thus is enabling the practice*'. The case revealed what the importance of support and focus on a new policy can do towards its practice. Because of this support and focus, Ms Loka's practice is characterised by the ideas of the new policy. There is indication that her practice seems to be evolving from the past to the present and she cited the importance of support as one of

the contributing factor. From the literature, Darling-Hammond, (1998) in his study discovered that not only the beliefs and conceptions influenced teachers' practice but resources, motivation and leadership as well. From the findings, yes providing resources in the form of learning and teacher material helped Ms Loka and other research informant in their implantation of the EE policy. I can therefore partly attribute the successful implementation of policy to the extent of support provided.

The fourth theme is that of *'the policy-practice contradiction and the resulting teachers' choices'*. Through this study I have discovered that there are some contradictions within the policy. It emerged that teachers cannot put some of the policy prescriptions into practice because there is no ground for practicality. The issue of all RNCS principles being reflected in a lesson is a cause of concern on the side of the teachers. That results in teachers making their own choices. One of the themes from the conceptual framework indicates that policy adapted may not be the same as the policy implemented (Cohen et al, 1972). Above all what the scholars have attributed as the contributory factors towards the shape and appearance of implementation of the policy, I think one of the factors can be the abstract level and the realistic nature of the policy. Is the policy practical, understandable and realistic?

It is unfortunate that this study was done during the time of transition from curriculum 2005 to RNCS. Some of the important data may yet emerge as the teachers were still grappling with the new RNCS. Furthermore, the fact that this study is of limited scope may have denied me the liberty to spread over a larger area of research, thus affecting my sample size and the size of data collected. Another factor is that this study was done in the part of the North West province in South Africa where most of the research informants know my rank within the department of education in this area. The research informants might have been intimidated by that, as they could begin to think that the findings would be made known to the District officials. Another factor that made data collection difficult



was the overcrowded classrooms in the target schools. I always had difficulty finding an ideal spot to sit and observe in the classroom.

Although my study attempted to cover a broader field and understanding of what the practice of EE policy looks like in South African schools, the following aspects couldn't be answered by this study: The implication of teachers' content knowledge towards the learning and teaching of EE. The knowledge mostly displayed was from resource material that was forwarded to the teachers as support material. Most topics were derived from that material and I didn't manage to at least establish the levels of their content knowledge. Another aspect is that of how the learners' beliefs and conceptions influence their learning of EE. My study was specifically focused on how the teachers include EE in their practice and therefore I was not able to follow on some of these interesting aspects. The last question that the study couldn't answer is the aspect of learner and learning of EE in general. All these issues highlighted here would be open for further research on policy and practice of EE.

Based on the four themes emerging from this study, we can therefore conclude that:

Firstly, the teachers in South Africa seem to understand the EE policy and expects of them. They are aware that EE should be included as a key principle in their teaching, although interpretations of this vary in each classroom.

Secondly, that the bigger part of EE teaching in South African schools is informed by the new EE policy, although there are still influences from the past approaches and methods of teaching.

Thirdly, the practice of EE is influenced by what seem to be contradiction within the policy itself, thus forcing teachers to make choices about what to focus on and what to ignore.

Finally, the curriculum provisions and support towards the teaching of EE is of high importance and policy makers should build in enough opportunities and resources for support of teachers on the new curriculum policy.

The study has successfully revealed these set of important issues that can be helpful towards policy makers and further study in policy. Based on these issues it is for all stakeholders who are directly involved in the making of policy and teacher development to locate the areas of development for teachers and where the policy need adjustment and review. I think one of the areas that need some adjustment in the policy is focus, it should be established in a way that it addresses different contexts in the society rather than maintaining its primitive regulative function. The fact that the policy among others is shaped by teachers' beliefs and conceptions should be accommodated. Teachers should therefore be given enough training in interpretation of policy so that their interpretation should not compromise the broader intention of the policy. I think the density of the policy should be of reasonable level to avoid internal contradictions and to make it more practical and implementable.

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**APPENDIX A**

**Classroom Description**

**A. Sitting arrangement:**

- \_\_\_\_\_ Learners have assigned seats
- \_\_\_\_\_ Sitting appears to be random
- \_\_\_\_\_ Desks arranged in rows and columns
- \_\_\_\_\_ Desks arranged in semi – circles
- \_\_\_\_\_ Desks arranged in clusters
- \_\_\_\_\_ Tables are used, not desks

**B. Walls:**

- \_\_\_\_\_ Learners art work
- \_\_\_\_\_ Learners EE assignments (nature, teacher 's comments)
- \_\_\_\_\_ Rules of behaviour posted
- \_\_\_\_\_ Rules of EE posted
- \_\_\_\_\_ Illustrations of EE processes posted
- \_\_\_\_\_ EE Projects
- \_\_\_\_\_ Pictures
- \_\_\_\_\_ Charts
- \_\_\_\_\_ Other

**C. The Students:**

- Number of learners \_\_\_\_\_
- Present learners \_\_\_\_\_
- Absent learners \_\_\_\_\_

**D. Ethnicity :**

- \_\_\_\_\_ Mostly white
- \_\_\_\_\_ Mostly black

**E. Gender :**

- \_\_\_\_\_ Boys
- \_\_\_\_\_ Girls

**APPENDIX B**

**PRE- OBSERVATION INTERVIEW**

**Teacher** \_\_\_\_\_

**Observer** \_\_\_\_\_

**Date** \_\_\_\_\_

1. Could you tell me a little about what you are planning to do when I observe your class? \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

2. What environmental issues will your lesson address? \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

3. How do you actually intend addressing environmental issues? \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

4. Is your preparation of the lesson according to the according to the RNCS policy? \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

5. Will you be presenting and addressing environmental issues according to the policy?



(If yes) Explain how the policy expect you to include environmental education in your teaching \_\_\_\_\_

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(If no) Explain why not and how you will present it \_\_\_\_\_

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6. Can you give me more details about what the learners will actually be doing?

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7. Why did you decide to do that? \_\_\_\_\_

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8. What did you want to achieve? \_\_\_\_\_

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9. Is there anything in particular you are hoping to have happen on the day of observation?

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10. Will this be difficult for any of your learners? Why?

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11. Is there anything I should especially pay attention to while I'm observing?

## **CLASSROOM OBSERVATION PROTOCOL**

- **AGREEMENT** (To what extent did the observed lesson agree with what the teacher said in advance? (That is pre- observation interview)
  
- **LESSON PLANNING** (Did the teacher practice according to the lesson plan?)
  
- **LESSON TOPIC** (Was the topic environmental related?) If not, how were environmental issues addressed in this lesson?)
  
- **ENVIRONMENTAL ISSUES** (How was the environmental issues addressed in the lesson?)
  
- **SUBJECT MATTER** (How well did the teacher seem to know the subject matter at hand (could be seen from teacher's stated goals, explanations used, questions asked, and responses given)
  
- **INVOLVEMENT OF LEARNERS** (How was the learners involved in the lesson, did they investigate or research etc,)
  
- **QUESTIONS** (What kind of questions did the teacher ask?)

- **STUDENT DIVERSITY** (How did the teacher respond to student diversity?)  
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- **MATERIALS** (What type of materials is the teacher using?)
- **OBJECTIVES** (Did the teacher achieve her/his objectives? This could be seen when the learners are able to answer, give reports and complete the projects and assignments)

## APPENDIX D

### POST-OBSERVATION INTERVIEW

**A.** How did you feel things went in class?

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1. How did things compare with what you had expected? Did anything surprise you?

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2. Was there anything you were particularly pleased about? What, Why?

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3. Did anything disappoint you? What, Why?

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**B.** How did you decide whom to call on? (*To work at the board, to answer the questions, etc.*)

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**C.** I noticed that you said / did

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1. Why did you decide to do this?

2. Does it have any particular advantage or disadvantages? (*If only advantages are listed, probe for disadvantages, and vice*

versa) \_\_\_\_\_  
\_\_\_\_\_

**D.** Could you tell me a little bit about \_\_\_\_\_ (relevant descriptor)?

\_\_\_\_\_  
\_\_\_\_\_

1. Where did you get the  
idea? \_\_\_\_\_

**E.** I've only been able to observe these two days. Was this session typical of  
what you are doing in Numeracy/Literacy/Life Skills these  
days? \_\_\_\_\_

1. If yes: Did you do anything special because you knew I would be here?

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

2. If no: How was today's session different from usual?

\_\_\_\_\_  
\_\_\_\_\_

**F.1.** Has your teaching changed in the last 5 years? If yes, how?

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

**G.** Tell me about your inclusion of environmental education in you lesson, how did you do it?

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**H.** What says the policy about the inclusion of environmental education in your teaching? \_\_\_\_\_

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**I.** Did you practice according to the new policy?

1. If no, why? \_\_\_\_\_

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2. If yes, what is challenging or easy about it? \_\_\_\_\_

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**J.** How do you find this new approach of teaching environmental education?

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**K.** How do you compare environmental education teaching now and in the past before the new education system? (Elaborate).

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LESSON PLAN: LITERACY GRADE 3 MOCOGELO PRIM

LESSON PLAN: ENVIRONMENT

TEACHING TIME AVAILABLE: PER WEEK 10 hrs  
PER DAY 2 hrs

APPENDIX L

LO'S AND AS'S	CONTEXT: DOMESTIC ANIMALS
<p>HL LO 1: Listening. AS 1. Listens attentively to questions and announcements and respond appropriately.</p> <p>HL LO 2: Speaking. AS 5. Initiate topics in group discussion.</p> <p>HL LO 3: Reading and Viewing. AS 3. Reads about with expression using appropriate stress, pausing and intonation.</p> <p>HL LO 4: Writing. AS 1. Uses pre-writing strategies to initiate writing.</p>	<p>LEARNING ACTIVITIES AND ASSESSMENT</p> <ul style="list-style-type: none"> <li>- The educator hangs an animal picture on the board and ask questions eg. What do you see on the picture?</li> <li>- Learners name what they see on the picture eg. cow, goat, donkey etc.</li> <li>- We talk about products from domestic animals eg. A cow gives us milk and meat. Skin makes shoes, horns, and cow hills = handles for pots and knives, glue.</li> </ul>
<p>INTEGRATION</p>	<ul style="list-style-type: none"> <li>- dwelling places for domestic animals eg. cow - kraal and building material eg. kraal = poles and wire.</li> <li>- Sound made by animals eg. a cat miaou</li> <li>- food for domestic animals eg. cat = milk</li> <li>- Baby animals eg. Cow = calf.</li> <li>- Spelling, and dictation eg. kr--l</li> <li>- Creative activity on animal of their choice</li> </ul>
<p>LOOKING BACKWARD AT:</p>	<p>LOOKING FORWARD AT:</p>
<p>Oral discussion on domestic animals</p>	<p>Learners should be able to:-</p> <ul style="list-style-type: none"> <li>name domestic animals, products and habitats</li> <li>know their sleeping places, material for building sleeping places.</li> </ul>



PLANNED ASSESSMENT	RESOURCES
Are learners able to use addition and multiplication symbols correctly	Wall chart (domestic animals) counters
TEACHER REFLECTION:	

LESSON PLAN: ENVIRONMENT  
 LESSON PLAN: NUMERACY  
 TEACHING TIME AVAILABLE: PER WEEK 8 hrs 45 min  
 PER DAY 1 hrs 45 min  
 GRADE 3 APPENDIX M  
 MOCOCHELO PRIMARY.  
 APPENDIX L

<p>LO'S AND AS'S</p>	<p>CONTEXT: DOMESTIC ANIMALS</p>
<p>Maths 201: Number Operation and Relationship.          AS 4: Performs calculation using appropriate symbols to solve problems involving addition and multiplication</p>	<p>LEARNING ACTIVITIES AND ASSESSMENT</p> <ul style="list-style-type: none"> <li>- Hang an animal poster on the board and ask questions eg. What do you see on the picture?</li> <li>- Learners name what they see on the picture eg. cow, donkey, goat.</li> <li>- Learners count the legs of big animals eg. One cow has 4 legs                  2 cows has 8 legs  <math>4 + 4 = 8</math>    <math>4 + 4 + 4 = 12</math>  <math>4 \times 2 = 8</math>    <math>4 \times 3 = 12</math></li> </ul>
<p>INTEGRATION</p>	
<p>Ns Lol: Scientific Investigation          AS 9: Participates in planned activity indipendantly or as part of a group.</p>	<p>Learners do the sums in their books.</p>
<p>LOOKING BACKWARD AT:</p>	<p>LOOKING FORWARD AT:</p>
<p>Oral discussion on domestic animals</p>	<p>Learners will be able to know:          - different names of domestic animals          - addition and multiplication.</p>

PLANNED ASSESSMENT	RESOURCES
Are learners able to use addition and multiplication symbols correctly	Wall chart (domestic animals) counters
TEACHER REFLECTION:	