

**Teachers' Conceptions of Environmental Education in the
Foundation Phase in KwaZulu-Natal.**

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Foundation Phase in KwaZulu-Natal.

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Declaration

I, Shamain Ankoor Jaikarun, do candidly acknowledge that the following research is my original work, and that all the views of authorities quoted throughout my research have been accordingly accredited for in my reference list. This research has not been previously submitted for any degree at this or any other university.

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Dedication

This thesis is humbly dedicated to my dear husband:

The late

DANCHARAN JAIKARUN (DAN)

~You have been my inspiration when I commenced this study; however your untimely passing away has not made it possible for you to see the completion of this thesis. You have been my spiritual compass when I often felt lost and full of despair. Your divine presence has filled that void in me during this journey. I thank you for your love, support and spiritual guidance. ~

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This study has taken me through a journey of trials and tribulations. I have faced numerous challenges and obstacles, and each time I felt despondent and in utter despair, I gained my strength from some very special and wonderful people that God has surrounded me with.

I place on record my sincere thanks, appreciation and gratitude:

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Abstract

Transforming society towards following an environmentally sustainable path will not be easy because it means a fundamental shift in thinking, values and actions of all institutions, communities and individuals worldwide. Education is the key to ensure that future generations of South Africans will be able to deliver the society envisaged by our Constitution. The formative years of the Foundation Phase are an ideal place for environmental education (EE) to begin. The purpose of this study was to explore conceptions of EE held by educators in the Foundation Phase at a primary school in KwaZulu-Natal.

This study is located both in the interpretivist and social critical paradigms. A qualitative research approach was used. The participants in the study were three Foundation Phase educators and one Head of Department. Semi-structured interviews, observations and a focus group interview were used in order to collect the data. The findings of the study suggest that Foundation Phase educators held multiple conceptions of EE that were drawn from the *in, for* and *about* perspectives. Educator's conceptions were derived from personal experiences, learner support materials provided by environmental projects undertaken by the schools and workshops. This study also revealed that the context of learners from poor socio-economic conditions, sidelining of EE in the curriculum and the lack of support for educators were challenging conceptions of EE in practice.

List of Acronyms

ANC	African National Congress
EE	Environmental Education
EECI	Environmental Education Curriculum Institute
EEPI	Environmental Education Policy Initiative
EJNF	Environmental Justice Networking Forum
IUCN	International Union for the Conservation of Nature
NCC	National Curriculum Counsel
NCS	National Curriculum Statement
NECC	National Education Coordination Committee
NEEP	National Environmental Education Programme
OBE	Outcomes-Based Education
THRASS	Teaching Handwriting Reading and Spelling Skills
UNAPT	United Nations Agency for Protection and Training
UNCED	United Nations Commission on Environment and Development
UNEP	United Nations Environmental Programme
UNESCO	United Nations Educational, Scientific and Cultural Organisation

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Chapter One

Setting the scene for environmental education

1. Introductory remarks

A study on the conceptions of environmental education (EE) as held by ¹teachers is best understood by examining the context that creates a need for such an investigation. I therefore begin this thesis with a historical slant to EE. I believe that since EE is still emerging in the curriculum debates in the Foundation Phase it is a good starting point to think about our past with the future in mind.

1.1. Background to the study

In order to contextualise my study I present a discussion on the way in which the environment served as an educator to South Africans in earlier historical times. I begin this section by looking at the use of the environment in the past. In my discussion I will show how cultural practices, religion and traditional healing were upheld by the different tribal groups. I will give a brief input on the disruptions during the apartheid era and a discussion on the environmental crisis. Our Constitution and the White Paper on Education (1995) will be discussed thereafter. This will be followed by a discussion on the curriculum and EE. I will then present the rationale for this study. Thereafter I present the aims of the study. This will be followed by the key research questions and a discussion on the paradigms, research approach, methodology and context of this study. I will then present an outline of the chapters.

1.1.1 The use of environment in the past

*The world is not left to us by our parents,
It is lent to us by our children.
(African proverb)*

¹ I began this study using the term teacher. Upon reflection I found it to be narrow and limiting. I therefore used the word educator throughout this study.

The proverb shows that we live our lives in connected ways. The reference to the world could be associated to our connection to the environment. Nelson Mandela in an interview for the National Geographic had the following to say about community involvement and connections with the environment from a historical perspective:

...we had as a community, long before the arrival of the whites, very good laws on conservation. The chief of a particular area would say, 'if you people want to go cut firewood, you must come to me or a foreman who is selected. If you want to go and hunt game, it should not be done in a chaotic manner, because we want to preserve the animals, so you must get permission'. And the chief would say 'I am going to have a particular period of the year when there can be hunting'. So conservation was there long before the whites came. Of course there are the latest methods of conservation, such as education: we have to take them from the West. But conservation was there! (Goodwin, 2000, p.7).

1.1.2. Cultural practices, religion and traditional healing

If we go down the history of man and the environment in the African context it is clear that the protection of living things were part and parcel of the cultural practices and religion of people. Hoogervorst (2004) provides clarity on this aspect. In the land of the Xhosa people there was a sacred crane, a graceful long-legged bird, whose feathers were only worn by warriors who had proven their bravery in battle and their loyalty to the tribe many times. This was the blue crane, a bird symbolic of selfless courage and loyalty. A bird whose feathers were regarded by the Xhosa people and the Zulu people in the same way that the British people regarded the Victoria Cross. Mutwa (2004), cited in Hoogervorst (2004) elaborates on this aspect by stating that amongst the trees that enjoyed protection was a large acacia, which was especially protected and revered by the Swana people. A branch of this tree was only cut off from the tree when the tribal chieftain had died and the branch was used in the sacred fire which was lit for two nights next to the home of the dead man. However, this sanctity and respect for nature no longer exist. Today it is quite common to see children (as well as adults) urinating and

defecating into rivers and streams in South Africa. In the past those children were often punished in a terrible way (Hoogervorst, 2004).

Damm (2002) notes that it was no accident that when the white man came to South Africa, he found the land teeming with animals of all kinds. He found millions of springbok and wildebeest, of zebras and elephants, swarming upon the face of the African veld. Africans protected animals. Hoogervorst (2004) further states that they regarded the existence of animals on this earth as ensuring the continuing fertility of this earth. Even, locusts, those great destroyers of African crops in olden days, were seen as a necessary part of existence with the humans or the animals on the earth. When the locusts left after eating all the crops, they made the land more fertile than ever before and their dung made the green maize plants of the next year carry heavy cobs of maize

In those days healing plants were plentiful all over Natal and other parts of South Africa, which were used in the healing of sickness amongst the people by traditional healers. Many of these plants have vanished, never to return, because extinction has now become an accelerating and ongoing process. As a direct result of this, as traditional, safe, herbal medicines vanish the people are seeking refuge in highly dangerous chemical substances in their battle against sickness (Hoogervorst, 2004). Without a balance between sustaining the land and sustaining human interests, both will suffer (Moosa, 2001). Tons of African plants are being ripped out of the land and exported to other countries. It is believed that enterprising business men, operating as “muti” industry are responsible for the depletion of many precious herbal medicines, and not traditional healers. Mutwa (2004), cited in Hoogervorst (2004), an African sangoma, strongly believe that the continued extinction of animal as well as plant species in our country is behind the deterioration in health amongst all human beings that we see in Africa today.

1.1.3 The apartheid era and the environmental crisis

The history of environmental policy in South Africa is a cruel and perverse one. Under colonial and apartheid governments thousands of black South Africans were forcibly removed from their ancestral lands to make way for game parks (Damm, 2002). Billions

of rands were spent on preserving wildlife and protecting wild flowers while people in “townships” and “homelands” lived without adequate food, shelter and clean water. In short, flora and fauna were often considered more important than the majority of the country’s population. As a result, black South Africans (and anti-apartheid activists in general) paid little attention to environmental debates during the apartheid era (McDonald, 2002). The government’s “homelands” policy aimed at moving black Africans to ethnically divided rural areas, where overpopulation, poverty and lack of basic services inevitably led to widespread environmental degradation. Africans were treated as foreign migrants in the land of their birth. The cumulative effect of the battery of discriminatory laws enacted during the apartheid regime was to further alienate blacks from mainstream environmentalism. These laws were responsible for stunting the growth of the environmental movement (McDonald, 2002).

The world is in an environmental crisis dominated by environmental issues and risks such as global warming, loss of biodiversity, pollution, deforestation, urbanization and many others (Loubser, 2005). For many commentators, the solution lies in the provision of adequate education, including environmental education. Transforming society towards following an environmentally sustainable path will not be easy because it means a fundamental shift in thinking, values and actions of all institutions, communities and individuals worldwide. Lotz (1999) argues that a shift in patterns of thinking and practice is essential to making the leap forward.

Community education and individual training in rural areas must go hand in hand with the more standardised formal process of EE in the school system. South Africa has made important decisions to integrate EE into the school system. Past EE strategies have been culturally biased and have concentrated mainly on the conservation and/or protection of wild animals. The most important factor of soil and frequently even plants as well as the human component was left out of the equation. The result had to be fraught with errors (Damm, 2002). It was necessary to entrench EE within legal frameworks and policies in South Africa.

1.1.4. Our Constitution and the White Paper on Education (1995).

Our Constitution (1996, p.11) guarantees the right to:

... an environment that is “not harmful to human health and well-being” and “to have the environment protected for the benefit of present and future generations, against pollution and ecological degradation, to promote conservation and to secure ecologically sustainable development and use of natural resources while promoting justifiable economic and social development”.

The White Paper on Education (1995) states that conservation and the sustainable use of our natural resources in South Africa will depend on changing the behaviour of individuals and families, as well as private and public institutions. In order to guarantee a better quality of life for everyone, the policy advocates that we will have to change the ways that we are extracting resources and producing things. We will also have to minimize waste and control pollution. Our duty is to take reasonable measures to uphold good environmental practices. Hoogervorst (2004) argues that education is the key to ensure that future generations of South Africans will be able to deliver the society envisaged by the Constitution.

1.1.5. Curriculum and EE

When examining what the content of a curriculum for EE was it was evident that in the early 1970s the focus was on conservation education (Loubser, 2005). This type of education focused on soil erosion and nature study (Irwin, 1990). International influences and developments in South Africa led to the curriculum on EE being broadened. A realisation that education curriculum policy needed to be developed within the formal education arena, the Environmental Education Policy Initiative (EEPI), a participatory state/civil society policy-making alliance was established in 1992. A key outcome of the deliberations and contestations of the EEPI was the following resolution, passed at a conference held by the National Education Coordination Committee (NECC) in 1993:

This conference...therefore resolves...the curriculum will develop the understanding, values and skills necessary for sustainable development and an environment that ensures healthy living (Clacherty, 1993).

The resolution above was reproduced in the African National Congress's (ANC's) Policy Framework for Education and Training in 1994. It took the form of a White Paper on Education and Training (Department of Education, 1995). This in turn set the scene for the development of a curriculum that valued EE. The following excerpt indicates a commitment to a strong focus on EE through a cross curricular approach:

...environmental education, involving an interdisciplinary, integrated and active approach to learning, must be a vital element of all levels and programmes of the education and training system, in order to create environmentally literate and active citizens and ensure that all South Africans, present and future, enjoy a decent quantity of life through the sustainable use of resources (Department of Education, 1995).

From the above it is evident that EE cannot just be taught as a subject. As a principle and a cross field outcome it must be integrated across the curriculum. To accomplish this, the then Minister of Education, Kader Asmal, established a National Environmental Education Programme (NEEP) (Hoogervorst, 2004). Minister Asmal noted that for a number of decades, environmental learning has taken place in the margins of formal education, both in South Africa and in many other countries around the world. As the Minister of education at that time, Asmal envisaged a future where every educator in every school in South Africa will be equipped and enthused to use the environment as an important facet of every learning area. The aim of this programme was to implement EE as formulated in the White Paper on Education and Training.

Following this, the EEPI changed focus to become the EE Curriculum Institute (EECI), a joint state/civil society partnership project with a focus on formal education curriculum policy development. Through the participatory policy-making process established in the EEPI, environmental educators working in the EECI established themselves as

stakeholders in the curriculum development process in South Africa, participating in the development of a new outcomes-based education curriculum, named Curriculum 2005 (Department of Education, 1997), the streamlining and strengthening of this curriculum and the development of a new revised National Curriculum Statement (NCS) (Department of Education, 2002).

It seems as if education based on outcomes has become very popular in many countries and that such education systems suit the principles of EE (Loubser, 2005). Outcomes-Based Education (OBE) is learner-centered and the emphasis is on what the learner should be able to know, understand, do and become ((Department of Education, 1997). This means that learners not only gain knowledge, they also have to understand what they learn and must be able to develop appropriate skills, attitudes and values during the learning process.

According to Loubser (2005) EE should therefore be on the agenda of government departments if any success is to be achieved in enhancing their citizens' understanding of and attitudes towards the environment, and their skills in solving environmental problems. Governments usually rely on their education system to achieve their political ideals. The fact is, therefore, that environmental educationist will always have to work hard to find a place for EE in the general curriculum.

With the advent of OBE, South Africans have for the first time in their history a viable tool at hand to reach, involve and fascinate the entire young population of the country with the all important topic of Africa's biodiversity Hoogervorst (2004). EE will be an important part of the curriculum of the future and rightfully so. It is envisaged that the awareness of environmental problems, the importance of ecological research and application of sound ecological principles as well as the primacy of sustainable use of natural resources within the concept of sustainable development will be brought to the attention of the entire population. It could be argued that environmental information, in contrast to non-existent EE, has been a restricted privilege, until now (Damm, 2002).

The curriculum is based on the principles of human rights, a healthy environment, social justice and inclusivity (Department of Education, 1997). EE is one of the key principles guiding the NCS. I believe that in order to bring about change in the behaviour of our future citizens we need change agents. Educators, especially those in the Foundation Phase are critical change agents. I say this because they deal with early socialisation of young children. These children will get to know their lifeworlds through educators and other adults who play a significant role in their lives. The conceptions of EE as held by Foundation Phase educators are important to this study. Their understandings and practices will impact on the behaviour and attitudes of children towards the environment.

1.1.6. Rationale for the study

At present there is a gap in understanding educator's conceptions of EE especially in the Foundation Phase which is regarded as a bedrock stage for shaping of active citizens with attitudes and behaviours that show responsibility towards the environment. As a Foundation Phase educator who was heavily involved in EE at my school, I am well placed to conduct this study. I was part of a steering committee that initiated an enviro-club at my school during the 1990s with a strategic perspective in promoting permaculture/organic gardening as a means to improving the socio-economical environment of the school community. Unfortunately, the project was not sustained due to educators not having the necessary skills to embark on such a project. The lack of interest on the part of the educators and time constraints were also contributing factors.

During my twenty-eight years of teaching experience I have seen the shift from a subject called *The Study of the Environment*, which had thematically related topics on nature, to a less explicit focus in the integrated EE in the NCS for the Foundation Phase. Personally I feel that EE is being sidelined as the focus falls on Literacy, Numeracy and Lifeskills from their focus learning areas. I therefore strongly hold the view that this study is necessary to understand conceptions of EE amongst Foundation Phase educators in the present curriculum.

During my involvement in the enviro-club activities at my school, I was always curious about how Foundation Phase educators' conceptions of EE influenced their teaching. I felt that they tended to be located mostly in doing nature education. This concept, for a few years in the early 1980s, was confused with EE. Its actual focus was on out-of-doors activity, the study of and respect for nature (Irwin, 1992). It is possible that educators took this stance because their training may have focused solely on this.

I felt that it is necessary to shift perspectives. I therefore undertook this study. I feel that the findings from my study may help to seek solutions to promoting a sustainable environment through people who are highly environmentally aware of their behaviour and actions. Furthermore I believe that my study will be valuable in helping educators to reflect on their conceptual and theoretical underpinnings of their teaching. It is Hart (1994) who notes that when educators gain a better understanding of the educational reality of EE it can help them understand and reformulate their own personal theory of EE. This could mean a better response to EE. I believe that an "environmentally educated teacher" (United Nations Educational, Scientific and Cultural Organisation-United Nations Environmental Programme [UNESCO-UNEP],1990, p.118), is crucial in transforming attitudes, values and actions that lead towards sustainable, social and environmental relationships within and between general generations.

1.2 Aims of the study

The main aim of this study was to explore the conceptions of EE held by Foundation Phase educators. The subsidiary aims were to establish definitions of EE as voiced by Foundation Phase educators; to understand the sources that inform their conceptions of EE and to establish an understanding of the practices, perceptions of impact and challenges in EE.

1.3. Key research questions

The main question in this study was:

What are the conceptions of EE held by Foundation Phase educators?

In order to shed light on the above the following sub-questions also guided the study:

1. How do Foundation Phase educators define EE?
2. What sources of information do Foundation Phase educators use to inform their conceptions and practices?
3. What do the practices, perceptions of impact and challenges suggest about EE in the Foundation Phase?

1.4. Paradigm, research approach, methodology and context

In this study the concept of EE is approached from two paradigms. These are the interpretive paradigm and the social critical paradigm. In an interpretive paradigm the emphasis is on experience and interpretation. It is fundamentally concerned with meaning and it seeks to understand social members' definitions and understanding of situations (Cohen, *et al.* 2000). An interpretive paradigm does not concern itself with the search for broadly applicable laws and rules, but rather seeks to produce descriptive analyses that emphasise deep interpretive understanding of social phenomenon. In the social critical paradigm, the focus is on teachers as agents of change or leaders who offer the masses the necessary knowledge and skills for empowerment (Janse van Rensburg, 1995). In my study it was necessary to view educator's conceptions of EE from both the paradigms. I wanted to understand how Foundation Phase educators conceptualised EE and the practices they engaged in. I thought this to be necessary so that greater dialogue can take place in the context of conceptions and practices that were limiting to achieve the goal of highly environmentally aware citizens who promote sustainable development.

I used a qualitative research approach as it is in support of an interpretive as well as a critical paradigm. The qualitative approach has been used with the intention of exploring and examining the conceptions of EE as perceived by Foundation Phase educators. This approach is pertinent to my study as it helped me understand educators' personal views on their conceptions of EE. It involves the generation of data through asking questions, referring to interviews and reviewing to capture detailed descriptions of situations, events

and peoples' interactions (Cohen, *et al.* 2000). For this study I have used the semi-structured interviews, a focus group interview and observations to produce data.

My study was conducted at a primary school in the peri-urban area of KwaZulu-Natal. The school is situated in Mariannhill, which is patched with a stark contrast of a green environment against a backdrop of informal housing and a variety of social ills. These impact on the environment. My research was conducted with three Foundation Phase educators at this school namely Grades 1, 2 and 3 and one Head of Department. I am an educator at the school where the research was conducted.

1.5 Outline of the chapters

Chapter One introduces the research study and examines the way in which the environment served as an educator to South Africans in earlier historical times. I looked at the use of the environment in the past. In my discussion I showed how cultural practices, religion and traditional healing were upheld by the different tribal groups. The apartheid era illuminates the plight of the environmental crisis that South Africa is facing. Our Constitution and the White Paper on Education (1995) sheds light on the curriculum and EE. The rationale for the study, the aims of the study and the key research questions were discussed. I also introduced the paradigms, the research approach, methodology and the context of my study.

Chapter Two discusses the definitions of EE as provided by a various authors ranging from the international arena to a national level. I examined these definitions more critically to see how these definitions have influenced the minds of curriculum planners as well as educators. This included a discussion on the paradigms used in EE. Thereafter I gave an overview of the concept of Environmental Justice as experienced in South Africa. This led to a discussion on the Constitution of South Africa and how it has influenced the development of EE in the curriculum. Educators' conceptions of EE were then discussed. This included a discussion on some perspectives of EE. A summary of this chapter was then presented.

Chapter Three outlines a detailed description of the research design and the methodology that has been used in order to generate data for this study. The methodology used is primarily qualitative in nature and is situated in the interpretive as well as in the critical research paradigms. Since people involved in EE differ in their views on many aspects of EE, they can be grouped in different paradigms (Kuhn, 1970). The context of the study is presented. This is followed by a discussion on sampling and methods of data collection. This involves a discussion on the semi-structured interview, focus group interview and observations. A brief description of data analysis is presented. Validity, ethical considerations, problems experienced and limitations are also discussed at great length.

Chapter Four provides the findings of my study. I present my findings in themes. They are definitions of EE, sources that inform conceptions of EE, practices in EE, perceptions of impact of EE, the challenges facing EE and the vision for effective EE.

Chapter Five presents the conclusions in my study. I present a summary of each chapter. I address the implications of my study and limitations in this study. I also provide my reflections and some thoughts on future research in EE.

Chapter Two

Literature Review

2.1 Introduction

In this chapter I will discuss the definitions of (EE) as provided by a various authors ranging from the international arena to a national level. I proceed by examining these definitions more critically to see how these definitions have influenced the minds of curriculum planners as well as educators. This will include a discussion on the paradigms used in EE. Thereafter I will give an overview of the concept of Environmental Justice as experienced in South Africa. This will lead to a discussion on the Constitution of South Africa and how it has influenced the development of EE in the curriculum. Educators' conceptions of EE will then be discussed. This will include a discussion on some perspectives of EE.

2.2 Defining EE

If you are thinking a year ahead, plant a seed.

If you are thinking a decade ahead, plant a tree.

If you are thinking a century ahead, educate the people.

-Chinese Poem-

It is my assumption that the understanding of EE is influenced by the definition adopted in practice. Considerable energy has been expended over the past thirty years on clarifying and defining EE as a concept, which has involved a great deal of debate and discussion in environmentally related literature and at international forums. The most durable attempt in trying to find a universally acceptable definition for EE has proved to be one developed by The International Union for The Conservation of Nature and Natural Resources (IUCN) in 1971.

EE is a process of recognising values and clarifying concepts in order to develop skills and attitudes necessary to understand and appreciate the

interrelatedness among people, their culture and their biophysical surroundings. EE also entails practice in decision-making and self-formulation of a code of behaviour about issues concerning environmental quality (IUCN, 1971).

When examining this definition more critically, we see the influence of the institutional context in which the definition was developed. It reflects the rational, linear, developmental view of education characteristic of major scientific institution. The conference at which the definition was formulated agreed that EE was a science-based, multi-disciplinary subject where most, if not all school subjects could and should be incorporated. At the time this definition was developed, environments and environmental problems were largely associated with biophysical problems and assumptions about education were often linked to models of awareness-rising and behaviour change (Loubser, 2005).

It should be accepted that the scientific definition is inadequate if we consider that it is people that make meaning of the concept. Hence Loubser (2005) is of the opinion that from this perspective it is best to see EE as a process which aims to provide communities and individuals with the knowledge and skills to actually identify, understand and solve environmental problems. To be effective environment and development education should deal with the dynamics of both the physical/biological and socio-economic environment. The human element (which may include such diverse concepts like spiritual, cultural, future options, economical, race and gender equality etc.), must be integrated in all disciplines. By doing so, we should be able to create a greater awareness of sustainable and wise use of natural resources. The aim is to share with the people the economic and ecological significance of the diverse biota Africa is endowed with, the potential uses and sustainable management and conservation techniques (Damm, 2002).

Davis (1998) elaborates on the people that need to be driving an interpretive perspective of EE. The author notes that EE involves children, teachers and communities working collectively and democratically towards the resolution of environmental questions, issues and problems. She views EE as interdisciplinary, multidisciplinary and super

disciplinary. It is about values, attitudes, ethics and actions. It is neither a subject nor an “add-on”. Neither can it be an option. It is a way of thinking and a way of practice. It is a positive contribution to counteract the “doom and gloom” and the helplessness that many feel about the enormity of the environmental and social problems we are facing. According to Loubser (2005), EE has become a complex professional field embracing ecological knowledge and understanding, total people-environmental relationships, ethics, politics, culture, sociology and public participation in decision making. This view has been recognised in curriculum policy.

EE is about children getting to know things about themselves and the real world through self-discovery. It is more than knowledge about the living and non-living things in our environment; it is also a process or a way of finding out about the world by noticing (becoming aware of the problem), wondering why (hypothesizing-proposing an explanation), finding out (experimenting) and sharing results with others (van Staden, 1998). Our environment is everything around us. To be healthy humans, both physically as well as spiritually, we need to see ourselves as part of our environment. We need to take responsibility for our environment, care for it, and manage it correctly (Watt, 2001).

This study takes a people’s perspective on EE. The concept therefore is seen as how educators make meaning of it within the Foundation Phase. In order to sufficiently ground my study in the South African context I undertake a review of the historical developments which shows how the need for EE came about.

Our history of EE is inextricably bound up with social, economic and political, as well as ecological considerations. The concept has evolved, both internationally and in South Africa, from a relatively simple understanding of people-environmental relationships to a sophisticated interpretation of humanity’s interaction with all aspects of the environment, global and local, biophysical and social (Loubser, 2005). Prior to 1994, the dominant environmental ideology in South Africa was characterized by wildlife-centered, preservationist approach which appealed mainly to the affluent, educated, and largely white minority. In the past, the agenda of the mainstream environmental movement reflected predominantly the interest and concerns of that minority, alienating most Black

South Africans, many of whom were hostile to what was perceived as an elitist concern peripheral to their struggle for survival (Kahn, 1990). In recent years, however, it began to be increasingly acknowledged that in order to win broad-based acceptance for conservation objectives, the environmental sector had to take cognisance of the basic needs of human beings to a clean, safe, and healthy environment was a legitimate environmental goal (McDonald, 2002).

People involved in EE differ in their views on many aspects of EE. Depending on their viewpoints, they can be grouped in different categories or paradigms. Paradigms are used to look at issues under investigation and explain the methodology. Paradigms are crucial for understanding and choosing methodologies. Kuhn (1970) was the first to use the word 'paradigm'. In his attempt at explaining the concept, Kuhn describes it as "a framework or constellation of beliefs, values and techniques shared by the members of a given disciplinary community", such as the environmental education community (Kuhn, 1970, p.175). Thus a paradigm helps the members to identify problems which they see as important and also provides them with possible solutions. Thus a paradigm is 'the broadest unit of consensus within a field'. It serves to set apart or distinguish one group of workers in a field from another. It also defines the theories, methods and instruments that are used within it. This implies that within the field of EE, groups of people will use different theories and methods depending on the paradigm within which they work (Kuhn, 1970).

According to Van den Aardweg, *et al.* (1988, p.159), 'a paradigm is a broad framework constructed for the purpose of viewing a particular phenomenon and for conducting research'. This definition gives an indication that a paradigm can be a framework we construct for looking more closely at EE and for doing research in EE. Although environmental educators may all be concerned about the environment, they may disagree on how this concern should be addressed. In actual fact varying views exist on almost all aspects of EE. These include ideas, main interests, aims, objectives, focus, strategies and methods used to reach objectives, theories, definitions of EE used in practice, how the role of learners and educators is interpreted, how the curriculum should be developed and

how knowledge is constructed (Loubser, 2005). These views may influence educators' own views on EE. Hence, the critical question arises:

2.3 Should the educator of EE work within one particular theoretical framework / paradigm to the exclusion of all others?

It seems that there is a difference of opinion in this regard. Taylor (1986) believes that a person can only work within one paradigm. Working within one perspective has certain advantages. This one perspective will be fully exploited and any research undertaken will naturally fit into an existing system of ideas. Higgs (1996) however, maintains that it is possible for you to align yourself with more than one theoretical framework and to move along the various perspectives. By doing this, he states, you learn from all of them and use whatever is helpful and valuable. According to Higgs's view the environmental educator need not be condemned to be either imprisoned within a single perspective or bounce from one position to another. The important thing for environmental educators is to appreciate the wealth of insight to be gained from exposure to more than one perspective and the need to respect the unique contributions of each perspective. This is the stance that I have adopted in my research.

In the interpretive approach the aim/goal is for individuals to discover and reach their innate potential, in other words to actualise themselves. Alongside this is the ideal of self-driven development. Hence the implication for the educator of EE is that he/she is seen as a facilitator assisting each individual child to develop according to his or her own needs and vision (Janse van Rensburg, 1995). In the interpretative approach, the child's experiential learning, among other things, plays an important role (Loubser, 2005). Interpretive research is fundamentally concerned with meaning and it seeks to understand social member's definitions and understanding of situations (Cohen, *et al.* 2000). Knowledge is constructed not only by observable phenomena, but also by descriptions of people's intentions, beliefs, values and reasons, meaning-making and self-understanding (Henning, *et al.*, 2004). Some of the objectives stated within this approach are:

environmental literacy, child or community-based learning and active involvement in environmental activities and experiences.

Environmental educators using the interpretive approach use strategies and methods which include assessing the needs within a community and working with the community as a facilitator in an attempt to solve practical problems. An example of a practical problem could be the pollution of the area in which the community is situated. In this way EE is seen as something for the people. As facilitators, educators often use enquiry and experiential learning with children. In other words, the children learn as they investigate problems in their own communities. This approach is non-authoritarian and children learn in their groups. Rote learning or memorisation is not used. The approach is broad and cross-curricular. This means that all subjects are involved. Within this paradigm EE is defined as “good (liberal) education”.

In the interpretive approach the learner is actively learning through experiences in the environment which the teacher creates. Since the teachers create an environment that is favourable for learning, Janse van Rensburg (1995) compares the learner to a seed which has to be nurtured for learning to take place. Learners are actively learning as they investigate problems in their environment. Being active rather than passive, learners are therefore empowered to become lifelong learners. The ideal is that learners not only discover what their potential is, but strive to reach that potential. In other words learners actively learn and actualise.

The interpretivist believes that its development should be with the educators. It should also include the development of resources with the educators. This implies that if an educator has a problem with some part of the curriculum, a colleague could help the educator solve the problem by developing appropriate resources with the educator. The resources could be any of the following: people, books, journals, worksheets, water or soil test kits and so on. Since learners learn actively by means of experience and by means of enquiry, the learners themselves construct their own knowledge. Thus, the knowledge is how the learners come to understand the world around them. The more the learners’ experience, the more they learn, the less they experience, the less they learn. In

the interpretive approach, active involvement in environmental activities and experiential learning by the child play an important role (Loubser, 2005).

Social critical education puts forward social justice and the empowerment of masses as ideals. Accordingly, the aims of education for the educator of the EE within this paradigm can be formulated as empowerment of the masses and reconstruction of oppressive policies and practices (Janse van Rensburg, 1995). This is in keeping with literature discussed in the previous chapter. Keeping these goals in mind, the objectives involve educators as agents of change or leaders who offer the masses the necessary knowledge and skills for empowerment Janse van Rensburg (1995). The participation notion in curriculum development is derived from the constructivist theory, which argues that the learners have the ability to organize, construct and structure knowledge in interaction with others (Lotz, 1999). Participation in curriculum development can also lead to educators' "negotiating" the curriculum (Lotz-Sisitka, *et al.* 2000, p.28), a new possibility in the South African context. These authors argue that the Spiral Model of curriculum development allows for such negotiation. Janse van Rensburg (1994), cited in Loubser (2005), sees EE in South Africa as a vehicle towards social change or reconstruction. She maintains that "the knowledge that shapes our educational practice and our actions in the environment is socially constructed and hence open to review". Rudduck (1991) points to three different categories of calls for change. These are expressed in terms of economic needs; the state of society and the self-concepts of young people. The above concepts for change can be and are all addressed by EE. It seems as if EE is not always high on the agenda of education departments or governments and needs a louder voice to contribute to change. Lotz-Sisitka, *et al.* (2000) believes that teachers can act as agents of change by adopting a social critical orientation to the environment and drawing on the ideas of critical pedagogy. In short, EE aims to achieve eco-literacy for the citizens of tomorrow (Damm, 2002).

Strategies and methods that educators use in their classrooms include: clarifying what the needs of the class are; encouraging the learners to develop their own capacity and to empower themselves; sharing basic knowledge with others and cooperative learning. Cooperative learning process is a technique in which learners work in heterogeneous

groups of four to six members and earn recognition and rewards. Hence, this theory wishes to see a total transformation of society. The means to accomplish this is through social critical education.

The overview of the paradigms/approaches of interpretivist and social critical education, including their implications for the educator, has shown the impact that the various philosophical frameworks can have on the way educators teach in the classroom. They have a profound effect on educator's perspectives on the aims, focus, methods, curriculum and all other aspects of education, and therefore on EE. My research is therefore based in both these paradigms as my aim is to understand educators' conceptions of EE through paying attention to how it is defined, how the curriculum aims and content are thought of and how conceptions are applied in practice in the Foundation Phase.

With the easing of apartheid legislation in the late 1980s and the unbanning of anti-apartheid political parties and activists in the early 1990s, all of this changed. Once the environment was redefined to include the working and living space of Black South Africans it quickly became apparent that environment initiatives were akin to other post-apartheid, democratic objectives. A wide range of trade unions, non-governmental organizations, civic associations and academics quickly adopted the new environmental discourse and within a few short years began to challenge the environmental practices and policies of the past (Cock, 1991; Ramphele, 1991). One of the concepts that became very prominent was that of environmental justice.

2.4 Environmental justice

The concept of environmental justice, a language that found its first concrete expression in 1992 at a conference organized by "Earthlife Africa", entitled "What Does It Mean To Be Green In The New South Africa?" (Hallowes, 1993). The conference brought together leading South African environmentalists and academics with their counterparts from around the world in an attempt to map out a future for the environmental justice movement in South Africa. One of the outcomes of the conference was the creation of the

Environmental Justice Networking Forum (EJNF). Noting that “poverty and environmental degradation have been closely linked” in South Africa, the African National Congress (ANC) made it clear that social, economic and political relations were also part of the environmental equation and that environmental inequalities and injustices would be addressed as an integral part of the party’s post-apartheid reconstruction and development mandate (McDonald, 2002).

At its core environmental justice is about incorporating environmental issues into the broader intellectual and institutional framework of human rights and democratic accountability. The term necessarily encompasses the widest possible definition of what is considered “environmental” and is unrepentantly anthropocentric in its orientation, placing people, rather than flora and fauna, at the centre of a complex web of social, economic, political and environmental relationships. Most important, it concerns itself primarily with the environmental injustices of these relationships, and the ways and means of rectifying these wrongs and/or avoiding them in the future ((McDonald, 2002). Locating a toxic waste site next to a poor, Black community simply because it is poor and black, for example, is an environmental injustice that violates basic human rights and democratic accountability and demands remediation and prevention (McDonald, 2002).

The following definition of environmental justice from the quarterly newsletter of the South African Environmental Justice Networking Forum (EJNF) captures these basic philosophical tenets and exemplifies the focus on human and democratic rights that is so central to environmental justice movements and literature worldwide:

Environmental justice is about social transformation directed towards meeting basic human needs and enhancing our quality of life- economic quality, health care, housing, human rights, environmental protection and democracy. In linking environmental and social justice issues the environmental justice approach seeks to challenge the abuse of power which results in poor people having to suffer the effects of environmental damage caused by the greed of others. This includes workers and communities exposed to dangerous chemical pollution, and rural

communities without firewood, grazing and water. In recognizing that environmental damage has the greatest impact upon people, EJNF seeks to ensure the right of those most affected to participate at all levels of environmental decision making (EJNF, 1997).

As head of one of the most influential environmental justice groups in the world, Greenpeace, newly appointed head Kumi Naidoo says young people are the key to change and saving our world. Greenpeace is an independent global campaigning environmental organization that aims to change attitudes and behaviour in protecting and conserving the environment. With a long history of social activism, Naidoo is keen to maintain his links with the area in which he was born, Bayview, Chatsworth. Naidoo said that working with young people was one of the priorities. "I have already spoken with youth from the environmental group at the Chatsworth Youth Centre and Greenpeace has a big commitment in moving forward and working with young people," he said. "Globally from Durban to Detroit, young people realize that their future is at stake," (Sanpath, 2009, p.5).

Naidoo said in a statement from the organisation: "I have long been an admirer of the work of Greenpeace, from my days as a young anti-apartheid activist in South Africa and currently as a member of the Greenpeace Africa board. "The way Greenpeace works at all levels, from confrontation to co-operation with governments and corporations, is an inspiration. The mix of pragmatism and passion really gets things done and effects real change in the world. I believe that Greenpeace is one of the most precious assets the global community possesses and plays a critical role in reversing the current fatal trajectory of our planet" (Sanpath, 2009, p.5). I believe that educators can make this change in their learners by exposing them to current issues and real-life problems.

In keeping with Greenpeace and in the same spirit of Transport Minister Sibusiso Ndebele's suggestion of road safety and driver training being formally taught at schools, the question is why tuition of environmental awareness should not be broadened and deepened. Every pupil, not only those who take associated subjects or who are privileged to have principals and teachers passionate about green issues, should have access to

sound environmental education. They must leave school aware that most of their actions, right down to the type of light bulb they buy, have an environmental consequence. Given the state of the planet, there is a strong argument for the environment to be a full school subject. This will give the tenants of Earth a chance of saving it. We should embark on teaching to make us green. We should celebrate trees, their beauty and contribution to our landscape and their invaluable role in the ecological chain, keeping nature in order and humankind alive (Fabricius, 2009, p.8).

2.5 The constitution and EE

Just as all South Africans share a responsibility to sustain democracy in order to enjoy the benefits of it, and to uphold the Constitution in order to secure their rights, so they have a responsibility to conserve and respect the environment in order to affirm a healthy quality of life and ensure development that is sustainable. When the Constitution was adopted it linked environmental issues to values underpinned by human rights and social responsibilities (Department of Education, 2001). In recognizing the right to an environment that is not detrimental to citizen's health or well-being, the Constitution signalled a national commitment to environmental action. If this is to be realized, EE is crucial.

It became clear that EE was not only about teaching young people about wild animals, endangered plant species and the awesome effects of fossil fuel gasses on the ozone layer (Department of Education, 2001). The environment is the whole context of life itself, the combination of natural and human systems, the urban and the rural landscapes and everything that happens within them. Educating young people to see their world in this light and adopt the values on which sustainability and biodiversity depend, is a key opportunity for schools (Moosa, 2001). It is vital that South Africans recognize their responsibility to participate effectively in decision-making that influences the way the city or veld is used and managed. It will be the values we live by that influence how we relate to other people as much as to the environment that will be the major factor in achieving a sustainable future (Moosa, 2001). Sensitivity to environment and development problems and involvement in their solutions should foster a sense of

personal responsibility and greater motivation and commitment towards sustainable development. All efforts to conserve the continent's natural assets are likely to fail without the support of the public. Support should come from the basis of knowledge and not to be founded on emotion. Education is fundamental to knowledge and environmental education needs to play a major role both now and in the future. Therefore environmental awareness and the importance of wildlife conservation and management must form an essential part of education for all Africans. (Damm, 2002).

2.6 Key developments towards EE in the curriculum

A milestone in the development of EE on an international scale was the 1972 United Nations Conference on the human environment held in Stockholm. It was the first occasion where many of the concerns of the developing countries were placed on the international agenda for discussion. It led to the establishment of the United Nations Environment Programme (UNEP). Among the first task given to UNAPT was to establish the term environmental education. Together with UNESCO, UNEP organized the first international workshop on EE in 1975. Following this the first intergovernmental conference on EE was held at Tbilisi in the USSR 1977. This conference resulted in the declaration of 12 principles; known as the Tbilisi principles of EE. The necessity to introduce EE to pre-school and kindergarten education is stressed in the Tbilisi Declaration of EE (UNESCO, 1978). This provided the framework and guidelines for the practice of EE on a global, regional and national level (Loubser, 2005).

The 1992 Earth Summit focused on the role of EE as an educational response to the environmental crisis. Chapter 36 of agenda 21 was one of the key documents to emerge from this conference. Agenda 21 describes EE processes as those processes that involve teachers and learners in promoting sustainable development and improving the capacity of people to address environment and development issues (UNCED, 1992).

To facilitate environmental learning, environmental educators must know the characteristics of their learners as well as their abilities and potentials (Loubser, 2005). They therefore have to take note of differences in age, ability, learning style and type of

intelligence and learning barriers, so that they can design learning experiences to accommodate these differences. Environmental learning should be age-appropriate for it to succeed. Learners in different age groups have different learning abilities and exhibit different characteristics. As a general rule, learners remember more of what they have learned through active involvement in the learning situation, as opposed to just listening, or listening and seeing. In practice, there are learners who prefer to learn through either seeing, hearing or doing, or any combination of these (Loubser, 2005).

I hear, I forget, I see, I remember,

I do, and then I understand.

-Anonymous

To accomplish this, the minister of education established a NEEP. Active learning involves learning **about, in** and **for** the environment. Through NEEP, educators start working for a better environment through active learning processes. A variety of teacher/learner support material has been developed such as Enviro-Teach which assist learners to acquire the necessary knowledge, skills and understanding to take an active approach to whatever issue is focused on. Another initiative that provides schools with support material and practical assistance is Eskom Edu-Plant in association with the Department of Water Affairs and Forestry as well as the Woolworths Edu-Plant Association.

2.7 Educators' Conceptions of EE

When examining conceptions of EE by educators it is necessary to find the context from which this understanding is derived. Within education the need to focus on the environment has come from three interconnected crises described by Sauv  (1999): the environmental crisis, the crisis between human beings and the environment and the crisis in the traditional practice. These were somewhat visible in the South African context. Education is seen as a critical tool for helping to shape citizens that are environmentally aware and responsible to bring changes for the betterment of society (Loubser, 2005). Environmental education was thus established as an education for the shaping of

responsible and active citizens, tooled with the knowledge and will to produce environmental, social and educational changes (Flogaitis, *et al.* 2005).

There are different ways in which educators think about the notion of environment and education. This stems from ideological orientations of what education is and how this relates to the management of environmental issues. The work of Lucas (1980-81) is valuable in understanding how the concepts come together. He notes that EE is seen as either education *about* the environment, an education *in* and *through* the environment or *for* the environment.

Davis (1998) provides clarity on the three perspectives with special reference to early childhood curriculum experiences. When educators' conceptions of EE are located within the *in* perspective then the aim is to provide direct experiences with environment and shape attitudes towards nature. Watt (2001) reinforces this by stating that learning *in* the environment provides opportunities to practically investigate environmental problems. This deals with enquiry encounters. Davis notes that although this perspective is valuable it is not adequate if we are to promote sustainable development. Hence, the move toward education *about* the environment. This perspective allows learners to understand how the systems in nature work, the complexities involved when humans interact with the environment. Learning *about* the environment increases our knowledge and understanding of the biophysical, social, economic and political processes that shape the world. It enables us to make informed decisions about how to interact with the world (Watt, 2000). This deals with sharing information and research would form part of this information. The *for* perspective is related to action that is seeking social change. Taking action *for* the environment empowers us to make changes for a better world and to respond to local issues and risk (Watt, 2000). There are efforts to instill values that would allow one more environmentally friendly decisions in lifestyle choices.

EE has been increasingly incorporated into the UK school curriculum and has aroused substantial research interest. There has been a growing emphasis on education *for* the environment, socially critical environmental education which includes "an overt agenda of values education and social change" (Fien, 1993). Many aspects of education *for* the

environment have been adopted by curriculum developers, including the National Curriculum guidance document on environmental education (National Curriculum Council [NCC] 1990) cited in Loubser (2005). Even if it were possible to identify an agreed set of desirable environmental attitudes, the NCC document does not make clear how educators are to promote certain specified attitudes, while at the same time encouraging their learners to develop independence of thought.

Educator's conceptions of EE are also influenced by technocratic and ecocentric approaches. Technocratic trend is consistent with a corrective approach to the environment. As proposed by Flogaitis, *et al.* (2005), the shaping of active citizens with attitudes and behaviour favourable towards the environment, who will be willing to adopt practices for the protection of the environment recommended by the experts, through the knowledge offered by science and the facilitation provided by modern technology. Whilst the ecocentric trend involves the shaping of citizens who will actively participate in social actions concerning the protection of the environment and who have developed the ability to take initiatives and propose alternative solutions.

Various critics have argued strongly that the role of education should be to encourage independent thought, not to promote a specific world view and that the educator should impart knowledge rather than attempt to act as an agent of change. However despite these criticisms, in much of the EE literature there is a growing expectation that teaching EE should be about changing attitudes or even engaging learners in taking action on environmental problems. Hart (1997) notes that the value of empirically approaching educators' conceptions of EE is great. He points out the time has come to finally understand what EE means in the minds of educators and their school practices. It can be conducive to the examination and enrichment of EE theory, to the assessment of educational reality as well as the development of a dialogue for the "rhetoric reality" gap in EE.

It could be argued that the NCS with the promising starting points is only functioning at a rhetoric level. Therefore research needs to be done on what EE means in the mind of educators and in their practices in early schooling. At present there is a gap in

understanding how educators view the relationship between the environment and education. This restricted focus of much of the EE literature may go some way to explaining what Grace & Sharp (2000) describe as the rhetoric reality gap. My study aims to address this gap and hopes to shed light on perspectives and forms of EE adopted by Foundation Phase educators.

The differences between EE as advocated by many theorists and the environmental education which takes place in schools have been widely recognised and discussed. Various studies have identified constraints on implementing EE in schools including lack of time, lack of unbiased resources, lack of school support and lack of staff expertise and motivation. Grace & Sharp (2000) also found that student teachers trying to implement an approach to EE as advocated in literature faced sustained opposition from the educators in the schools in which they were working.

Research in Australia suggested that the requirements for implementing socially critical EE, particularly in terms of taking action on environmental problems, were simply too great for many educators to take on board. Despite these constraints, there is some research evidence that educators are strongly in favour of the more affective side of EE with “personal responsibility for the environment” being rated as the most essential aspect and “future attitudes to the environment” also being rated as very important (Cotton, 2006, p.70).

The perspectives above are closely linked to the goals of EE. Flogaitis, Daskolis & Agelidou (2005) studied kindergarten’s educators’ conceptions of EE in Greece. They conclude that educators’ conceptions favour knowledge-centered applications, nature education and aim at shaping environmentally responsible beings that use measures by experts and act responsibly to the environment. In order to reach their conclusions they engaged with two levels of goals. The first level is viewed as shaping knowledge *about* the environment and problems *in* the environment. The second level relates to developing the correct behaviour and attitudes to solve environmental problems. These levels show a shift from traditional Conservation Education. In this brand of EE the focus is on nature education and outdoor education which is consistent with the *in* perspective.

It is my assumption that most educators in the Foundation Phase are located in the *in* perspective. Many observers have commented on disparities between the theoretical understandings of EE portrayed in academic literature and the EE that takes place in schools. In much of the literature and in curriculum documents there has been an increasing emphasis on promoting positive attitudes towards the environment and the results of several surveys suggests that many educators support this aim (Cotton, 2006). EE is a global issue. Much research is being undertaken in various countries. Countries such as Australia, UK and Greece are leading the way for research to be conducted at the kindergarten stage of development.

The success of teaching children to care about the environment depends to a large extent on educators' own attitudes and their modeling of the joy, excitement and wonder of the world we live in (Watt, 2000). Scientific knowledge is not enough; educators need to demonstrate their enjoyment of the natural world and make the children aware that there are things we can do for the earth. Van Staden (1998) stresses that for young children the concept of caring for the environment is meaningful when they see the direct result of their actions. Haworth (2009) confirms that children who spent twelve weeks cultivating their own school garden doubled their intake of fruit, herbs and vegetables. These are the astonishing results of a twelve week study in Britain involving ninety-nine children, aged between ten and thirteen years that started their own school gardens. In the classroom they also made dishes like salsa, wrote a class cook book and held an "add a veggie to lunch day" as part of their project (Haworth, 2009).

The Birches Pre-Primary School in Pinetown also combines learning with hands-on fun in the schools' food garden. The children have planted a very productive vegetable garden, and when the crops are ready, they harvest them, clean them, grate them or chop them and make salads, soups and scones for teas. Principal of the school, Scilla Edmonds says: "Interacting in the food garden is all in day's play for the children. They are challenged to take vegetable seeds and seedlings home from school and plant them. We have found that children who have made food from their harvested crops here at school also begin eating them at home, to the amazement of their parents!"

Good habits learned early usually last a lifetime. Former South African cricketer and organic gardener, Adrian Kuiper, remembers being inspired to grow his own produce after a school project. “I remember the pride I felt when at the age of six I harvested my crop of beans which had germinated in cotton wool at school. My mother noticed this interest and encouraged me to plant these in my first vegetable patch. To observe the transformation from a dry bean seed into a plant and then on my dinner plate went on to inspire my interest in organic gardening,” Kuiper says. Children’s gardening does not have to be restricted to schools. Whether you have a small piece of garden, a patio or a window box, you can still start the process at home. His advice to parents was “help your children set up a kitchen garden” (Haworth, 2009, p.10).

International survey reported a similar stated commitment to promoting environmental attitudes among educators, but found that UK educators were least committed to promoting a particular environmental ethic. This lack is possibly attributed to the slightly underestimated importance of the early learning years of a child’s education (Tilbury, 1994). However, early childhood education is viewed as a conducive period for the formation of environmental attitudes, while at the same time; EE is recognized as an educational process that significantly promotes the overall development of young children (Wilson, 1994). In a comparative study of England and Hong-Kong, it also noted a support for teaching attitudes of concern for the environment in both countries, but very little support for those teaching strategies that might enable educators to achieve this aim. These findings may suggest that educators are keen to promote positive attitudes towards the environment in their teaching but are limited in their delivery of such aims by constraints on time and resources (Lee, 1999).

In a study undertaken in Australia, it was emphasized that there is a need for a research base for early childhood EE to support educators as they embark on curriculum change. There is a challenge for teacher education institutions to examine ways of incorporating EE into all current teacher education programmes so that graduates feel positive about the future, have an awareness of EE principles and practices and a heightened capacity for creating positive change (National Childcare Accreditation Council, 1993). In keeping

with this, there was also a need for parents, educators and teacher-education institutions to advocate **now** for the rights of children to have enriching contact with living things, where a love of nature is fostered and where children can truly learn to become caretakers and nurturers of the earth (Davis, 1998, p.121). Children need places where they can explore and get dirty, touch living plants and care for and about the insects, earthworms, birds, fish, frogs and other forms of life.

With regard to social justice Davis (1998) notes that this approach is important for the development of equitable, democratic and inclusive ways to support interactions between adults (educators) and children (learners). The author also notes that for educators to deliver environmental justice and intergenerational justice, they would have to conceptualize and deliver EE as a commitment to knowledge, understanding and action. This is crucial for creating just futures that are sustainable. Today's children, even the wealthy ones, are already in a world where environmental damage, social injustice and appalling ill health are major features of the global landscape. Surely one of the greatest tasks for any society is to equip its' children with the attitudes, values, knowledge and skills necessary to rethink and change current patterns of actions and to secure healthy, just and sustainable futures for all, Davis & Cooke (1998). EE is vital for this and the investigations of educator's conceptions are critical to understanding how they think about EE in early schooling. The challenges are great but Davis (1998) believes that we can create positive change for better futures. This comes with a committed belief that:

*“The future
Is not some place we are going to,
But one that we are creating
The paths to it are not found
But made
And the activity of making them
Changes both the maker
And the destination”
-----Commission for the future, Australia*

2.8 Summary

In this chapter I deepened the understanding of EE through the definitions of EE as provided by a various authors ranging from the international arena to a national level. I examined these definitions more critically to see how these definitions have influenced the minds of curriculum planners as well as educators. Thereafter I gave an overview of the concept of Environmental Justice as experienced in South Africa. This led to a discussion on the Constitution of South Africa and how it has influenced the development of EE in the curriculum. Educators' Conceptions of EE was discussed. This included a discussion on some perspectives of EE. This was followed by an in-depth literature review from an international to national perspective.

The next chapter will focus on the research design and the methodology that has been used to generate data for this study.

Chapter Three

Research Design and Methodology

3.1 Introduction

This chapter outlines the research design and the methodology that has been used in order to generate data for this study. I have used the qualitative research approach situated in the interpretive as well as in the critical research paradigms. I will elaborate on the research approach. I will shed light on the context of the study. The research instrument, sampling and methods of data production will be discussed. This will be followed by a discussion on the semi-structured interview, the focus group interview and observation. I then present a discussion on the data analysis, validity, ethical considerations, problems experienced in the study as well as the limitations of this study. Finally I conclude by making a summary of the chapter.

3.2 The Qualitative Approach to Research

This study is located in an interpretivist research paradigm using a qualitative research approach. I have also drawn supporting evidence from the critical research paradigm. The qualitative approach has been used with the intention of exploring and examining the conceptions of EE as held by Foundation Phase educators. The qualitative approach refers to that type of inquiry in which ‘qualities, the characteristics or the properties’ of a phenomenon is examined (Henning, *et al.* 2004, p.5). The qualitative approach afforded me the opportunity to understand the participants’ experiences and perspectives. It allowed me to understand and make meaning from their experiences. This valuable angle in research has been discussed by Mathers, *et al.* (2002).

The features of qualitative research are descriptions and accounts of the processes of social interactions in a natural setting such as they occur in everyday life (Henning, *et al.* 2004). For this study it was possible to gain access to classrooms of the three educators to

observe them in their natural settings. I was able to interact with and observe the educators whilst they were engaged in the delivery of EE. In order to understand how the participants related to and made meaning of the reality in which they live, I saw it as important to gather data without disturbing the normal course of events for the participants in their natural school setting. This enabled me to gain insights and understanding about the participants as related to their performance of EE. The qualitative research approach allows for different views of a theme that is studied. Participants have a more open-ended way of giving their views and demonstrating their actions (Henning, *et al.* 2004). In my study I used semi-structured interviews, a focus-group interview and observations of lessons in order to investigate conceptions of EE as held by Foundation Phase educators. These methods resonate with the aim of qualitative research which makes highly possible the generation of data through asking questions, referring to interviews and reviewing to capture detailed descriptions of situations, events and people's interactions. This approach is valuable as the focus is on "explanations and understanding of what is unique and particular to the individual rather than what is general and universal" (Cohen, *et al.* 2007). In my study I could identify with the above.

The findings from qualitative studies have a quality of "undeniability" (Miles, *et al.* 1994, p.58). In my study the qualitative approach helped me to gain an insight into the intensity of the participant's conceptions of EE, interviewing them, and understanding their motives and feelings. Qualitative data is in the form of words because words are organised into themes which create a concrete and vivid picture in giving meaning that convinces a reader. Participants also respond sometimes by gestures and body language (Marshall, *et al.* 1998). Through observation, which is an integral part of the qualitative approach, I explored the participants' social reality in order to understand how they make sense of their world. Participants' accounts also formed important data, which I have interpreted in order to inform the findings.

3.3. The Context of the Study

This study was conducted at a primary school in the peri-urban area of KwaZulu-Natal. The school is situated in a context which requires EE. It is in a valley against a backdrop of informal housing loaded with poverty and a variety of social ills. Nevertheless this school is projected as a beacon of hope in the midst of this community. It has been historically linked to the aspirations of the poorest communities. Parents pleading poverty is the norm at this school. Many of the learners do not know where their next meal will come from. A large number of the adult community is unemployed with very low levels of literacy. From my engagement with them it was evident that their only desire is to have their children receive a better quality of education. It seems that their dream of breaking out of the shackles of poverty can be realised through their children. This school has begun to play this part by introducing permacluture and food gardens that contributes immensely to a healthy life for both the learners and the community at large. I therefore considered this school to be suitable for my study.

3.4. Sampling

I chose four educators out of twelve in the Foundation Phase using purposive sampling. This type of sampling, according to Merriam (1998), looks for people who can help to build the substantive theory further. Hence the author elaborates that you should look towards the people who fit the criteria of 'desirable participants'. Henning, *et al.* (2004) states that in purposive sampling you need to select interviewees who can shed optimal light on the issue that you are investigating. The author goes on to say that in the interview she hopes to hear about what people have to say about what they do. She then needs to get to relevant people who can talk about what they do. It is for reasons described above that I used purposive sampling,

The site for the study was convenient. I am an educator at the research site. This created easy access. Henning, *et al.* (2004, pp.71-72.) states that, 'knowing who the initial people in the interviews are assists me in planning my interview guide in a more

“companionable” way.’ I have thus selected one educator from each grade in order to gauge the degree of progression across the three grades, about educators’ conceptions of EE in the Foundation Phase. The educators that I have selected are fully qualified and have vast experience in the Foundation Phase.

I have purposively selected these educators as one of these educators is a member of the enviro-club at this school and she teaches a grade one class. She has been keeping abreast with the latest developments with regards to EE by attending various workshops. The other educator has been selected through her expert knowledge of EE as she has been trained through various workshops. She teaches a grade three class. She also has long experience in the Foundation Phase. The grade two educator has been selected as he is the only male amongst twelve educators in the Foundation Phase and he has more than twenty years of teaching experience. I have also selected a Foundation Phase Head of Department who is also a grade three educator. The reason for selecting the Head of Department was to gain some insight into how managers view EE in the school curriculum and what are their practices in their day-to-day interactions with their learners.

3.5 Methods of Data Production

The data for this study was produced through multiple methods. According to Anderson, et al, (1993) using one research design lacks reliability, as another researcher conducting the same study may arrive at a different conclusion. It is therefore necessary for more than one research instrument to be used in order to ensure validity. In this study I used semi-structured interviews, a focus-group interview and observations of lessons. These multiple methods assisted in triangulating data received. The word triangulation has been used in qualitative research to indicate that by coming from various points or angles towards a “measured position” you will find the true position (Henning, *et al.* 2004, p. 81).

3.5.1 The semi-structured interview

The semi-structured interview was selected as one of the research instruments for the generation of data. This is an important data gathering technique involving verbal communication between the researcher (interviewer) and the subject (interviewee) (Kerlinger, 1992). The purpose of my study was to explore conceptions of EE as held by educators in the Foundation Phase at a primary school in KwaZulu-Natal. The flexible nature of semi-structured interviews enabled me to gain clarity to responses that were unclear, and to probe further for in-depth information during my interviews with the teachers about their conceptions of EE in the Foundation Phase

The semi-structured interview can be described as one in which the consent and procedures are organized in advance. The planning and development of the interview requires careful consideration and preparation, namely: consent, selecting the interviewees, arranging the interviews (suitable times and venues), availability of the necessary equipment such as a tape recorder, batteries and so on. Warren (2002) suggests that interviews are communicative events aimed at finding what people think, know and feel. This is exactly what my study aimed at, namely, how the definitions and sources are thought of and how conceptions are applied in practice in the Foundation Phase. He states that the interview process should be set up in three phases. The first phase is setting up the interview and finding participants according to the overall research design. The second phase is conducting and recording the interview and the third phase is reflecting on the interview and working with or analysing and interpreting the data. He states that an introductory meeting should be used briefly to inform participants about the purpose of the interview and to make the participant feel at ease. This proved to be a useful step for my interview as the three educators felt comfortable to participate in this research study. Seidman (1998) states that:

There is no question in my mind that in-depth interviews must be tape-recorded ... I believe that to work most reliably with the words of participants, the researcher has to transform those spoken words into a

written text study. The primary method of creating text from interviews is to tape-record interviews and transcribe them.

I constructed an interview schedule to give directions to my research questions. I used the same one for the semi-structured interviews that I conducted with the three educators. It had twenty short open-ended questions. The semi-structured interviews allowed for flexibility whilst framing and guiding the process.

3.5.2 The Focus Group Interview

Focus group interviews as an interview strategy are becoming increasingly popular. According to Le Roux (1998), a focus group is a moderated informal discussion among people who share a common interest in the topic being researched. A focus group interview gives an opportunity to clarify and expand upon your perceptions by sharing and comparing them with those of others. It is said that focus groups are valuable because they provide a natural, relaxed and secure setting where individuals are encouraged to share both positive and negative comments. Le Roux (1998) explains that when selecting individuals to be in the focus group, it is essential to select an appropriate category of respondents. Focus group interviews are known for their abundance of rich data which emanates from the exercise. I have used this method because I wanted to gain a collective view of Foundation Phase educators' conceptions of EE.

I interviewed the same three educators used in the semi-structured interview, as well as a Head of Department in the Foundation Phase as a focus group. The interviews were conducted in an informal manner. The interviews were conducted at 1:30 pm soon after the dismissal of Foundation Phase learners. This also ensured that there was less noise and minimum disruptions during the interview process. An empty classroom at the school was selected and I ensured that the participants were comfortable and felt sufficiently free and relaxed to talk. I set the tone and ensured that the interviewees were not tense by breaking the ice with some general talk. I spoke about the special Arbour-Week programme that all educators were busy planning and shared some interesting ideas for assembly talks with them. This made them feel at ease. The nature of interaction ranged

from casual conversation to a more formal and lengthy interview. The conversation between me and the participants and I was face to face and was conducted at an interpersonal level. This occurred partly because I was known to them and they felt comfortable with me.

Seidman (1998) advocates interviewing as one of the best instruments for data generation. Bell (1993) states that a major advantage of the interview is its 'adaptability' where the interviewer could follow up ideas, and probe responses which is beyond the limitations of a questionnaire. Hence the participant's responses in an interview can be clarified and developed whereas in a questionnaire the responses have to be taken at 'face value'. Prompting and cues were used to encourage the interviewees to expand or elaborate. It also enabled me to probe the interviewees to dispel potential misunderstandings (Creswell, 2003). The use of probing questions assisted me to progress smoothly and ask further questions as prompts to elicit information from the participants that I may have overlooked. This probing technique allowed me to test the limits of the participant's knowledge, encourage co-operation, establish rapport and make an accurate assessment of what the participants really believed. I did allow some flexibility in the order and choice of the questions since each participant had a unique experience to relate. When participants rambled, I brought them back to the relevant topic by rephrasing or repeating the questions. I was able to gain insight into the characters and intensity of the participant's attitude towards the teaching of EE in the Foundation Phase.

I employed the use of interview schedules in accordance to Seidman (1998) as he contends that some forms of interviewing depend on an interview guide. The interviewer arrives with questions to which he/she wants answers or about which they want to generate data. In-depth interviewing is to ask participants to reconstruct their experience and to explore their meaning. The interview schedule that was designed for the focus group educators had seventeen open-ended research questions. The interview schedule themes or topics were directly related to EE. I did not inhibit my participants by a specific style or nature of my questioning approach but they were expected to respond in their own way. The interview schedule consisted of key research questions followed by sub questions. Open-ended questions were designed to find a useful way to elicit

responses from the interviewees as interviewing is regarded as a mode of collecting data. These open-ended questions ranged from simple to complex. This ensured that the interview began with a broad perspective and gradually moved on to more specific issues. Kerlinger (1992, p.20) refers to this particular kind of open-ended questioning as a 'funnel'. The open-ended nature of the questions focused on the topic under investigation, whilst also providing opportunities for the interviewees to elaborate on the topic. The interview schedule was designed to elicit descriptive and explanatory information on the interviewees' interpretation or perception of EE and how it was being expressed through the curriculum. My interview schedule was focused, to avoid 'superfluous information' and 'data overload' that may compromise the 'efficiency and power' of my analysis.

3.5.3 Observation

Observation is closely related to field work and brings data or information that could not be gathered in any other way. According to Andersen, *et al.* (1999) the challenge of collecting observational data is to ensure that the researcher's presence does not alter the behaviour of the people in the setting. One of the ways in which observation can be conducted is by the researcher being a complete observer, who enters the setting and remains physically detached from the activities and social interactions. When making field notes, it is imperative not to trust worthwhile comments to memory. Making notes are the researcher's detailed and descriptive records of the research experience, including observations, dialogue and physical descriptions of the setting (Anderson, *et al.* 1999).

I designed an observation schedule, which I used during the observation of two lessons for each of the three teachers that I had interviewed. During the observation I took notes to record my observations such as gestures, facial expression, tone of voice and general body language (Henning, *et al.* 2004). These gestures assisted me in viewing whether the participants were comfortable or not. Observation and note taking was also necessary, as this kind of information could not be captured by a tape recorder. An observation check-sheet was used to document the teaching of EE and how it was interpreted by the participants. I could have utilised a video recorder to capture the non-verbal expressions

of the participants, however, I decided against it as it was regarded as being too intrusive. I felt that the participants would not have been as forthcoming with information as they would have been. The use of a video recorder would have inhibited the participants and they would have felt threatened or intimidated by the fact that their voices could be matched to a face. Observations were made throughout the whole process, whether the lessons were held both inside and outside the classroom.

3.6 Data Analysis

I used a tape-recorder to record the interviews. The recording device was tested before each interview to ensure that the interviews went of smoothly. A demonstration was given on how to use the tape-recorder. A spare set of charged batteries and a spare blank audiocassette were also available to cater for any mishaps. The use of tape recorders during interviews has advantages and disadvantages for Patton (1998, p.67) its “indispensable” because it keeps accurate and true records of the interview, while a disadvantage is that some participants may withhold certain information. Being professional and well prepared with the necessary equipment encouraged the interviewees to participate in a willing and comfortable manner. I transcribed all the data. This was read several times to get a sense of the conceptions of EE. I adapted the steps as outlined by McMillan, *et al.* (2001). I did a first round of analysis once the data was in. This helped me to see what themes were emerging. I read the data several times and them asked questions such as, “What is this about?”, “What is important in this in relation to my research questions and beyond?” I was then able to find units of meaning related to my research questions. The next step was the comparison of units of meaning across the data set to establish what was duplicated and overlapping. All units of meaning that were similar were clustered together into themes and sub-themes as they related to my research questions.

3.7. Validity

Validation depends on good craftsmanship in an investigation, which includes continually checking, questioning and theoretically interpreting the findings (Kvale, 2002). To validate is to check for bias, for neglect, for lack of precision and so forth (Henning, *et al.* 2004). The tape recordings were invaluable in the preparation of transcripts. To secure validity for my study the transcripts were given back to the participants to read. They were able to verify if the record was accurate. This helped to make additions and amendments and to reach agreement with the participants. This important process ensures the validity of the data that has been generated.

3.8. Ethical considerations

Kvale (1996), states that respondents need to give informed consent to participate. They must be fully informed about the research in which the interview is going to be used. They need to know that their privacy and sensitivity will be protected and what is going to happen with their information after the recording. In a letter of consent, which is pre-drafted by the researcher, the participant gives consent to these and other ethical issues that may be relevant. Before I began my study I had to obtain ethical clearance via the university system. During this time I also applied to the Department of Education requesting permission for my study. Once this was obtained I began my study through informing the principal of the nature and aims of my study. I prepared consent forms for the educators detailing the nature of my study and requesting their permission to participate in this study. Pseudonyms were used to protect the educators and the name of the school in order to keep their names and name of their school confidential. This protection was needed so that they will not be identified or harmed in any way. Before I began my research activities I was careful to explain the nature and aim of the session and allowed participants the space to air their views. I was fortunate in that all my participants were willing to be part of the different research activities. They were aware that all participation was voluntary and that they could withdraw at any time.

3.9. Problems experienced in the study

As I embarked upon this study I anticipated a few challenges which I had to bear in mind. Nevertheless, these challenges became a reality and I was able to deal with them realistically. One of the major problems that I encountered was that of time constraints. I was unable to meet up with the initial proposed time frames due to the participant's unavailability. Two of the participants took ill and were on sick leave for a while. One participant became nervous about being tape-recorded and this further delayed the process. I then conducted the two interviews when the participants returned to school. The third participant eventually overcame her nervousness and the interview went ahead. Another problem was that of scheduling of the interviews. With regards to this, on several occasions when dates and times were set, I was unable to proceed due to urgent staff meetings being called up. Furthermore the participants were unavailable after school hours or during the weekends due to family commitments.

3.10. Limitations of this Study

The limitation of this study is that this is a very small scale study and it cannot be representative of the population of Foundation Phase educators. Nonetheless it does give insight on conceptions of EE that help us to understand EE at grassroots level.

3. 11. Summary

The aim of Chapter Three was to provide a detailed description of the research design and methodology used in this study. This chapter was introduced by describing the methodology. The methodology involved the qualitative approach, which is set within the interpretive as well as the critical research paradigm. The researcher gave her reasons for choosing to base her study in both these paradigms. The qualitative approach, the interpretive and the critical paradigms were discussed in detail. Thereafter the research instruments were discussed at great length. The researcher expounded on the advantages of the semi-structured interview, observation and the focus-group interview. Aspects such

as sampling, data analysis and ethical considerations were also discussed in this chapter. The problems and limitations of this study were then discussed.

In the next chapter I will present the findings and discussions of EE held by Foundation Phase educators.

Chapter four

Findings and Discussions

4.1 Introduction

In this study I explored the conceptions of EE held by Foundation Phase educators. I was interested in what the specific conceptions held by these educators were. In order to deepen my understanding of the above I looked at their definitions, aims, sources that inform their conceptions of EE, practices, perceptions of impact of EE, challenges and the vision for effective EE. In this chapter these are presented as themes. I present conceptions of EE as understood by three level one educators (1,2,3) and one HOD (4) Data gathered through semi-structured interviews, the focus-group interview and lesson observations are triangulated to answer the main question and sub-questions.

4.2. Definitions of EE

One of the obvious ways in which educators defined EE was through positioning it in the *in* perspective. According to Davis (1998, p.118), “when educator’s conceptions of EE are located within the *in* perspective, then the aim is to provide direct experiences with the environment and shape attitudes towards nature.” Educator 1 and 2 described their understandings of EE as teaching outdoor lessons and being actively involved in the environment. The example below illustrates this:

Learners are given direct experiences with the environment. The general approach to EE in the foundation phase is a very practical hands-on approach. They weed the gardens on a regular basis; they dig and plant the seeds, they water the plants and harvest the crops when it is ready.
(Educator 4)

Literature supports this as Haworth (2009), noted that when children at Birches Pre-Primary School in Pinetown, combined their learning with hands-on fun in the school’s

food garden and made food from their harvested crops, they also began eating them at home. This amazed their parents as well. Therefore it could be argued that the *in* perspective is an important starting point for learners at a young age.

Educator 3 felt that another aim of EE, together with the global warming and sustainability of the environment, is that it is important for the learners to get involved at a young age to help in sustaining the environment. Thus it is a reasonable assumption that this educator is based in the *in* perspective. Hence to make the learners aware of the importance of the environment and to do everything within their means to protect it for future generations implies that Educator 3 is shaping the learners' attitudes towards nature from a young age. This is illustrated by Educator 3:

EE is about getting the learners integrated with the environment from an early age and by using the environment to enhance their knowledge of it. Learners are never too young to learn.

It was evident that conceptions of EE were also located in the *for* perspective. When educators are located in this perspective, it means that they are operating from a social critical paradigm. This means that the emphasis is on values education and social change (Fien, 1993). Taking action *for* the environment empowers us to make changes for a better world (Watt, 2000). The *for* perspective instills values that would allow one more environmentally friendly decisions in lifestyles (Fien, 1993). The example below illustrates how one educator conceptualised EE as going beyond the immediate practical activities. She indicated that explanations should accompany actions so that children are able to develop environmental awareness and bring about change to problematic practices. The following response from Educator 3 illustrates this:

If you are picking up litter or recycling paper the aim is to teach children to live in a clean and healthy environment as well as to save trees. If you have the understanding of why you are doing something then you'll be able to put it into practice and it would become meaningful. But if we just said 'pick up papers' without having explained to the children the

meaning then we really lose the understanding of why we are doing things. Children and adults need to drastically change their mindset about caring for the environment and saving it for future generations.

The leaning towards the *for* perspective makes salient the fact that educators are the driving force for EE in their school. As agents of change they aim at fostering a change of attitude amongst their peers, raising awareness and having a strong influence on learners in their care. This is approached as a matter of urgency. The response below illustrates this:

One of the aims of EE would be to conscientise the learners and the staff of the institution on the urgency of taking care of our environment and the sustainability of our planet earth. This can be achieved in little ways to protect our environment such as by encouraging the need for growing vegetables, collecting waste paper for recycling instead of throwing it into the bins and also instilling in the learners the use of the stairways and catwalks instead of running up and down the embankments causing soil erosion. It's also to make the learners aware of their environment.
(Educator 3)

Since the conceptions of EE are never homogenous, educators also conceptualised EE in the *about* perspective. When educators are located in the *about* perspective, they base their knowledge on how they interact with the environment (Watt, 2000). The focus is on promoting a harmonious relationship with nature. This emphasis on the latter allows learners to understand how the systems in nature work. The broad aim is to allow people to make informed decisions about how to interact with the world (Watt, 2000). Within the curriculum it was evident that educators were exposing their learners to environmental knowledge and systems that were age appropriate. The response from Educator 2 shows this:

...they enjoy listening to issues about the environment. They are very interested. They love listening to the weather and are motivated to follow

weather patterns. That's what we are discussing at the moment. They find it very interesting. Our learners are excited, keen and are actively involved in the lessons.

The **about** perspective was also evident when educators spoke about the aim of EE as making learners aware of climatic changes and global warming. Educators felt that it is important that they, as educators, open up a new world for their learners. They noted that learners are exposed to new concepts and different ways of caring for the environment. Additionally, they are exposed to rich descriptions of their environment that they probably would not have experienced in their daily lives at home. So this makes them more aware of the value and beauty of their environment and may increase their ability to take care of their environment.

The study also revealed that educators were combining perspectives in order to conceptualise EE. For example, one educator defined EE as educating children on how they could promote a harmonious relationship with the environment, with nature and promote a sustainable environment. This perspective suggests that the conception of EE is located in several perspectives, namely, the **in**, **about** and **for** perspectives. Lucas (1980-81) argues that in a combined conception EE is seen as education **about** the environment as it occurs **in** and **through** the environment as people would want **for** the environment with the purpose of sustainable development. It could be argued that the combined perspective is an ideal conception. The examples below are illustrative of the combined perspective.

The learners are excited when they are allowed to plant, weed, and water and observe the gardens (Educator 1).

During the Literacy period in story-writing they write about care of the environment or the value of trees to reinforce what has been learnt outdoors. This also applies to observations of weather patterns, cloud formations and pollution (Educator 2).

A conception of EE is never divorced from the aim of showing environmental ethics (Moosa, 2002). Educators in the study spoke of their frustrations when they have to constantly remind other educators in their phase to implement basic environmental ethics in their daily interaction with their learners. Educators in the focus group noted that the majority of the learners come from poor socio-economic backgrounds. They acknowledged that the broader picture of EE is insignificant in comparison to the poverty that surrounds the children. Educators were mindful that this context creates disregard for the environment. In this context educators felt that EE should be incorporated across the curriculum for it to make a greater impact on the learners. The aim was thus seen as promoting environmental awareness and ethics through a cross curricular and integrated approach to EE. When educators were asked about what ethical values were taught in EE, their responses were:

‘To do no harm and to care for the environment are some of the ethical values taught in EE and to promote awareness about planting. Children and people need to realize that if you litter the sea or if oil is spilled into the sea the consequence is dead fish, the consequence is destruction of nature. So like the way we respect human beings we need to respect all living creatures. This brings in the spiritual side of life. Our learners need to understand that whatever God created, we need to respect that, just like they respect their own bodies and would not like anyone to inflict pain on them. So too when they throw litter they must realize that besides it being an ugly sight it is harmful to the environment (Educator 4).

As early literature revealed, ‘to be healthy human beings, both physically as well as spiritually, we need to see ourselves as part of our environment’ (Watt, 2001). This resonates with the following response:

“Ethical would come from understanding why we do things in a certain manner. I think that caring for the environment is ethics in itself. So any practice that involves saving the environment involves ethical values. Also teaching them good human values, not been destructive, caring, must be caring not only for the

environment but for each other. So it all starts from caring (Educator 3).

The excerpts show that Educators 3 and 4 are located in the *in*, *for* and *about* perspectives as the emphasis is on shaping the learner's attitudes towards nature, human values and making changes for a better world as well as showing how individuals interact with the environment. (Watt, 2000).

All educators agreed that the Earth is threatened and human beings are threatened and ultimately it affects our survival and if they can understand that you are actually protecting yourself by protecting the environment, they would be able to understand it more meaningfully.

4.3 Sources that inform conceptions of EE

During the focus group interview educators spoke about the sources that helped them to conceptualise EE. All educators spoke about the principles of the NCS as a guiding framework to conceptions of EE. In most instances the learning outcomes and assessment standards in the integrated learning areas like Natural Science, Economic Management Sciences and Life Orientation in the learning programme, Lifeskills informed conceptions. Educators spoke about how themes were derived from the above in order to promote knowledge, skills, attitudes and values related to EE. It was evident that working in teams was assisting educators to conceptualise EE.

The school in the study was fortunate to have a vibrant enviro-club. Educators have also been involved in the Woolworths Edu-plant competition for many years. They received a resource pack which spelt out how the activities could be carried out. The learning outcomes and assessment standards were very specific in the packages. Educators have been accumulating materials over the years. They have attended intensive EE workshops in permaculture, compost-making, tunnel-planting and companion-planting. This has assisted in their conceptions of EE and going the extra mile with their classes. Educators also used learner resource materials such as Thumbs Up, Clever Series and Zebra Crossing to shape their conceptions of EE and practices with young learners. These

materials sometimes provided ready made conceptions of EE which were used in the educator's practices.

Educator 3 who had a long standing with the promotion of EE stated that she read up anything that had to do with the environment. She named her sources as magazines, newspapers, and even watching television programmes. Educator 2 felt that books, the internet, audio-visual aids and the actual environment shapes ones conception of EE. This educator also spoke about the value of gathering information from oral sources, for example, stories from the elderly and so forth. It could be argued that this is in keeping with the history of EE as known by the experiences of elders in South Africa.

4.4. Practices in EE

From literature we have learnt that the general approach to EE in the Foundation Phase is that it is integrated into all learning areas. It is not taught separately as a subject but is taught mainly in the Lifeskills period. In most instances a very practical hands-on approach is used. Loubser (2005, p.124), states that "as a general rule, learners remember more of what they have learned through active involvement in the learning situation, as opposed to just listening, or listening and seeing." EE is approached in different ways in each grade. Educators in the study had different conceptions of EE and they used a variety of teaching methods in their practice. Their conceptions of EE were thus located within the *in*, *for* and *about* perspectives. Those that emphasised the *in* perspective concentrated on protection, care and value of the environment. Their conceptions of EE were firmly embedded in using the physical environment as far as possible to enhance their lessons. For these educators the nature corner which was created within the classroom enhanced the teaching and allowed for knowledge building, awareness and hand-on activities. The adopt a spot approach was also used. The excerpts below gives an example of practice based on the *in* conception of EE.

A lot of resources including live aids on the nature table, such as specimens about your topic, for example, pet fish in a fish bowl, birds in a cage and pot plants as well as models and other natural items like

seashells, pine cones etc. This would make learning very interesting for the learners and for the educator as well (Educator 2).

At all levels from grade one to grade three each teacher/grade has adopted a spot on the school grounds and they try to maintain it in the form of flower gardens or vegetable gardens. They have planted vegetables in patches and in the tunnel. Crops are being harvested, being sold and the money is used to continue the process (Educator 4).

It was also evident that the anti-litter programme formed part of the EE practice. All learners from grade one to grade seven were involved. In the anti-litter practice the aim is immediate, namely, to maintain a clean school. Educators in the study stated that this was not always possible because it was a very large school with an enrollment of one thousand two hundred learners. It could also be argued that not all educators have the same kind of passion for EE as Foundation Phase educators who had some outside training.

Educators spoke about learners weeding the gardens on a regular basis. They described the watering of the vegetable gardens every morning and afternoon under educator supervision. They also spoke about recycling where each class had a recycling bag and all the waste paper was collected in the bag. Water was being collected during rainy seasons in containers. They were placed at the gutters and the water was utilized in the garden.

Educators also described a collect-a-can project for recycling. This project unfortunately fizzled out due to the lack of manpower and enthusiasm on the part of the educators. The learners were taught a variety of skills such as making of compost, which is referred to as permaculture, starting their own health gardens at home, collecting a variety of seeds such as fruits like avocado, orange and paw-paws and also vegetables which they can easily grow like pumpkins, beans and herbs. It could be argued that these are lifelong practices that Foundation Phase educators are using to equip learners for the future. In this respect it can be stated that these educators are located in the *in* perspective as the

emphasis is on direct experiences with the environment.

My observations of lessons in all three classes showed that educators used a variety of approaches in their teaching of EE. Combinations of theory and practical methods were used. They tried integrating it into as many contexts or themes as possible, like seasons, Arbor Day/Arbor Week, pollution, recycling, animals, sea-life and gardening. It is incorporated into all learning areas. In this regard the emphasis is on values education and social change which indicates that the educators are working from the *for* perspective. For example, in Numeracy, story-sums are taught. In the Lifeskills lesson learners were actively involved in working in the gardens, making of simple craft items using waste materials to make greeting cards/frames using dried flowers etc, which I observed the grade two learners busy with. When the learners were given practical hands-on activities it indicates that the educators are operating from the *in* perspective. In the Literacy lesson learners did story-writing about the topic under discussion. The learners wrote about the environment and how the systems in nature work such as the water cycle. This is indicative of the *about* perspective. They also covered language aspects and daily news using the environment as their frame of reference.

Educators were using a variety of teaching methods ranging from a very practical informal hands-on method to story-telling, dramatisation, song and dance as well as a formal approach using worksheets and written tasks given in workbooks, such as recording the weather patterns for one week. My observation in the grade one class showed that educator 1 was using the conception of education *in* the environment to expose her learners to action rhymes, poems, singing and dramatisation related to the environment. I observed the grade one educator introduce the lesson with a song whilst she led the learners outside. Learners were involved in the singing and dramatisation of the words. In their preoccupation with the latter they did not realise that the educator was actually teaching them the steps involved in planting bean seeds. The words and actions below illustrate this point:

We're going to plant some seeds today.....

This is the way we tilt the soil.....

This is the way we sow the seeds....

This the way we water the plants.....

In the study it was observed that the grade three learners had to write and illustrate their observations of pear seeds placed in water over a period of time. The Educator tactfully integrated this lesson with a Numeracy lesson. The learners were asked to measure the length of the stems over a period of two weeks. These tasks were grade and age appropriate. They also used the television and tape recorder to re-enforce their lessons. Two educators used the 'Teaching handwriting reading and spelling skills' (Thrass) resource package to re-enforce the theme on birds and animals. These scenarios of teaching and learning could be linked to the passion of the teachers. Van Staden (2002) argues that the success of teaching young children to care about the environment depends to a large extent on teachers' own attitudes and their modeling of joy, excitement and wonder of the world we live in. This is what I observed in the lessons. In the focus group interview, educators attributed their success in EE to their passion for the environment and they were quick to note that they did not think that EE was given that much emphasis in other classrooms due to its lack of status in the curriculum.

The study revealed that there was no specific period for teaching EE. Educator 3 said that she tried to bring it in, into as many lessons as possible for example, the recent municipality strike and the litter issue. She discussed topical environmental issues during the daily news sharing in the Literacy lesson. Thus placing her in the *for* perspective as her intentions were to bring about change for a better world (Watt 2000). It was also evident the Lifeskills is the home for EE. All educators agreed that the curriculum pressure for Literacy and Numeracy left no specific time for EE on the timetable. It was usually discussed in the morning but there was no fixed period in the day for EE.

With regard to content informing practice educators spoke about progression of the teaching of EE from grades one to grade three. At the grade one level the various aspects of EE commences. Educator 4 explained that if educators were speaking about plants, trees and weather, it was done at the level of the learners and when they got to grade two and grade three, the level changed to incorporate more detailed explanations regarding

the contexts. For example in grade one, the theme of the water cycle, would be of a very simple form but at grade two level, more details were covered and by the time the learners reached grade three, concepts like condensation and evaporation were explained in greater detail. The curriculum and terminology used were age appropriate and grade appropriate so the learners were not lost. During the planning sessions educators decided at which level they would stop at for each grade so that there would not be any overlaps in the grades.

4.5. Perceptions of impact of EE

When exploring the conceptions of EE, an integral part of the study was to ascertain the impact of this educational goal. Educators in the study noted a tremendous amount of enthusiasm amongst their learners to participate in EE relating projects. It was evident from the focus group interview, however, that the impact of EE was influenced by the attitude and involvement of the educators. It was noted that not all educators have the same amount of passion for the environment in order to drive it forward. Some of the reasons for the lack of drive for EE were presented as inadequate directions as to how EE is to be taught in the Foundation Phase. Due to time constraints more emphases are placed on the teaching of Numeracy and Literacy. Large class size also limited the response to EE projects.

Educators noted that EE had a great impact on the school because some of the learners have become more aware of caring for the environment. These learners helped educators to identify learners who broke certain rules. They were interested and excited. Educator 4 had the following to say:

The impact is that if a child is given gardening to do or plants to plant he/she is far more excited than to sit in the class doing language aspects. Previously if a child was put outside to pull weeds in the garden it was regarded as a form of punishment but now it is used as a reward. If learners are able to do their school work or finish their work, it's a reward to work in the garden. Children are learning to appreciate the

environment in this manner.

Educator 3 observed the following:

I have observed in my class that the learners have improved in their class work whenever they did an outdoor activity, such as weeding or observation of cloud formation. They were able write more sentences about it. This is because all round development is taking place. This shows that EE does make a positive impact on the learners. However, as mentioned earlier, it's only some educators that have this awareness.

Educators in the study spoke about their ability to work flexibly with young learners. They showed concern that the good work done in EE in the Foundation Phase will not have follow up lessons in the Intermediate Phase since no clear directions are given in the NCS document. They noted that the values learnt by the learners at an impressionable age would be lost due to a lack of focus and the lack of continuity when learners exit the Foundation Phase.

4.6. The challenges facing EE

Educators in the study faced many challenges in their interactions with the learners, their colleagues, the management, and the curriculum and time constraints. This is not surprising as research findings of studies conducted in the international arena also have similar challenges. This was noted in a comparative study carried out in England and Hong-Kong on support for teaching attitudes of concern towards EE in both countries, but very little support for those teaching strategies that might enable teachers to achieve this aim. These findings may suggest that teachers are keen to promote positive attitudes towards the environment in their teaching but are limited in their delivery of such aims by constraints on time and resources (Lee, 1999).

With regards to the learners, educators in the study noted that although they were eager to learn, this eagerness, however, was hampered by a lack of learner concentration due to

poor socio-economic living standards. Educators said that the majority of the learners come from poverty stricken backgrounds and that it was difficult to capture their attention and get them involved in the lessons. Educators felt that the EE focus was lost within other pressing concerns.

The general apathy amongst educators with regard to teaching of EE in the Foundation Phase was viewed by educators in the study as a cause for concern. They noted that other educators felt that only if you have a passion for the environment or if you have “green fingers” (Educator 3), then you should be promoting EE. There was a lack of general consensus that everybody needs to drive EE forward as a principle driving the NCS. All educators in the study stated that they would really like to see all tiers of educators changing their attitude. They were of the opinion that a change of attitude would see more outdoor activity that would be on an on-going basis, not just in the spring time or during Arbor Week as was the case presently.

Another challenge that educators in the study brought up was that of training. It was noted that only those educators that had received prior training in some form of EE, were actively involved in promoting EE. Others only seemed to approach it within the confines of themes. Educator 4 who was in management stated that they relied upon the expertise of the two senior educators in the Foundation Phase to assist in getting the other educators involved. She expressed the need for more information on the teaching of EE. Educator 1 summed this up “It would be nice if all educators were clued-up with EE.”

Educators in the study noted that managers had certain perceptions of good quality education and this affected their responses to EE. Educator 1 said that managers did not approve of learners being outside their classrooms for lessons. There were times when learners were busy doing outdoor work in the gardens and they were asked to return to their classrooms. This created an impression amongst the educators that it was not approved. To avoid narrow conceptions of EE informing practice, educators in the study felt that an EE policy needs to be put in place in order to give proper directions as to when and how EE ought to be taught.

The study showed that one of the greatest challenges in Lifeskills is that there is no set curriculum for the subject. From my experience educators are adapting the learning areas life orientation and using that to teach life skills. In the absence of an approved curriculum, educators are using a variety of support material such as Thumbs Up, Clever Series and Zebra-Crossing. Educators in the study felt that this led to a variety of methods being proposed and it was challenging as to which one to choose. It could be argued that the conception of EE remains hidden in guidelines for practice.

The issues of continuity of teaching in the different phases were also noted as a challenge. All educators in the focus group interview saw themselves as extremely passionate about EE in the Foundation Phase. They said that they would like to see it being carried through the Intermediate and Senior Phases. They felt this was important in order to develop a citizen that is environmentally aware and can act towards promoting a sustainable environment.

4.7. The vision for effective EE

Educators in the study agreed that there had to be drastic changes in the mindset of all educators, both in the Foundation Phase and in the Senior Primary Phase with regards to the manner in which EE is conceptualised. They deemed this necessary in order to develop citizens that would eventually take care of the environment. During the interview all educators felt that training was crucial for the teaching of EE in the Foundation Phase. It was noted that at present only a few educators had formal training in EE, especially those that came from the former House of Delegates (Indian) training institutions. Educators felt that this was the case because they were exposed to a subject called the *Study of the Environment* during their pre-service years. This group of educators included those that have received further training at EE workshops. Those educators from the former Black African Education Department were not formally trained in EE. Educators in the study saw this as a downfall in teaching EE in the Foundation Phase as educators used their own methods to teach EE in their classes.

Educator 3 spoke about the vision of having more educators take an active role in

promoting EE. She firmly believed that it had to start with educators. She noted that if educators did not show a passion for EE, then learners were going to lose out. She said that she would really like to see the educators at her school being proactive in planting, in nurturing the environment and encouraging recycling and encouraging their learners to be active participants in the environment.

4.8. Conclusion

In this chapter I explored the conceptions of EE held by Foundation Phase educators. Specifically, I wanted to know what their conceptions are. I therefore examined their definitions, aims, practices, perceptions of impact, challenges and vision regarding EE in the Foundation Phase. The findings suggest that there are multiple conceptions of EE that are held by Foundation Phase educators. They are complex and informed by a variety of perspectives on EE.

An examination of the conceptions of EE in practice shows that the educators draw from the *in, for* and *about* perspectives. Their practices are shaped by what they understand EE to be. The concept of EE is located within the *in, for* and *about* perspectives either strongly on its own or in combination. Those that subscribe to the *in* perspective focus on providing direct experiences with the environment and shaping attitudes towards nature (Davies, 1998). Those that subscribe to the *for* perspective focus on action that is seeking social change. Taking action for the environment empowers us to make changes for a better world and to respond to local issues and risks (Watt, 2000). Those that subscribe to the *about* perspective allows learners to understand how the systems in nature work (Watt, 2000). The combined perspectives allow teachers to see EE as a critical tool for helping to shape citizens that are environmentally aware and responsible to bring changes for the betterment of society (Flogaitis, *et al.* 2005).

The educators source their conceptions from multiple sources. First and foremost the NCS provides a framework. They also lean towards teaching and learning support material such as Thumbs-Up, Zebra-Crossing and Clever-Series, which has ready-made teaching aids suitable for the different age groups. Since there are some experienced

educators with long service in the profession, they have compiled an EE resource file for future use. Educators have also received resource material from the various EE workshops that they have attended over the years. They were also informed by the media, magazines, internet and even stories related through oral sources such as stories from the elderly.

The challenges experienced in both conceptions and practices were noted as lack of concentration on the part of the learners due to their poor socio-economic living conditions. The general apathy amongst educators with regards to teaching of EE in the Foundation Phase was seen as a challenge. The lack of proper guidelines on when and how to teach EE in the Foundation Phase posed a challenge to the educators. The lack of proper training for Foundation Phase educators affected their teaching of EE. The greatest challenge in Lifeskills was that there was no set curriculum for EE; hence educators were developing their own curriculum according to themes. This could result in some salient aspects of EE being over-looked. The lack of continuity of teaching EE in the different phases was also noted as a challenge. The vision of change in the mindset of all educators with regards to the manner, in which EE is conceptualised, as noted by the educators in this study, would need to be taken seriously if EE is to be strongly recommended in the Foundation Phase curriculum agenda.

*~The conservationist's
Most important task,
If we are to save the Earth,
Is to educate.~*

Sir Peter Scott

The next chapter will focus on the findings and recommendations regarding educators' conceptions of EE in the Foundation Phase.

Chapter Five

Conclusion

5.1 Introduction

In this chapter I present the conclusions in my study. I investigated educators' conceptions of EE in the Foundation Phase at a primary school in KZN. I present a summary of each chapter. I will address the implications of my study and limitations. I will comment on my reflections and future research on this topic. Thereafter I present my conclusion.

5.2 Summary of each chapter

Chapter One introduced the study and examined the way in which the environment served as an educator to South Africans in earlier historical times. I looked at the use of the environment in the past. In my discussion I showed how cultural practices, religion and traditional healing were upheld by the different tribal groups. The apartheid era illuminated the plight of the environmental crisis that South Africa is facing. I used our Constitution and the White Paper on Education (1995) to shed light on the curriculum and EE. The rationale for the study, the aims of the study and the key research questions were discussed. I also introduced the paradigms, the research approach, methodology and the context of my study.

Chapter Two discussed the definitions of EE as provided by various authors ranging from the international arena to a national level. I examined these definitions more critically to see how these definitions have influenced the minds of curriculum planners as well as educators. Thereafter I gave an overview of the concept of Environmental Justice as experienced in South Africa. This led to a discussion on the Constitution of South Africa and how it has influenced the development of EE in the curriculum. Educators' conceptions of EE were then discussed. This included a discussion on some perspectives of EE followed by a discussion on the paradigms that were used in this study.

Chapter Three outlined a detailed description of the research design and the methodology that has been used in order to generate data for this study. The approach used was primarily qualitative in nature. I chose this approach because it is well suited to gaining access to the educator's meaning making endeavours and practice. The research instrument, sampling, the data gathering process, ethical considerations and validity were also discussed at. This was followed by a discussion on the semi-structured interview, the focus group interview and observation. I then presented a discussion on the data analysis, validity, ethical considerations, problems experienced in the study as well as the limitations of this study. Finally I concluded by making a summary of the chapter.

Chapter Four focused on the findings related to conceptions of EE as held by Foundation Phase educators. The views of three level one educators and one Head of Department were presented. The findings indicate that educators hold multiple conceptions of EE. These conceptions come from three perspectives, namely, the *in*, *about* and *for* perspectives. In the educator's conceptions the perspectives feature strongly on their own or in combination. They used sources like the NCS, learner support material, resources received from various workshops, magazines, the media, the internet, as well as stories related from the elderly. It was evident that the perspective/s the educator's take has an influence on their practice. There were challenges in both the conceptions and practices. These were noted as lack of concentration on the part of the learners, the large class sizes, the general apathy amongst educators, the lack of proper guidelines in the NCS, the lack of proper training and the absence of a set curriculum for EE in the lifeskills period. Educators shared their vision as a change in the mindset of all educators with regards to the manner in which EE is conceptualised.

5.3 Implications of this study

One of the critical implications of this study is the urgent need to incorporate EE in the school curriculum in a strong and visible way. It exists as a principle but is lost in the dominant concern for the promotion of Literacy and Numeracy in our schools. This study has revealed that educators are keen to implement EE but are restricted in doing so due to

time constraints and lack of clear directions on when and how EE ought to be taught in the curriculum. Hence EE needs to be more clearly defined and synthesised into the NCS for it to be taken seriously by all Foundation Phase educators.

In other words, EE should receive its rightful place in the curriculum in order to provide an education that will create a deep awareness and strategies to save our planet earth for future generations. As proposed by Flogaitis *et al.* (2005), a concerted effort should be made to find the most appropriate approaches that will contribute to the development of positive attitudes and behaviour and to the undertaking of action amongst learners. To this end I would propose that Foundation Phase learners be introduced to more socially enquiring rather than solely nature-centered EE activities.

This study brings to the fore the need for professional development in EE. Educators' lack of expertise or training in the teaching of EE, their contradictory behaviour and the lack of commitment has a destabilizing effect on the development of positive attitudes and behaviour towards the environment. Teacher training institutions need to revisit their curriculum to ensure that EE is given adequate space. This would go some way towards having more professional teaching responses to EE. Short courses need to be offered on the teaching of EE.

Whilst not limited to EE I think it is important that critical reflection becomes a key part of teacher training. Through critical reflection, Foundation Phase educators could examine their own value systems and how these influence their environmental and educational way of thinking and practice. Getting to know their personal conceptions as well as other educators' conceptions gives them the opportunity to examine their own practical theory and to position it in the broad spectrum of the many alternative approaches and trends of EE.

A sincere and deliberate effort must be made to conscientise educators on the teaching of EE. Educators must recognise their calling as teachers and take up the challenge to inspire and make a positive impact on their learners towards the environment. This is of

critical importance since the Foundation Phase is the most conducive age to achieve EE goals.

5.4. Limitations

This study is a small scale study. It involved one school with four educators. Given the scope of the study it is not possible to make generalizations from the study. The study, nonetheless, does offer an in-depth understanding of EE and raises issues for professional development and curriculum in the Foundation Phase.

The study has also been limited to educators and 1 member of management. This route was taken because of time and financial constraints in carrying out the study. Whilst a large sample was ideal it was not possible given the limitations of the above.

5.5 Reflections and future research

This has been a very emotional and traumatic journey for me. On reflecting upon this study I have faced many challenges both on a personal level as well as on an academic/professional level. On a personal level, I have suffered a great set-back with the sudden death of my husband mid-way through my studies. The additional stress of coping with two teenaged children as well as caring for an elderly mother-in-law, who is an Alzheimer's' patient has left me in utter despair. On an academic level I had a one year break in my studies, which made it difficult for me to adjust to studying again. Given the circumstances of my research study, I felt that I may not have been able to complete this study successfully due to time constraints and financial issues. Nevertheless, in spite of these challenges I have persevered and with the constant support and kind words of encouragement from numerous individuals I have managed to complete this study.

Nevertheless once I got started I found this study to be very interesting since it has always been my passion to research a topic focusing on the environment. On a

professional level my main concern was that, the issue of the environment was not given the recognition in the school curriculum that it deserves. Furthermore I was also concerned about the lack of interest and the general apathy amongst many of the educators with regards to serious environmental issues. Whilst learners were eager to participate in EE activities, educators were more concerned with the teaching of Literacy and Numeracy. In my interactions with the educators on an informal basis, I realized that educators need to seriously change their attitude towards EE in order to make a significant difference to the young lives in their care, so that they can make responsible choices for their future.

This study has helped me gain a better understanding of how educators view EE from their different frames of reference. It has also made me realize that our education system is failing our learners by placing more emphasis on Literacy and Numeracy at the expense of Lifeskills where valuable knowledge, skills and attitudes are supposed to be learnt and developed.

My other concern is that there is not enough research in the field of EE, especially in the Foundation Phase, being done. South Africa is one of the signatories of Agenda 21, which describes EE processes as those processes that involve educators and learners in order to promote sustainable development. Hence it should therefore be one of the leading countries to pursue research in this direction. My sincere hope and quest for the future is that the Department of Education in conjunction with leading tertiary institutions, such as the University of KwaZulu-Natal, undertakes research studies in EE, with particular emphasis on early childhood development and Foundation Phase.

5.6 Conclusion

From this study it is evident that Foundation Phase educators are basing their conceptions of EE somewhat according to three interconnected crises in EE as described by Sauvé (1994), namely, the environmental crisis, the crisis between human beings and the environment and the crisis in the traditional practice. These are visible in the manner in

which EE is taught in schools today. It is also interesting to note that much of what educators are saying about EE in their vision has already been said in their definitions and aims of EE. Whilst examining their conceptions of EE as attitudes, values and skills in relationship to the above crises it was evident to me that attitudes is to do with the crisis between human beings and the environment; values is to do with the crisis in the traditional practice and skills is to do with what is needed to overcome the environmental crisis. I consider this as a valuable starting point to the beginning of a focused dialogue on EE.

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Annexure A

The Director of Education
Department of Education and Culture Services
18 February 2009

RE: Request permission to conduct research at Mariannpark Primary School

I am a Foundation Phase teacher currently teaching at Mariannpark Primary School. As a part of my professional development, I am presently enrolled for a Masters Degree in Education at the University of KwaZulu-Natal. My supervisor is Dr. H.B. Ebrahim I have completed my first year courses and am now required to do a mini dissertation.

My research will focus on *Teachers' Conceptions of Environmental Education in the Foundation Phase*. I will be exploring their understanding, knowledge and conceptions of EE through semi-structured interviews, classroom observations and focus group interviews.

Before conducting my research I would obtain permission from the principal and the Foundation Phase teachers. All information received will be kept strictly confidential and participants will be free to withdraw at any stage of the research. I give you my undertaking that I will follow research ethics in handling the data as well.

I hope that you will consider my request favourably and grant me permission to conduct my study at Mariannpark Primary School

I look forward to your reply and thank you for your time and consideration.

Yours faithfully

.....
S. A. Jaikarun (Mrs.)

Tel. No: 031-4041417

Fax. : 031-7062353

Email : jivzjaikarun@gmail.com

Supervisors Details:

Dr. H.B. Ebrahim

Early Childhood Studies

University of KwaZulu-Natal

Edgewood Campus

Fax 031 2607003

Tel. No. 031 2603483

Annexure B

Dear Principal.....

RE: Request to conduct interview at your school

I am a Foundation Phase teacher currently teaching at Mariannpark Primary School. As a part of my professional development, I am presently enrolled for a Masters Degree in Education at the University of KwaZulu-Natal. My supervisor is Dr. H.B. Ebrahim I have completed my first year courses and am now required to do a mini dissertation.

My research will focus on *Teachers' Conceptions of Environmental Education in the Foundation Phase*. I will be exploring their understanding, knowledge and conceptions of EE through semi-structured interviews, classroom observations and focus group interviews.

Before conducting my research I would obtain permission from the principal and the Foundation Phase teachers. All information received will be kept strictly confidential and participants will be free to withdraw at any stage of the research. I give you my undertaking that I will follow research ethics in handling the data as well.

I hope that you will consider my request favourably and grant me permission to conduct my study at Mariannpark Primary School

I look forward to your reply and thank you for your time and consideration.

Yours faithfully

.....

S. A. Jaikarun (Mrs.)

Tel. No: 031-4041417

Fax. : 031-7062353

Email : jivzjaikarun@gmail.com

Supervisors Details:

Dr. H.B. Ebrahim

Early Childhood Studies

University of KwaZulu-Natal

Edgewood Campus

Fax 031 2607003

Tel. No. 031 2603483

Consent

I hereby confirm that I understand the contents of this document and the nature of the research project. I consent to my educators participating in the research study.

I understand that I am at liberty to withdraw from the project at any time, should I desire.

Participant (Print Name): _____

Signature: _____

Date: _____

Researcher Mrs. Shamain Ankoor Jaikarun

Signature: _____

Date: _____

Address: 64 Road 741
Montford
Chatsworth
4092

Telephone: (W) 031-7062353 (H) 031-4041417 (C) 084 605 6549

Supervisor (Print Name): Dr Hasina Banu Ebrahim

Signature: _____

Date: _____

Faculty of Education, Edgewood Campus

Private Bag X03

Ashwood

3605

Telephone: (W) 031-2603483 (FAX) 031-2603423

For purposes of analysis, please print information about yourself

NAME: _____

GENDER: _____

AGE: _____

RACE: _____

ADDRESS: _____

TELEPHONE: _____

DESIGNATION: _____

SIGNATURE: _____

Annexure C

Dear Educator.....

RE: Request to conduct research at school

I am a Foundation Phase teacher currently teaching at Mariannpark Primary School. As a part of my professional development, I am presently enrolled for a Masters Degree in Education at the University of KwaZulu-Natal. My supervisor is Dr. H.B. Ebrahim I have completed my first year courses and am now completing a mini dissertation.

My research will focus on *Teachers' Conceptions of Environmental Education in the Foundation Phase*. I will be exploring their understanding, knowledge and conceptions of EE through semi-structured interviews, classroom observations and focus group interviews.

Before conducting my research I would obtain permission from the Principal. As one of my selected respondents your assistance will be required in accessing information about your experiences and observation in the Foundation Phase at your school. All information received will be kept strictly confidential and you will be free to withdraw at any stage of the research. I give you my undertaking that I will follow research ethics in handling the data as well.

I hope that you will consider my request favourably and grant me permission to interview you at Mariannpark Primary School

I look forward to your reply and thank you for your time and consideration.

Yours faithfully

.....

S. A. Jaikarun (Mrs.)

Tel. No: 031-4041417

Fax. : 031-7062353

Email : jivzjaikarun@gmail.com

Supervisors Details:

Dr. H.B. Ebrahim

Early Childhood Studies

University of KwaZulu-Natal

Edgewood Campus

Fax 031 2607003

Tel. No. 031 2603483

Consent

I hereby consent to participate in the above research project. I understand that my participation is voluntary and that I may change my mind and refuse to participate or withdraw at any time without penalty. I may refuse to answer any question or I may stop the interview. I understand that some of the things that I say may be directly quoted in the text of the final dissertation, and subsequent publications. I hereby agree to participate in the above research.

Participant (Print Name): _____

Signature: _____

Date: _____

Researcher Mrs. Shamain Ankoor Jaikarun

Signature: _____

Date: _____

Address: 64 Road 741
Montford
Chatsworth
4092

Telephone: (W) 031-7062353 (H) 031-4041417 (C) 084 605 6549

Supervisor (Print Name): Dr Hasina Banu Ebrahim

Signature: _____

Date: _____

Faculty of Education, Edgewood Campus

Private Bag X03

Ashwood

3605

Telephone: (W) 031-2603483 (FAX) 031-2603423

For purposes of analysis, please print information about yourself

NAME: _____

GENDER: _____

AGE: _____

RACE: _____

ADDRESS: _____

TELEPHONE: _____

DESIGNATION: _____

SIGNATURE: _____

Annexure D



RESEARCH OFFICE (GOVAN MBEKI CENTRE)
WESTVILLE CAMPUS
TELEPHONE NO.: 031 – 2603587
EMAIL : ximbap@ukzn.ac.za

23 JUNE 2009

MRS. SA JAIKARUN (204516009)
EDUCATION STUDIES

Dear Mrs. Jaikarun


ETHICAL CLEARANCE APPROVAL NUMBER: HSS/0294/09M

I wish to confirm that ethical clearance has been granted for the following project:

“Teachers’ conceptions of Environmental Education in the Foundation Phase in KwaZulu-Natal”

PLEASE NOTE: Research data should be securely stored in the school/department for a period of 5 years

Yours faithfully


.....
MS. PHUMELELE XIMBA
ADMINISTRATOR
HUMANITIES & SOCIAL SCIENCES ETHICS COMMITTEE

cc. Supervisor (Dr. HB Ebrahim)
cc. Mr. D Buchler