

**ASSESSMENT OF THE AVAILABILITY AND EFFECTIVENESS OF ENVIRONMENTAL EDUCATION
THROUGH THE ECO-SCHOOLS PROGRAMME AT UMZINYATHI DISTRICT SCHOOLS.**

By

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Submitted in part fulfilment of the requirements for the degree of

MASTER OF EDUCATION- WITH SPECIALISATION IN ENVIRONMENTAL EDUCATION

at the

UNIVERSITY OF SOUTH AFRICA

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DEDICATION

I dedicate this dissertation to:

My husband, Mlungisi Buthelezi, for his continued understanding and moral support during my studies

And

My children, Nondumiso and Edward Masache, Hlobisile Buthelezi, Sihawukele Buthelezi and my beautiful granddaughters, Ze and Nkosi.

For

Their support, understanding and encouragement that enabled me to accomplish my goals.

ACKNOWLEDGEMENTS

The successful completion of this research investigation entitled: ***ASSESSMENT OF THE AVAILABILITY AND EFFECTIVENESS OF ENVIRONMENTAL EDUCATION THROUGH THE ECO-SCHOOLS PROGRAMME AT UMZINYATHI DISTRICT SCHOOLS***, would not have been possible without the assistance and support of the following individuals and groups:

First and foremost, God, the Almighty for giving me the strength and wisdom to deal with this project.

My supervisor Prof C.P. Loubser, for encouraging and helping me to navigate the research journey.

My wonderful tutor Carol Jansen for all her support and encouragement and always believing in me when I felt like quitting.

School colleagues, all principals, educators, learners, members of the SGB and officials of these departments: DoE, DAEA and officials of local municipality, who participated in the survey as willing respondents.

DECLARATION

I declare that

**THE ASSESSMENT OF THE AVAILABILITY AND EFFECTIVENESS OF ENVIRONMENTAL
EDUCATION THROUGH ECO-SCHOOLS PROGRAMME AT UMZINYATHI DISTRICT SCHOOLS.**

is my own work and that all the sources I have used or quoted, have been indicated and acknowledged by means of complete references.

SIGNATURE

(Mrs S A Buthelezi)

DATE

ABSTRACT

(a) Background of the study

The study was conducted at Umzinyathi District schools. Umzinyathi District comprises of four circuits, i.e. Umvoti, Nqutu, Msinga and Endumeni. The study intended to find out if EE education is available and effective enough through Eco-Schools Programme at Umzinyathi District Schools. Each circuit was represented by three schools. One school was the school that was registered with Eco-Schools Programme and have a green flag status, the second school was the school that was registered with Eco-Schools Programme and working towards getting the green flag status and the third school was the school that was not registered with the Eco-Schools Programme.

(b) Methodology

Qualitative, explorative research was conducted in order to determine the availability and effectiveness of Eco-Schools Programme at Umzinyathi District Schools. Data collection was done using different types of interviews for different types of participants, i.e. educators, learners, members of the School Governing Bodies, officials of the DoE, DAEA as well as of the local municipalities. Site visits to the Eco-Schools was also used to collect data. When collecting data, a tape recorder was used. The interviews were conducted in both isiZulu and English and translated to English by the researcher.

(c) Results and findings

The study proved that Eco-Schools Programme is the necessary tool in bringing about the change in teaching about protecting and caring about the environment. The study also discovered that at the Umzinyathi District is not available and effective enough. Another thing the study discovered is that, there is another programme that is run by the DAEA, which is called NEEP

(National Environmental Education Programme). The study also finds out that some of the Eco-Schools are also registered with this programme.

(d) Recommendations

It was recommended that the Eco-Schools Programme be compulsory to all the schools of Umzinyathi District where the study was based. Another recommendation was that the Department of Education appoint some people within the department to work full time with the DAEA in implementing, monitoring, supporting and assessing the progress of the programme in the district.

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CHAPTER 1

INTRODUCTION TO THE STUDY

1.1 INTRODUCTION

The values of human rights, social equity and a healthy environment underpin the National Curriculum Statement (NCS) for schools. All subjects in the educational programmes impart a vast amount of subject content that integrates the environment and sustainable development (SD). The Curriculum and Assessment Policy Statement (CAPS), which was created by the Department of Education, embraces much of the substance. CAPS permits the utilisation of manageable normal assets as well as South Africa's ecological approaches. Effective schooling need to be put in place in order to encourage learners to take up their part in this changing environment in order to overcome challenges, implement improvements and ultimately profit from further study and employment in natural administration and a 'green' economy (Public Environmental Awareness, Education and Training Strategy: City of Cape Town, 2011:16).

CAPS guarantees that children secure and apply learning and use their aptitudes in ways that are important to their own lives. CAPS depends on a few standards, such as the mixing of the standards and practices of social natural equity and human rights, as embodied in the Constitution of the Republic of South Africa. Issues of associated qualities are sensitive: for example, neediness, disparity, race, sex, dialect, age, incapacity, and many other variables need to be taken into account. Additionally, it is imperative to encourage learners to be aware of and manage issues from all parts of life. They should be encouraged to make choices that make use of basic and inventive deduction, science and innovation in order to demonstrate their duty to the earth and the wellbeing of others in a feasible way (Department of Education, 2011:6 National Curriculum Statement. Grade 10-12-TEF. Pretoria Government Printers).

Given this, there is a requirement for successful Environmental Education (EE) at all levels of formal training. There are twelve principles that are fundamental to EE. This was agreed by the United Nations (UN) at the Tbilisi Conference in 1978 and re-certified in Agenda 21, which

was adopted at the Earth Summit in Rio de Janeiro, (Loubser, 2009:61). These principles confirm that education about the earth is interdisciplinary in nature and must reach through all levels of formal education as well as non-formal education. Environmental Education at all levels can shape the universe of tomorrow. As indicated by Smith (1992:90):

It can equip individuals and societies with the skills, perspectives, knowledge and values to live and work in a sustainable manner. The task, simply put, is to transform prevailing mind-sets to recognise the long-term limits that nature imposes and the need to “nurture, rather than jeopardise, the ecological systems” that underpin our activities.

According to Loubser, the Eco-Schools Programme is the main way in which these issues are addressed in South African schools. The Eco-Schools programme began in 1994 in order to help young people to attain the capacity to discover answers to ecological issues in their own localities. This programme was recognized at the UN Conference on Environment and Development of 1992 and was started by the associations of the Foundation for Environmental Education (FEE) with the backing of the European Commission.

The Whole School Development (WSD) approach has been incorporated into the Eco-Schools concept. It encourages the co-operation of all the partners in the community, as individuals from both the group and School Governing Body (SGB) must be represented in the eco committee. A prerequisite for continuing advancement is the offer of authority to each of the stakeholders in a group, and the programme achieves this. (Loubser, 2009:59).

This study looked closely at the Umzinyathi District in KwaZulu-Natal to find out the nature of challenges the programme is facing with. It, amongst other things, looked at the assessment tools the Department of Agriculture, Environmental Affairs and Rural Development (DAEARD), now known as the Department of Agriculture and Environmental Affairs (DAEA), uses in order to assess the progress of the programme for participating schools, as it is the implementing agent. It also looked at the involvement of the Department of Education

(DoE) at the district level in supporting the program. In addition, it looked at the role the local municipality plays in supporting the program.

The researcher became involved in Eco-Schools when her school was chosen as one of the three pilot schools in the Nqutu circuit when the programme was introduced to her district in 2006. At the moment, one of those schools has been with the programme for more than ten years.

The other two schools have been with the programme for more than seven years. Being the programme coordinator at her school, the researcher had an opportunity to work closely with the DAEA. During this time, she has observed the way the DAEA manages the programme and the resources it uses to run the programme in terms of human and physical resources. Since then, the schools continued to register and stay with the programme for only one or two years before dropping out, which causes the number of the schools with green flag status to decrease in turn. In order for a school to qualify for a green flag status, it must be with the programme for at least three years and annually submit their Eco-file for assessment.

1.2 CONCEPTUAL FRAMEWORK

Research theory

A conceptual framework is used to provide a perspective upon which the study is based. There are many theories in the literature such as positivism, which makes use of predictions and explanations, interpretivism or anti-positivism, which aims at understanding how individuals experience the world (Neuman, 2000) and also stresses the subjectivist approach to studying social phenomena:

...which attaches importance to a range of research techniques focusing on qualitative analysis, for example, personal interviews, participant observations, accounts of individuals and personal structures (Cohen et al., 2000), Critical theory in which researchers should be looking for the “political and economic foundations of our construction of knowledge, curriculum and teaching.

This study will use the interpretivist or anti-positivist research theory. This theory stresses that people view their social reality from their own individual ideological standpoint. This means that knowledge is something that is experienced personally rather than something that is taken on or enforced from outside. The anti-positivists believe that reality is complicated and interconnected, and that any one phenomenon might have many interpretations. In Anti-positivism, the subjectivist approach to studying social phenomena, “which attaches importance to a range of research techniques focusing on qualitative analysis, for example, personal interviews, participant observations, accounts of individuals and personal structures”, is stressed (Cohen, Manion & Morrison: 2007).

Because it came into being as a reaction to positivism, the interpretivist perspective can also be called the "counter positivist" perspective. Sometimes it is construed as constructivism since it emphasizes the limits of the individual in creating meaning.

The interpretivist framework was fundamentally influenced by principles of critical interpretation and philosophy. Ernest (1994) illuminates that hermeneutics is the scrutiny of centrality and interpretation in stories. Another strong effect is that of philosophical improvement and the observable predictions in particular. The phenomenologist urges the need to consider people’s “subjective interpretations, their perspective of the world as our starting stage in cognisance social wonders” (Ernest 1994-25).

The organisational suppositions of interpretivism are that different people will see social truth in different ways. These people decode events differently due to their individual understanding and awareness, and this leads to different views of a scene.

The interpretivism theory suits this study as it seeks to find information from certain schools in the District through a qualitative approach using different research techniques such as personal interviews, site visits, participant observations, and focus groups.

The information that will be collected from the participants will be from their own experiences of EE through the Eco-Schools Program.

1.3. BACKGROUND TO THE RESEARCH

Worldwide concern with ecological issues caused the United Nations Conference (UNC) on the Human Environment held in June 1972 in Stockholm to do something. The result was Recommendation 96. The associated UN Systems, particularly UNESCO, were approached to find a way to set up an international programme for Environmental Education (Filho, MacDonald & Padgam 1996:25-26). It recommended that the approach be interdisciplinary and address all levels of training, including those of the general population. At this conference, it was also agreed that the focus should be not on EE only, to also on putting into practice what has been learnt.

The Eco-Schools Programme is an international project designed to help teachers promote whole school approaches to ESD in their schools and in the whole community. It is important to note that the Eco-Schools Programme was started in 1994 by the Foundation for Environmental Education in Europe. In many countries around the world, many schools were part of the programme more than ten years ago and many schools are still registering. In South Africa, the programme was launched in 2003. The Eco-School Programme is managed by the

Wildlife and Environmental Society of South Africa (WESSA) which is working in partnership with the World-Wide Fund for Nature in South Africa (WWF-SA) with support from Nampak. The number of Eco-Schools in South Africa is growing yearly and the number of schools with green flags and international flags is also growing (WESSA statistics).

Out of 7 895 South African schools registered with the Eco-Schools Programme in 2003-2012, 2 999 (38%) schools were in KwaZulu-Natal (KZN), where the Umzinyathi District is located. In the Umzinyathi District, there are four circuits, namely Endumeni, Msinga, Nqutu and Umvoti, with a total of 495 schools. The 2012 records for Eco-Schools in the Umzinyathi District show that out of 495 schools, fewer than 40 (8%) schools are registered with the programme (WESSA statistics).

The above information about the records of the Umzinyathi District schools and the number of Eco-Schools at district level raises some questions regarding the availability, implementation, monitoring and effectiveness of the programme within the district. There are constraints, such as the number of people working with schools in the DAEA (only one person is responsible for the whole circuit, the number of vehicles available for visiting the schools, the distance between the schools and the DAEA offices, the number of the workshops and the support from the DoE as well as from the local municipality.

1.3.1 Research problem

In the Umzinyathi district, the number of schools registering with the programme is not increasing. Lack of increase in the number of schools registered in the District may be attributed to that many teachers in the district do not know that there is such a programme that is Eco-Schools Programme. It is also not clear to what extent the DoE supports the programme, because it is easy to transmit the information to school principals through circulars or else invite the DAEA officials to come and inform the principals themselves, but this appears not to have been done.

Furthermore, the amount of municipality involvement is not clearly defined. This study will also look answers to allay all the suspicions and answer the questions behind the programme's slow growth in this district is low.

The DAEA does not have enough human and physical resources to implement, support, monitor and assess the progress of the participating schools. There is one environmental officer who is responsible for servicing the whole circuit and, at the same time, he/she is expected to perform his/her full duties in their department (DAEA). This does not give him/her enough time to visit all the schools within the circuit to give them support. Sometimes, even if they do get the time to visit schools or when the schools need them, they cannot go because of the shortage of transport.

The research question is: What makes the EE not available and effective enough at uMzinyathi district schools through Eco-Schools Programme?

1.3.2 Sub-problems

The sub-problems of this study are:

- What is the level of support to the schools registered with the programme from different stakeholders, such as the DoE, DAEA and local municipalities?
- Why is the number of schools registered with the Eco-School programme not increasing?
- Is the number of human and physical resources used by the DAEA to implement, support and monitor the programme enough?

1.4 AIMS AND OBJECTIVES OF THE STUDY

1.4.1 Aims of the study

The aims of the study are to determine the factors that cause the lack of availability of the Eco-Schools Programme in all the schools of the Umzinyathi district and the ineffectiveness of EE in the Eco-Schools Programme in the Umzinyathi District schools and to determine how, and to what extent, different stakeholders such as the DAEA, the DoE, WESSA, as well as the local municipality, are supporting the programme. Another aim is to find out if the teachers and learners are enthusiastic about the programme and, if they are not, what the reason is.

1.4.2 Objectives of the study

The objectives of the study are to:

- Find out how the DoE is supporting the programme.
- Ascertain whether the DAEA has sufficient and effective enough resources to implement, manage and support the programme, and whether the assessment tools and techniques used are effective enough to achieve the goals of the programme.
- Determine what role the local municipality is playing with regard to supporting the programme.
- Find out to what extent WESSA is supporting the schools in the uMzinyathi District.
- Determine if the teachers as well as the learners are interested in the programme.

1.5. ECO-SCHOOLS AND INTERNATIONAL PERSPECTIVES

According to Loubser (2009:56), the Eco-Schools Programme is doing well in European countries and is not only used as a tool for dealing with and solving environmental education problems, but also for encouraging the development of the community. Loubser further states that in 2004 there were 12 000 Eco-Schools in 30 countries in Europe, Africa and America. During 2005, the number of countries taking part increased to just over 40. The programme is now being applied in several countries in Europe, Africa, South America, Oceania and Asia. The number of Eco-Schools is growing as more schools are registering with the programme and improve their environment by taking up the challenge and work towards improving their environment through education and action. The Eco-School Programme is known by different names in different countries, but the methodology and the idea are the same (Loubser 2009:56).

1.5.1 South African Eco-Schools

In South Africa, the Eco-Schools Programme is being implemented as a school-change one, and aims at achieving practicable ecological administration. The system is intended to invest whole school learning and activities. The Eco-Schools Programme is presented as an open pilot venture by the Wildlife and Environmental Society of South Africa (WESSA),

in co-operation with the World-Wide Fund for Nature in South Africa (WWF-SA), and with backing from Nampak. Initially, the programme was started in a small number of pilot schools, who were required to record the outcomes and their ideas for improving the system across the country (Loubser 2009:57-58).

The Eco-Schools Programme connects educational programmes, activities and groups. Schools may enrol whenever they want to, but before the end of April each year, with the specific end goal of meeting all the requirements to be awarded a green flag before the end of that year. This adaptable framework has made Eco-Schools a very productive project with clear and down-to-earth benefits for the whole school group. Portfolios are expected on 31 October every year. A school needs to enrol each year to get new materials. There are seven steps a school must take to become an Eco-School:

- Establish a working committee.
- Undertake a school environmental audit.
- Choose focus areas (From the results of the school environmental audit, choose areas that need to be addressed first, e.g. saving of energy).
- Draft a school environmental policy.
- Draw up lesson plans.
- Take action.
- Review progress report (Loubser 2009:60).

1.5. 2 Eco-Schools in the Umzinyathi District

The DAEA is the implementing agent of the Eco-Schools Programme in the uMzinyathi District schools. Out of 7 895 South African schools registered with the Eco-Schools Programme in 2003-2012, 2 999 (38%) schools are in KwaZulu-Natal (KZN) where the uMzinyathi District is located. In the uMzinyathi District, there are four circuits, namely, Endumeni, Msinga, Nqutu and Umvoti, with a total of 495 schools. The 2012 records for Eco-Schools in the Umzinyathi District show that out of 495 schools, fewer than 40 (8%) schools are registered with the programme (WESSA statistics).

The significance of the study is that it seeks to answer the questions, among others, what kind of support do the registered schools receive from the different stake holders, why the number registered with the programme not increasing? It hopes to help with the formulation of new policies within the DoE, such as that the Eco-Schools Programme should be made compulsory in all South African Schools. Another significant recommendation is that Environmental Education should be made a subject on its own, and that the DoE should create a sub-directorate of Environmental Affairs to facilitate environmental projects such as the Eco-Schools Programme and to work with different stakeholders such as DAEA and local municipalities.

Another benefit of this study is to help the DoE to see if it gives the programme enough support or not and also to help the DAEA to assess whether they are succeeding in implementing, supporting and monitoring the programme, especially in the Umzinyathi District.

1.6 SCOPE AND LIMITATIONS

Mack, Woodsong, MacQueen, Guest and Namey (2005), claim that researchers are not able to focus on each of the people in the population that interests them. They are of the opinion that researchers may never observe each imaginable objective fact that relates to them. However, an illustrative representative from the population could be chosen to concentrate on and the information could be gathered from them.

Additionally, Cohen, Manion and Morrison (2007) notice that elements, such as costs, time and accessibility, often make it impossible for scientists to gather data from the entire population. Because of this, information has to be got from a smaller number of the total population in such a way that the learning that is got is demonstrative of the complete population under the study.

Due to the qualitative nature of this study, the small sample size and the fact that the study was confined to a very specific setting, the research findings could not be generalised to other settings. This study focused only on the selected schools falling under the Umzinyathi District, the local DAEA and the local municipalities that fall under the Umzinyathi District; therefore, the findings cannot be generalised to other districts in KZN or in South Africa.

1.7 INSTRUMENTATION AND DATA COLLECTION TECHNIQUES

As indicated by Creswell (2009) & Babbie (2009), the central techniques for gathering the subjective information are surveys, interview guides and unstructured or semi-structured in-depth interviews. Three methods were used to collect the data in this study, namely interviews, site visits and observations, and document analysis.

The researcher used, with the consent of the participants, a digital voice recorder and note-taking techniques to record the information to ensure that all verbal and non-verbal articulations of the participants were recorded. Notes were also taken by the researcher based on the observations of verbal and non-verbal behaviour of the participants. The interviews were conducted in English and Zulu. Data was then translated from Zulu into English by the researcher.

The researcher undertook site visits to eight schools that were registered with Eco-Schools, two per circuit, in order to observe the conditions of the schools, such as the neatness and cleanliness of the school grounds, which must be litter free, as well as of the classrooms, whether the schools have vegetable gardens, and composting and recycling projects. Eco-files were also consulted as evidence of the school's participation in the programme, as well as learners' books to see if there were any activities on the environmental topics.

Records of the historical background of eight schools, documentation regarding educational support offered by the two departments, the records kept by Eco-Schools District Offices, physical visits to the schools and portfolios were also compared to the records kept by the two Departments about the progress of the involved schools. In addition, the documents about the membership of the Eco-Schools in the district were analysed.

The information was validated and analysed by comparing the input of the respondents to the records kept by the Eco-Schools District Offices. The portfolios of schools were compared with the records kept by the two departments on the progress of the schools involved. The researcher also looked at the documents, like the minutes of the eco-committee, as well as the eco-files.

To analyse data from the interviews, the researcher followed the steps used when analysing the interview data. The first step involved reading the data several times if the interview was recorded manually. If a tape recorder was used to record the data, the researcher listened to the tape several times until she understood what was said by the interviewees. The next step was to focus on the analysis. Here the researcher focussed the analysis on the different age groups, especially at schools, where the responses from the learners from each school were analysed and grouped together, this also applied to the educators, principals, SGB members as well as SEMs of the four circuits. After that, the data was categorised and the researcher identified connections and patterns between categories. The last step was the use of patterns and connections to explain the findings.

To analyse the data recorded from the observations and site visits, the researcher also read the data several times and concluded whether the information from the Eco-files corresponded with what the researcher had observed; for example, did the school have a garden, was there any wastage of resources like water and electricity, were the premises free of litter, did they have bins all around the school and was there any sign of a compost heap?

The researcher obtained a written permission to conduct the study from the Research and Ethics Departmental Committee of the University of South Africa and the KwaZulu-Natal Department of Education after submitting completed Chapter 3.

The researcher also obtained written permission from the KwaZulu-Natal Department of Education to conduct research in the KZN Department of Education Institutions. The researcher obtained the informed and voluntary consent of all participants before involving them in the study. The researcher provided the participants with a letter containing information pertaining to the research project, as well as the consent form that they had to sign. The consent form and the letter of permission to conduct the study are included as appendices.

The researcher explained the purpose and significance of the study to the participants. The participants were given the choice to participate. They were also provided with sufficient information about the study to allow them to decide for or against their participation.

The participants were assured that the data will be used only for the purpose of the research and that their names would not be mentioned. Their privacy would be ensured. Under no circumstances would the researcher make their identities publicly known. The participants used pseudonyms with which they feel comfortable. Furthermore, they were assured that the records of interviews would be put in a safe place where only the researcher would have access to them. The voice records of the interviews were deleted after the final report had been completed.

The use of the tape recorder as the primary instrument to capture the data was explained to them and was kept secure at all times. They were assured that recordings would be destroyed after completion of the research. To ensure anonymity, no document or instrument used reveals the names of participants. The researcher ensured that the data was transcribed and edited by her before being analysed by the private coder. To hide their identities, alphabet letters were used instead of their names or any other personal means of identification.

The research methodology, procedures and strategies to be employed to ensure validity and reliability will be discussed in detail in Chapter 3 on research methodology.

1.8 OUTLINE OF CHAPTERS

The outline of the chapters is explained below.

Chapter 1

Chapter 1 is the introductory chapter. It briefly explains the context and the reasons for the research, and gives a short historical account of environmental education and the development of the Eco-Schools Programme internationally, locally and regionally. It also looks briefly at the research problem, aims and objectives of the research, problem statement, research design and methodology, as well as data analysis.

Chapter 2

Chapter 2 gives an overview of how EE has evolved over the past 35 years into education for sustainable development internationally, regionally and locally. It gives the definition of EE

and ESD. It also explains the goals, aims and the principles of EE. It looks at the different world conferences on EE and ESD and discusses the important references for EE in South Africa. Lastly, it looks at the development of the Eco-Schools Programme internationally and regionally, as well as locally.

Chapter 3

The research design and the methodology used are discussed in this chapter. It describes the design and methodology, the criteria used to select the sample size, the process used to gain access to the subjects and the procedure used to capture data.

Chapter 4

Chapter 4 presents findings of the research. It contains the description and summaries of the main results and discusses the main trends and patterns.

Chapter 5

This chapter discusses the main findings of the study. It provides conclusion and recommendations based on the research.

1.9 CHAPTER SUMMARY

From what has been discussed above, it is clear that for this programme to be successful and for the goals of the Agenda 21 to be achieved, all stakeholders should play a specific role. There are positive signs that these programmes are working with many schools registered with the Eco-Schools Programme. In our country, the statistics also show that since the programme started in 2003, many schools have registered with the programme and most of them have been with the programme for more than a year. KZN has the highest number of schools engaged in this programme and many schools have already been part of the programme for five to seven years.

Literature review of the study will be discussed in the following chapter.

CHAPTER 2

LITERATURE REVIEW

2.1 INTRODUCTION

“Schools have a vital role to play in preparing our young people to take their places as informed, engaged, and empowered citizens who will be pivotal in shaping the future of our communities, our province, our country and our global environment” (Ontario Ministry of Education, 2007:1).

The South African Constitution tries to make the revisions to the upsetting circumstance of numerous South African individuals who before 1994 were impeded in access to regular assets. The Constitution expresses that it is the privilege of all South African residents to have a solid and safe environment (RSA, 1996:11).

The purpose of this chapter is to give a brief explanation of how environmental education (EE):

- Has been integrated into the South African education system through the Revised National Curriculum Statement (RNCS) and Curriculum and Assessment Policy Statements (CAPS);
- Is being implemented through the Eco-Schools Programme at the Umzinyathi District schools to assist in achieving whole school development (Carvello, 2009:24).
- This chapter will also look at the theoretical framework that links all the idea in EE within the context of the Eco-Schools Programme.
- It will also explain what is Eco-Schools Programme? What are its characteristics and how do they manifest themselves in CAPS>
- It will also elaborate on global, continental, national, provincial and in Umzinyathi District’s Eco-Schools Programme.

2.2 ENVIRONMENTAL EDUCATION

The definition of Environmental Education, goals and principles will be discussed in the following paragraphs.

2.2.1 What is environmental education?

Disinger, in Hungerford (2002a: 5-6), and Simons, in Hungerford (2002b:6), recognise that there a wide variation in how people understand EE. Amongst numerous meanings of EE, there is one that is acknowledged by most authors (Leketi, 1992:3. Irwin, 1993:58. Schulze, 1994:165. Lotz & Robottom, 1998:24. Clacherty, 1988:8. Bornman, 1997:58. Gough, 1993:5) and is most ordinarily utilised, and which was embraced at the gathering of the International Union for Conservation Nature (IUCN) as the most broadly acknowledged and recognised definition. It reads thus:

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

Hungerford (1994:141) states that EE is the aspect of education that develops individuals who are:

“...environmentally knowledgeable and, above all, skilled and dedicated to working individually or collectively, towards achieving and or maintaining a dynamic equilibrium between the quality of life and the quality of environment.”

Chacko (2002:96), on the other hand, explains that EE is a tool used for developing environmental literacy, whereas Knapp (2000:33) refers to EE as education for the environment and sustainability. Education for sustainability became a term used more or less synonymously with EE and Education for Sustainable Development (ESD).

In spite of the fact that the term might be “environmental education”, it is the sort of training that is reasonable and should be mandatory for each individual, not just kids or learners. It should not occur only in formal settings such as schools, but also in non-formal settings.

Ontario Ministry of Education (2008:17), is of the opinion that Environmental education not only increases students’ knowledge of the environment, it also develops their critical thinking and problem-solving skills and increases their community awareness. As a learner’s skills and

understanding grow, so does their ability to take action as well as think critically, feel deeply and act wisely with respect to the environment. This should not be for their benefit only, but also for the generations of the future.

As indicated by Public Environmental Awareness, Education and Training Strategy (City of Cape Town, 2011:7), concerning the act of EE there is a solid emphasis on strategies that will not only make learners aware about the environment, but also to develop their abilities to be able to practice sustainability, that will also motivate learners to think critically to be able to make informed decisions, to build capacity to act with understanding and encourage a sense of agency.

2.2.2 Goals of environmental education

According to Ballantyne and Packer (1996), the point of EE is to persuade individuals to become involved in the issues that relate to their surroundings, aiming at ensuring and enhancing nature for everybody living in that community. EE ought to help learners to become more aware of their surroundings and pick up the fundamental abilities that will allow them to create a harmony between a decent domain and the general population.

2.2.3 Principles of EE

According to the City of Cape Town Public Environmental Awareness, Education and Training Strategy (2011:7-9), EE should:

- Consider learners of all ages and all communities.
- Consider the relevance and application of the learning in the learners' lives.
- Link environment and heritage to health, socioeconomic development, social justice and quality of life.
- Produce learning outcomes which include environmental consciousness, but also the commitment and capacity to act on environmental matters.

- Provide information, but also develop the ability to find, critically analyse and use information.
- Recognise the complexity of environmental issues and the need to develop solutions collectively, in processes where everyone has something to learn and something to contribute.
- Develop and illustrate solutions and good environmental practice, along with analysing problems and issues.
- Empower all people to participate effectively in democratic change towards a better environment for all.”

The City of Cape Town Public Environmental Awareness, Education and Training Strategy (2011:7-9) likewise expresses that EE ought not to educate just learners at schools. Everyone in the general population of South Africa ought to be taught about how to conserve our surroundings and have the ability to have solutions for those ecological issues they face, either as a person, as a group, as a school or any association.

2.3.4 What is ESD?

As indicated by the International Conference (International Conference, 2005), Education for Sustainable Development (ESD), is a larger idea that uses all parts of the group attention to instruct and prepare individuals for managing nature, to create harmony between individuals’ monetary prosperity and their societies and conventions.

The United Nations Educational Scientific and Cultural Organisation (UNESCO) Conference on Sustainable Development, held in 2005, states that ESD gets individuals ready and helps them distinguish and search for arrangements to address any natural issue (it can be either monetary issues or social issues), in their groups and have the capacity to execute these arrangements effortlessly and economically. They express that for any answer for any ecological issue to be fruitful, every one of the areas and individuals from the group must be completely included.

2.4.1 Education for Sustainable Development

Education is said to be the key to a bright future. Within the education arena, various groups are committed to global and economic education, cultural diversity, and environmental protection and improvement. The key is linking the expertise and activities of these groups and articulating a shared vision that encourages a new comprehensive approach to Education for Sustainable Development (ESD).

2.4.2 White paper on Environmental Education

The White Paper on Environmental Education (Department of Environmental Affairs, 1989:5) supports the concept of Education for Sustainable Development. The aim of Environmental Education according to the White Paper is:

“...to stimulate education processes that develop responsible lifestyles in harmony with the environment as a whole, on the part of all the inhabitants of the Republic of South Africa (RSA), and that make them aware of the fact that an acceptable quality of life is dependent on their judicious utilization of the environment.”

The stated principles of Environmental Education in the White Paper can be summarised as follows:

- The environment ought to be considered in its entirety. That everything that has an effect on human life and the connections between the various factors ought to be considered.
- Environmental Education ought to be a life-long learning. It ought to begin at pre-school level and proceed through all formal and informal learning. Our children need to be taught at an early age about taking care of the environment and that is what the Eco-Schools Programme is trying to do.

- It should also be an interdisciplinary in approach, that emphasizes how complex the relationships between different environmental factors are. To care for the environment, is not a one person's job, but everyone in the community needs to be involved or involve themselves. It is for this reason that all the stakeholders are involved in formulating the Eco-committee.
- Active support for natural issues ought to be installed in learners of all ages and ought to be given force by using many different learning opportunities. The Eco-Schools Programme does not discriminate against age when it comes to participation. Even the Pre-Schools are allowed to register as Eco-Schools.
- Natural issues should be looked at in relation to the environment in which the learning takes place, and then expanded to wider points of view. One of the steps of becoming an Eco-School is to do an environmental school audit to determine what are the school's environmental as well as its surroundings' issues that need urgent attention.

The White Paper (Department of Environmental Affairs, 1989:8) additionally encourages researchers and research organisations to assess the "*effect and adequacy of instructing and interpretative procedures used to pass on data and to frame general supposition on ecological protection and the advancement of techniques and showing helps and apparatuses that can be utilized as a part of Environmental Education, with due respect to neighbourhood needs.*"

2.4.3 The United Nations Conference on the Human Environment in Stockholm, June 1972 (Filho *et al.* 1996:25-26)

The United Nations Conference on the Human Environment in June 1972 in Stockholm occurred as a result of the universal worry about ecological issues. The outcome of that conference was Recommendation 96, which approached the associations of the UN, particularly UNESCO, to find a way to build up the global programme in ecological training. Its suggestion was that the approach ought to be interdisciplinary and provide for everybody.

Three years after the Stockholm Conference, the International Environmental Education Programme (IIEP) was formed in January in response to Recommendation 96. The aims and objectives of the IIEP were to:

- Facilitate the co-ordination, joint planning and preplanning of the activities essential to the programme in EE;
- Promote the international exchange of ideas and information pertaining to environmental education, since Eco-Schools Programme in an international programme.
- Co-ordinate research to understand better the various phenomena involved in teaching and learning;
- Establish and monitor new methods, materials and programmes for EE, for everyone in the community, either in school or out of school;
- Adequately train and retrain personnel to staff environmental programmes; and
- Provide advisory services to Member States relating to EE (Carvello, 2009:25).

2.4.4 The International Environmental Education Workshop in Belgrade, the former Yugoslavia, 13-22 October 1975 (Filho *et al* 1996:25-26).

As a follow-up on the Stockholm Conference, Belgrade hosted an exclusive 10-day international environmental education workshop. At this workshop, “The Belgrade Charter: A Global Framework for EE”, was adopted. It outlined the guiding principles for EE:

.... programmes, both formal and non-formal. The non-formal instruction division included youths and grown-ups from everyone in the community (UNESCO-UNEP, 1976). The Belgrade workshop accentuated that EE should have been an instructive procedure with essential moral, monetary and political ramifications.

2.4.6 The Intergovernmental Conference on EE at Tbilisi, Georgia, 14-26 October 1977

After the Belgrade Workshop, UNESCO, together with the United Nations Environment Programme (UNEP), convened the world's first Intergovernmental Conference on EE. At this gathering, the representatives acknowledged and expounded on the objectives, points, destinations and standards delineated in the Belgrade Charter (Carvello, 2009:26).

According to Carvello, 2009, the Tbilisi Conference (UNESCO, 1977:27) produced twelve principles for environmental education, which the Moscow Congress endorsed in 1988.

The twelve principles state that “EE should:

- View the environment in its totality. Eco-Schools Programme include everyone in the community
- Follow an interdisciplinary approach.
- Teach learners to be environmentally sensitive and give them the skills to identify and solve environmental problems.
- Look at major environmental issues from all levels of life. One of the steps of becoming an Eco-School is to do an environmental school-audit which is looking at the areas at school and in the surrounding community that need urgent attention.
- Focus on present and important situations and at the same time maintains historical perspectives.
- Help learners identify the causes and symptoms of environmental problems.
- Give learners opportunities to plan their own learning experiences and to take decisions.
- Ensure it is an on-going process. Eco-Schools Programme is an ongoing process because it is about maintaining the environment continuously.
- Emphasise every individual's responsibility towards the environment.
- Emphasise the importance of working together in solving environmental problems.
- Emphasise the complexity of environmental problems and make people realize that there is a need for critical cognitive skills.

- Consider and use many different methods and strategies for teaching and learning” (Unesco, 1977:27).

The above principles do link to the Eco-Schools Programme because as from the beginning when

2.4.6 The Brundtland Report, April 1987-42/187. Report of the World Commission on Environment and Development

Carvello (2009:28) states that, in April 1987, the United Nations World Commission on the Environment and Development (WCED) delivered a report titled *Our common future*, which is also referred to as the Brundtland Report. The report urges governments to make natural issues their priority in their decision-making programmes to see to it that providing the present generation with needs does not jeopardise the ability of future generations to meet their needs (Carvello, 2009:28). This consideration must be the focus of all sustainable development decisions and efforts.

2.4.7 The United Nations Conference on Environment and Development (UNCED), Earth Summit in Rio de Janeiro, Brazil, 3-14 June 1992 (UN 1999: 264-269)

The delegates who attended this conference expressed strong support for sound environmental management and sustainable development. Most of what was agreed in Brazil by way of Agenda 21 and the Rio Declaration was not new to the environmental community. Chapter 36 of Agenda 21, titled “Promoting Education, Public Awareness and Training”, “represents the contributions from the environmental sections of UNESCO and the United Nations Environmental Programme (UNEP)” (Carvello, 2009:28).

2.4.8 World Summit on Sustainable Development (WSSD): Johannesburg – South Africa, 26 August-4 September 2002

In this summit, a few resolutions were taken on Sustainable Development. The main resolution was about the political presentation and is known as the Johannesburg Declaration on

Sustainable Development. It expresses that the general population, speaking to the world, committed themselves to working and securing their groups. The resolution further expresses that the agents committed themselves to ensuring that the offspring of the world keep on living in an ecological inviting society. This was the reaction to the kids' calls to the representatives and, in addition, each grown-up in the world to take care of the earth for them as a future generation. The resolution proceeds to say that the mainstays of reasonable improvement, financial advancement, social advancement, and natural security at neighbourhood, territorial and national levels, are of most noteworthy significance and ought to be strengthened by everybody.

The second resolution was about providing a plan for the Implementation of the World on Sustainable Development. This resolution says that as education is very important in promoting SD, it is needed to organise necessary resources especially financial resources. The delegation also committed themselves in making it a point that SD is integrated into education system in all levels of education, to develop and implement education action plans at all levels of the government and of life.

2.4.9 United Nations General Assembly Resolution 57/254 - The United Nations Decade of Education for Sustainable Development (DESD) 2005-2014.

According to Carvello (2009:36.), the main aim of the DESD is laid out in the United Nations General Assembly resolution 59/237, in which it encourages all the governments to consider and include DESD in all their education curriculums and in all the government plans. Furthermore, the Assembly calls upon the governments to attempt to engage everyone in their DESD initiatives, especially at the beginning of the DESD.

2.5 LEGISLATION AND ENVIRONMENTAL EDUCATION IN SOUTH AFRICA

Environmental concerns have been emphasized in many policy documents in South Africa, for example the White Paper on Environmental Education (1989); the Reconstruction and Development Programme (RDP) (1994); the White Paper on Education and Training (1995);

the Constitution of the Republic of South Africa (1996); the Environmental Management Bill (1998); the White Paper on Environmental Management Policy (1999); the RNCS (2002) and the Curriculum and Assessment Policy Statement (CAPS: 2011).

2.5.1 The White Paper on Environmental Education (1989) Carvello (2009:41) notices that *The White Paper on Environmental Education* defined the EE as being “for the advancement of activity at all administration levels, including formal instruction powers and people, and additionally organisations concerned with non-formal and casual training (Proclamation no 1:5).”

2.5.2 The White Paper on Education and Training (1995)

In 1995, *The White Paper on Education and Training* at long last embraced EE. Qualities and Principles of Education and Training Policy-Statement no 20:18, Chapter Four, pronounces that EE, which includes interdisciplinary, incorporated and dynamic ways to deal with learning, must be a fundamental part of the wide variety of instruction (formal and informal education), keeping in mind the end goal to create South African nationals who are ecologically proficient and who are sufficiently energetic about their surroundings to guarantee that they ensure nature for the present and future eras and in the meantime enjoy carrying on with a worthy life through the supportable utilisation of assets (Carvello,2009:42).

2.5.3 The Constitution of the Republic of South Africa (Act 108 of 1996)

The South African Constitution emphasises that every South African citizen has a right to a healthy and protected environment. It also states that the legislations and other measures must ensure that the present generation’s needs are catered for without jeopardising the rights to a healthy environment of the future generation (Constitution of the Republic of South Africa: Act 108 of 1996).

2.5.4 The National Environmental Management Act (NEMA)-1998

This Act, which is the umbrella legislation, gives natural administration standards to everybody in the nation. A portion of the standards express that the contribution of concerned and influenced parties in ecological mastery must be advanced and all the South African residents must have the opportunity to develop comprehension, abilities and fitness for fair-minded and significant inclusion (Public Environmental Awareness, Education and Training Strategy, 2011:15).

2.5.5 The Norms and Standards for Educators Policy-2000

The Norms and Standards for Educators Policy (Carvello, 2009:43) says that teachers need to be cognizant of the environmental and social problems, and make provision for these in their teaching.

2.5.6 The National Curriculum Statement (NCS) - 2005

The Curriculum 2005 was amended and brought about the Revised National Curriculum Statement (RNCS) for Grades R-9 and was made accessible for open remarks on 31 July 2001. It was reconsidered as far as the info went. Thus, the RNCS was not another educational programme, but rather one that updated, streamlined and reinforced Curriculum 2005 (RNCS: 6).

2.5.7 National Curriculum and Assessment Policy Statements (2010/2011)Public Environmental Awareness, Education and Training Strategy: City of Cape Town (2011:16) states that:

“The National Curriculum Statements (NCS) for schools were supported by the estimations of human rights, social equity and a solid situation. All subjects over the educational programmes conveyed a specific measure of substance identified with environment and

reasonable advancement. Quite a bit of this substance has been held in the Curriculum and Assessment Policy Statements (CAPS) as of late created by the Department of Education. This permits attachment with the national need of practical regular asset utilize and South Africa's natural approaches. Education must get ready learners to take up their part in changing world with numerous environment and advancement challenges and to profit by the open doors for further study and employments in the numerous measurements of natural administration and a 'green' economy.”

CAPS tries to guarantee that children obtain and apply learning and abilities in ways that are identified with their own lives. CAPS tries to inject the standards and practices of social, natural equity and human rights into all learning. It additionally accentuates the “issues of differences, for example, destitution, disparity, race, sexual orientation, dialect, age, and handicap” and other elements. It likewise looks towards delivering learners who can recognise and take care of issues from all levels of life and settle on choices utilizing basic and innovative options (Department of Education, 2011:6).

2.6 ENVIRONMENTAL EDUCATION IN SOUTH AFRICA

Some cities in South Africa, like Pretoria and Cape Town, have come up with an Environmental Education and Awareness Strategy.

2.6.1 City of Cape Town Environmental Education and Awareness Strategy

2.6.1.1 Background of the strategy

Cape Town’s Integrated Metropolitan Environmental Policy (IMEP) was adopted on 31 October 2001. It outlines the idea, environmental policy ethics and operating equipment that aim at sustainable growth for the city. IMEP identifies environmental education as part of the plan to accomplish the City’s vision of sustainable development, and as a tool within all the City’s other sectoral environment-related strategies. (Public Environmental awareness, education and training strategy, 2011:2).

2.6.1.2 Goals of the strategy

The Public awareness education and training strategy (2011:10.) lists the three main goals of this strategy, which are to:

1. Run and resource a comprehensive environmental education and training programme for the citizens of Cape Town, in alignment with IMEP and the EMD's strategic objectives.
2. Ensure the sustainability and effective operations of this programme through partnerships, resource allocation and materials development.
3. Ensure the quality, relevance, effectiveness and long term success of the environmental education and training programme through the production and use of monitoring and evaluation tools.

2.6.1.3 City of Cape Town Environmental Agenda 2009-2014

According to this strategy, environmental education has been adopted as one of the main goals of the City of Cape Town Environmental Agenda 2009-2014. The Environmental Agenda sets out 17 sustainability-related targets for various sectors in the City.

Target 15 states that the Environmental Education and Communication acknowledges that environmental change requires commitment by all its citizens, and that empowerment of people is central to this commitment, the City environmental awareness, information, education and skills development programme will communicate a general environmental awareness message to the citizens of Cape Town at least four times a year (Public environmental awareness, education and training strategy, 2005:14).

2.6.2 City of Tshwane Environmental Education and Awareness StrategyThe City of Tshwane, like the City of Cape Town, came up with its own Environmental Education and Awareness Strategy.

2.6.2.1 The Environment in Tshwane

The strategy states that the residents of Tshwane have an advantage of living in a city based in a naturally picturesque setting. Tshwane is also fortunate to be the seat of national governmental departments, research and development organisations and many education institutions of higher level. Therefore, not only does Tshwane have natural resources to its advantage but it is also capable of managing this natural environment. However, the sustainability of the natural environment of Tshwane is threatened by a weak knowledge base and irresponsibility towards the natural environment (Tshwane environmental education and awareness strategy, 2005:1-2).

2.6.2.2 Tshwane Community Environmental Education and Training Strategy Principles

During the implementation and execution of this strategy, stakeholders will strive to adhere to the following principles:

1. Productive ecological instruction relies on successful natural administration.
2. Part players recognise the requirement for projects that support efforts to change ecological conduct.
3. The emphasis of all environmental education and training programmes should be on building skills and should aimed at creating proper action. It must however recognise that skills development has a value component.
4. Ecological instruction and projects ought to include all members of the group and all participants should be able to take a successful interest.
5. Natural instruction and programmes must be aware that learning takes place within a wider context. Variables that advance or hinder learning or make a change of ecological conduct difficult must be taken note of. It is important that ecological practice be grown alongside the ability to examine issues and create solutions.
6. The common habitat and legacy to wellbeing, financial improvement, social equity and personal satisfaction need all to be taken account of in Environmental Education.

7. Cognisance of the indigenous information frameworks and the social understanding of the group must be taken in natural training in Tshwane (Tshwane environmental education and awareness strategy, 2005:15).

2.6.2.3 Existing environmental education initiatives in Tshwane

There are some environmental programmes that have been started in Tshwane, and these are listed below:

- Water and sanitation related issues.
- Pollution and energy/energy quality.
- Nature conservation.
- Littering and dumping.
- Food gardens.
- Environmental management (Tshwane Environmental Education and Awareness Strategy, 2005:50).

2.7 ADDRESSING INTERNATIONAL COMMITMENTS

The Agenda 21 for sustainable development, adopted at the UN Conference on Environment and Development (Earth Summit), in Rio de Janeiro in 1992, makes clear the role of education in achieving sustainable development (Loubser, 2009:50).

Agenda 21 further recognizes the need for differentiated but concerted, local action aimed at solving global environmental problems. In 2000, the millennium Assembly of the United Nations pledged, among other development goals, to ensure environmental sustainability, eradicate extreme poverty and hunger and develop a global partnership for development, with concrete targets. However, at the Johannesburg “Earth Summit” (Rio+10), it was clear much is still to be done in responding to Agenda 21 and that various efforts are required by different organisations, governments and individuals to entrench EE in both formal and non-formal systems of education around the world (Loubser, 2009:50).

2.7.1 Eco-Schools Programme

According to Gustafsson (2005), every year the results of South African matriculants are poor and, accordingly, those of the students qualifying for university are even lower. Another concern Gustafsson has is that South African children are performing worse than those in less developed countries are. These conclusions are based on the results of the SACMEQ 2000 test given to the Grade 6 learners in 14 countries in 2000 by the Southern and Eastern African Consortium for Monitoring Educational Quality (SACMEQ), which placed South Africa ninth, behind its neighbouring Mozambique.

In the light of the above, the question can be asked whether it is possible to promote environmental education at schools when functional literacy and numeracy are still needed (Rosenberg 2008).

2.7.2 What is the Eco-Schools Programme?

The Eco-Schools Programme is a programme of the Foundation of Environmental Education (FEE). It is a global programme of instruction, administration and accreditation in ecological and sustainability issues, which gives an appropriate strategy to make real Agenda 21 in the school and its neighbouring community - a nearby commitment to a broader objective (Loubser, 2009:55).

Eco-School Programme aims to empower all role players within the school community to become actively involved in sustainable development. Teachers are pivotal to this process and need to be appropriately trained. However, according to Le Roux & Maila (2004:243): - “teachers appear to lack clarity regarding the status and relevance of EE as directed by education policy and environmental policies

The Eco-School Programme empowers the change of the whole school group by seeing to it that individuals are educated and find out about the earth through full cooperation and inclusion. It gives educators with an assortment of techniques for enabling schools to learn for, about, in and through the earth. (Loubser, 2009:55).

The Eco-School Programme is not part of the formal instruction framework. This is a major issue as interest by schools is intentional and not obligatory. That is the reason there is a low level of enrolment by schools in the Eco-Schools Programme and the absence of backing by educators for the programme. The accomplishment of the points and goals of the Eco-Schools Programme is left in the hands of the few committed educators who are confronted with the enormous assignment of persuading the whole school group to take part and be included.

2.7.3 A flexible framework

The Eco-Schools Program was initiated in 1995, with support from the European Commission. It offers approaches and methods that can be implemented by all schools, either rural or urban, based on the Eco Management and Audit Scheme-model (EMAS). Initially focusing on themes such as water, energy and waste, other thematic areas of support to schools have been developed in different countries, from noise, nature and biological diversity to healthy living and transportation. In addition, the Green Flag certification is awarded to schools that have successfully applied the Eco- Schools strategy, which is to apply the Programme to meet their specific needs and achieve the objectives they have determined themselves. With its participatory approach, involving learners in both activities and decision-making processes, Eco-Schools can be an important tool for promoting the values of working together in solving environmental problems.

Countries promised, among other improvement objectives, to guarantee ecological manageability, eliminate destitution and hunger and build up a worldwide organisation for advancement, with solid targets (Loubser, 2009:56). However, at the Johannesburg "Earth Summit" (Rio+10), it was clear that much more needed to be done to react to Agenda 21 in that different efforts are required by various associations, governments and people to settle in EE in both formal and non-formal frameworks of training the world over (Loubser, 2009:56).

2.7.4 From policy to practice

The Eco-Schools Programme was developed as an answer to the needs that were identified at the Earth Summit of 1992 and conferences held over the past thirty years. It includes a strong

formative component with pragmatic activities that should be seen as practical benefits for the environment. The programme provides a tool for the entire school community, as well as the learners themselves, to understand the importance of developing and implementing meaningful environmental and sustainability policies, not only for the school but also at a personal level. Furthermore, all levels of the government are now aware that it is possible to gain concrete results by endorsing and supporting the Eco-School Programme (Loubser, 2009:56).

2.7.5 Eco-Schools and international perspectives

Throughout Europe, the Eco-Schools Programme is seen as a profitable opportunity for different districts and not just as a method for taking care of to ecological training. The Eco-Schools in Africa workshop, held in South Africa in 2002 (Loubser, 2009:56), was instrumental in distinguishing the ability of the programme to adapt to territorial connections and requirements. In 2004, there were 12 000 Eco-Schools in 30 nations in Europe, Africa and America. During 2005, the number of nations taking an interest expanded to a little over 40. The programme is being realized in numerous nations of the world, and it has ended up being an incredible achievement in light of the fact that the quantity of the nations and the schools enlisting with the programme is expanding (see table 2.1). The Eco-Schools Programme is known by various names in various nations, yet they follow the same basic principles and advancing schools are being compensated with the green flag (Loubser, 2009:56).

Table 2.1: Countries currently participating in Eco-Schools Programme (Loubser, 2009:57)

Bangladesh	France	Norway
Belgium	Germany	Poland
Brazil	Greece	Portugal
Bulgaria	Iceland	Romania
Canada	Ireland	Russia
Caribbean	Italy	Scotland (UK)
Chile	Kenya	Slovakia
Croatia	Latvia	Slovenia
Cyprus	Lithuania	South Africa
Czech Republic	Malta	Spain
Denmark	Montenegro	Sweden
England & Northern Ireland	Morocco	Turkey
Estonia	Netherlands	Wales
Finland	New Zealand	

2.8 ECO-SCHOOLS PROGRAMME IN SOUTH AFRICA

The Eco-Schools Programme began in South Africa in 2003 and is overseen by WESSA, in association with the World Wildlife Fund: South Africa (WWF-SA) and with backing from various partners. In addition to many small groups of Eco-Schools (or “nodes”), these programmes also receive support from various organisations (Vallabh 2005:5).

Critically, the Eco-Schools programme is being executed in our nation as an apparatus that must be used by future eras to accomplish practical natural advancement. Additionally, the Eco-Schools Programme empowers the cooperation of everybody in the school group and is upheld as an open pilot. The programme was started in a small number of schools. These schools had to record their progress, keep the documents that would serve as proof of all the natural exercises that occurred in the school, and present the documents for scrutiny in order to check whether the programme was succeeding so it could be executed across the nation (Loubser 2009:57-58).

The programme includes the curriculum, the action to be taken, and how to make community participation easier. Learners' involvement in the process is an important element. This easy-to-implement programme, with its practical elements, has made Eco-Schools an extremely successful programme with clear and tangible benefits for the entire school community.

The report by the Minister of Education Pandor (2005), states that the accomplishment of EE through the Eco-Schools Programme demonstrates that the programme is simple to execute and can be applied even in very rural schools. This programme also helps to develop and increase community participation and co-operation in dealing with and solving all the environmental problems together. The report shows that this programme also allows integration of knowledge in all subjects through learner activities. The Eco-Schools Programme seems to powerfully affect the ethos of the whole school group where everyone involved sees the school as theirs and not belonging only to specific people, as it were. This assists with the insurance of schools by groups since they take pride in schools and feel part of the schools.

2.8.1 The aim of the Eco-Schools Programme

The Eco-Schools Programme helps schools to enhance the school environment by building youth's certainty and feeling of citizenship through interest in basic leadership and by including the entire school group. The programme educates the learners and also their families to reduce litter and waste by utilising the three Rs (Reduce, Re-use and Recycle). It additionally assists by building associations with different schools in other places.

The programme includes the following aspects:

Curriculum

By using exercises that are connected to educational modules, the Eco-Schools Programme is a learning system that brings ecological and economical advancement issues to light.

Action

The Eco-Schools Programme encourages learners to take part and express their views on how their schools should operate so that the whole school community can benefit. This is done by

following seven easy steps, which are based on the environmental management system.

- **Community**

The Eco-Schools Programme offers learning beyond the classroom and develops responsible attitudes and commitment, both at home and in the wider community.

- **Participation**

The whole school development approach has been incorporated into the Eco-Schools Programme and the programme can easily be adapted to suit the special demands and challenges of any school environment.

The programme comprises seven stages that any school at any level can execute. The process and structure are sufficiently adaptable to be used by any nation.

Learners' contribution through all the procedures is a basic and fundamental variable. The cooperation of different partners in the group in the basic leadership process is critical. The simple techniques and steps have made the Eco-Schools Programme an extremely successful programme with positive benefits for the whole school community.

2.8.2 Registration

Schools may register at any time before the end of April of each year in order to qualify for a flag by the end of the same year. Portfolios are then due on 31 October each year. A school needs to register every year to receive new materials.

2.8.3 Seven steps to becoming an Eco-School

There are two conceivable beginning stages for turning into an Eco-School. At the individual level, an instructor can begin in the classroom and work with the results of a specific learning

territory or subject. At the entire school level, a school realises certain means. It must:

- Establish a working committee.
- Write an eco-code.
- Do an eco-audit and chooses a theme.
 - Use of resources.
 - Nature and biodiversity.
 - Local and global issues.
 - Healthy living.
 - Community and heritage.
- Plan for teaching and learning.
- Develop a plan to take action.
- Draw up a schedule for reporting and sharing.
- Review the portfolio and give the award.

2.8.4 The awarding system and earning the green flag

The new awarding system now follows a five-year process, as outlined in table 2.2.

Table 2.2: Eco-Schools awarding system (Carvello, 2009:52)

Year in which report is presented	Requirements	Award
Year 1	Project and lessons on one focus area	Bronze Certificate
Year 2	Project and lesson on two focus areas (including focus area from Year 1)	Silver Certificate
Year 3	Project and lessons on three focus areas (including focus areas from Years 1-2)	Green Flag
Year 4	Project and lessons on four focus areas (including focus areas from Years 1-3)	Gold Certificate
Year 5	Project and lessons on five focus areas (including focus areas from Years 1-4)	International Flag
After Year 5	Project and lessons on special themes	Special Merit

Table 2.2 shows how the award system works. For a bronze certificate, a school must, after carrying out the school audit and identifying those areas at school that need urgent attention, choose a focus area, do a project and present lessons that are relevant to that focus area. This takes the whole year. For a silver certificate, a school must choose another focus area according to the results of their audit, do a project and present lessons relevant to the focus area and lessons for the first years focus area. For a green flag, the school must choose a third focus area, do a project and present lessons relevant to the focus area, as well as the lessons for the first and second focus areas. Another criterion for a school to get a green flag is that the school must have been part of the programme for at least three years.

For the gold certificate, the school must choose a fourth focus area, do a project and lessons relevant to that focus area, while continuing with the lessons for the three previous focus areas. To get an International flag, a school must choose a fifth focus area, do a project and present

lessons relevant to the focus area as well as lessons for the four-previous focus areas, and must have been part of the programme for at least five years. To get a special merit award, a school must do a project and present lessons on special themes chosen for them by WESSA. To get this special merit, a school must have been with the programme for at least seven years.

Table 2.3: Growth of Eco-Schools since 2003 in South Africa (WESSA)

Province	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012
Eastern Cape	18	91	118	112	125	103	104	108	117	123
Free State	1	9	7	72	120	92	130	187	109	169
Gauteng	3	30	49	36	43	111	52	74	66	50
KwaZulu Natal	76	94	399	327	328	389	393	390	345	258
Mpumalanga	2	14	10	22	38	41	67	125	103	114
North West	1	18	5	16	8	25	17	19	14	15
Limpopo	-	9	26	70	91	110	119	134	132	130
Western Cape	14	55	83	98	111	109	124	120	140	119
Northern Cape	-	3	8	13	22	12	22	51	94	94
Total	115	325	705	766	886	992	1028	1208	1120	1052

Table 2.3 shows the growth of Eco-Schools since the introduction of this programme in 2003 in South Africa. The table shows that, from 2003 to 2012, the number of Eco-Schools is increasing in all provinces.

2.9 PROFESSIONAL DEVELOPMENT OF TEACHERS

Since teachers are vital in the progressions that happen in our training framework, they assume a critical part in educational strategies.

Dr Eurita Rosenberg (2005) takes note that, while nature is currently included in educational modules, it is sadly not yet seen as being very important by most educators and training division authorities. She suggests that South Africa needs educator advancement projects that will enable teachers and their assistants to understand the earth educational programmes better.

Teacher preparation and improvement are vital issues that should be tended to urgently. The Norms and Standards of Teachers (National Education Policy, 1996: A-47), consider educators to be the mediators of learning, the translators and planners of learning projects and materials, pioneers, chairmen and chiefs, researchers, deep rooted learners, scientists, individuals from the group, residents and ministers, assessors and learning area/subject/phase pros.

2.9.1 Whole school development approach

Sterling (2001:33) says that an entire school improvement approach suggests an attempt to make the instructive establishments a microcosm of a promising, maintainable society, as opposed to an unsustainable society. On the other side, Posch (1999:321-2), said that affecting the way we make known and care for our surroundings in a personal, physical, spatial, social and enthusiastic sense, will help us to accomplish long-term personal satisfaction for all.

Keeping in mind the end goal - to actualise maintainability inside the entire school - it is vital to receive an all-encompassing methodology that underlines the interconnectedness of each part of the school, its surroundings and every one of the partners.

As per Shallcross (2004:16), actualising entire school improvement, as indicated by the Sustainability Education in European Primary Schools (SEEPS) initiative, requires the taking

note of a great many institutional practices in schools and furthermore needs to look at and differentiate their association with the whole group.

The viability of EE relies on upon the entire school group monitoring and effectively adding to the cautious utilisation of nature. Customarily, a significant part of the centre of EE in schools includes creating information about the earth. It is crucial that, notwithstanding creating information, the training procedure ought to manage the improvement of outlooks and qualities that impact how people behave and that influence ways of life.

2.9.2 Framework for developing a whole school approach to environmental education

The five contexts for learning identified below form the framework for developing a whole school approach to EE (Shallcross 2004:58-61).

2.9.2.1 Formal curriculum: Subjects and cross-curricular themes

In this section, the different subjects and cross-curricular themes pertaining to EE will be discussed.

Teaching and Learning Approaches

According to Shallcross (2004:58), effective EE has to move away from teaching and learning approaches and models that are based only on the giving of knowledge. It needs to move towards approaches/models that create action, reflection and commitment in association with the earth. Additionally, it needs to develop the qualities that affect leadership and action. Teaching and learning approaches can include, for instance, cluster work, talks, debates, imagination, relevant investigations, action, examination and basic intuition. These can all be suitable methodologies for enabling and checking learners' excitement about the earth.

The strategies and frameworks set out underneath offer examples of how instructors can create spaces in which answers concerning, in, through and for nature can be found:

- Use of main problems: Learners react best to genuine circumstances and issues. For example, the effects of another housing improvement or the closing of another mine in a neighbourhood, create interest and urge learners to think about genuine ecological issues.
- The utilization of optional issues: Interest in the issues of new situations can be inspired by using recordings, photos, daily papers and magazines articles, shows in exhibition halls and data focuses.
- Use of school grounds: Learners require chances to understand that their duty to the earth starts at a local level and those situations can be overseen in a way that encourages maintainability. Acquainting learners with the looking after of a little region, for example the school grounds, can build up understanding of how similar standards can be connected on bigger scales and of how activities and choices at a neighbourhood level can have significance in worldwide settings (Shallcross 2004:61).

2.9.2.2 Whole school ethos

According to Carvello (2009), the whole school ethos entails a number of concepts as will be seen below.

Spirit and atmosphere

The soul and the climate of the school will mirror the degree to which the school is focused on natural training and activity. The regular consideration and upkeep of the school grounds gives a decent sign of the school's dedication to EE. In such ways, individual and joint duty regarding the school environment can be empowered through:

- Making the issues, such as water pollution, rhino poaching and saving electricity, to be addressed, regular topics at school assemblies.
- Using school notice boards to display information on environmental work and materials.

- Inviting representatives of environmental organisations to make presentations and stimulate discussions.

For EE to be effective, behaviour and action, both inside and outside the classroom, need to be consistent with the environmental message and must be represented in the school's approach to issues, such as:

- Care of the school buildings and grounds.
- Energy efficiency.
- Recycling.
- Conservation.
- Purchasing policy.
- Use of materials and resources.
- Disposal of waste.

Parental involvement

Contact with guardians and their inclusion in the life of the school are as critical as the ecological message passed on at schools, as the message should be strengthened and upheld at home. It is very important that SGB and parent gatherings are urged to make natural issues part of some of their arranged exercises, which could include, for instance, raising assets or giving useful backing to enhance the school grounds.

Physical environment

It is critical that each person inside the school premises, including teaching and non-teaching staff, learners and guests, care for the physical environment of the school. These individuals should all share a pledge to constantly observe and participate in the care and appearance of the school environment. This will be reflected in:

- A pleasant welcoming reception area.
- Door mats placed at strategic points.

- Rooms, corridors and stairs that are clean and in good repair.
- Adequate heating and ventilation.
- Clean toilets and change rooms.
- Well-managed school grounds.
- Evidence of learner's involvement in their environment through murals, vegetable patches and recycling bins

Enough litter containers should be accessible in classrooms, toilets, passageways and play areas, with the goal that learners are urged to keep these regions litter free. Learners can be motivated by opportunities to research issues for themselves; for instance, concerns identified with litter control and/or general change of the physical environment of the school (Shallcross 2004:59).

2.9.2.3 School involvement in community action

Schools are involved in community action in various ways as will be shown in the following paragraphs.

Local projects

Schools can take advantage of chances to become involved in neighbourhood activities to enhance the earth; for example, tidying up a littered site or a nearby riverbank. Interested learners can volunteer, for instance, to do a wild fledgling check, to lead a review of the rate and degree of neighbourhood contamination or to plant trees to upgrade the earth.

Monitoring local issues

Schools should be involved in monitoring the environmental impact of local development, such as a new roadway, an extractive industry or a housing scheme. These can provide real life opportunities to evaluate differing viewpoints and conflicting interests.

It is important for schools to recognise that involvement in local issues requires sensitive management. It will be important to:

- Inform the SGB of the school's intention of getting involved.
- Undertake careful research and consider all the aspects pertaining to issues.
- Invite interested parties to put forward their points of view.
- Assess the implications for the environment and the local community.
- Suggest possible solutions consistent with sustainable development of the environment.
- Ensure that action, such as writing to local councillors, members of parliament and/or obtaining media attention, is undertaken with the knowledge and support of school management (Shallcross 2004:59).

2.9.2.4 Extra-curricular activities

The extra-curricular activities undertaken at schools pertaining to EE are discussed in the next section.

School clubs

Learners can be given the opportunity to develop their interest in and understanding of the environment outside school hours through clubs that involve environmental activities such as bird watching, fishing, hiking and camping.

Membership of national societies

Many voluntary bodies with an interest in the environment organise clubs and encourage people to become members of their societies. Members of these organisations can provide learners with opportunities to experience the natural world at first hand and also to become involved in worthwhile environmental activities (Shallcross 2004:60).

2.9.2.5 Special events

A range of associations run occasions and schools can support such exercises or start their own exercises/occasions. A school can plan a short, serious occasion - for example, an

environmental day or week - taking into account that it should be a topic in which the entire school can take an interest.

Environmental competitions

Various preservation bodies and nearby associations have competitions supported by neighbourhood organisations. These can include learners in exercises, for example, gathering jars for reusing or making cards from reused paper. These can challenge learners to apply learning derived from a range of contexts to an environmental issue or problem.

2.10 CHAPTER SUMMARY

From what has been discussed in this chapter, it is clear that much has been done in terms of the workshops, conferences and summits that have been held on environmental issues. This chapter also looked at what must be done to make sure that every citizen is educated to be part of the actions to solve environmental problems. Even though much has been done to implement EE and ESD, there is still much that needs to be done internationally, regionally and locally to encourage and raise awareness of Environment and Sustainable Development.

This literature review further highlights legislation passed in South Africa that supports environmental and sustainable education in our schools. It also identifies the strengths and weaknesses, the opportunities and constraints in implementing environmental and sustainable education in South African schools.

Undoubtedly, if you want to educate the nation, you must educate the children, so the idea of an Eco-School Programme is a relevant one for EE because it, most importantly, targets school children. Since its introduction, it has proved to be a success as the number of countries participating is rapidly increasing.

Since EE is of concern to the whole world, our country is also doing something in order to make sure that every citizen is equipped with the necessary skills to be able to identify environmental problems and develop solutions to solve them, either as individuals,

communities, schools, government departments or NGOs. This is highlighted by the Environmental Education and Awareness Strategies for two South African cities, the City of Cape Town and City of Tshwane, which are discussed in this chapter.

Another highlight from this literature review is how the programme is growing and being implemented in South Africa since it was introduced in 2003. The records show substantial growth in terms of the number of schools registering for the programme each year, as well as the number of the schools that receive awards each year. It is clear that in our country the Eco-School Programme can also achieve the ESD goals effectively and successfully as long as all the stakeholders participate and assist in implementing the resolutions taken and adopted at different summits, conferences and workshops.

Definition of the most important concepts

Babbie (2009:124-125) characterizes conceptualisation as a process through which researchers state unambiguously what is implied by their use of particular terms. The key ideas central to this study will be defined under this sub-heading with a specific end goal of improving the coherence of this record.

Environmental Education

Environmental education is a learning process that increases people's knowledge and awareness about the environment and associated challenges, develops the necessary skills and expertise to address the challenges, and fosters attitudes, motivations and commitments to make informed decisions and take responsible action.

Eco-Schools Programme

The Eco-Schools Programme is the programme of the Foundation of Environmental Education (FEE) and is a global programme for ecological and manageability training, administration and affirmation, “which gives a perfect approach to actualise Local Agenda 21 in the school and its neighbouring group” - a nearby commitment to a wider objective (Loubser, 2009:5).

CHAPTER 3

RESEARCH METHODOLOGY AND RESEARCH DESIGN

3.1 INTRODUCTION

This chapter elaborates further on the research methodology that was followed. The chapter then discusses qualitative research as a research method to find out if EE is available and effective enough through the Eco-Schools Programme at Umzinyathi District schools. The chapter discusses the types of population and sampling and the one that was used to achieve the aim and objectives of the study as well as the process for data collection and analysis, methods employed to ensure validity and reliability, as well as ethical considerations to be adhered to during the study. Creswell's eight steps, which were utilised for data analysis, will also be discussed in detail.

3.2 RESEARCH METHODOLOGY

The research approach refers to the sensible procedures, strategies and methods used to examine a specific phenomenon (Polit & Beck 2008:765). Creswell & also Burns & Grove (2007) portray the research system as the complete arrangement for the study, beginning from conceiving the issue to be explored and ending with the last techniques for information gathering. These authors also say that examination techniques include the use of all means, methodologies and strategies for collecting and breaking down information in an orderly and accurate way.

According to Cohen L, Marion L, Morrison K (2007), methodology in research involves various steps of gathering and analyzing data from a given population so as to understand a phenomenon and to extrapolate the facts obtained to the wider population with the aim of increasing the quality of the research. Burns & Grove (2007) add that procedures and instruments for data collection may include population sampling, data collection and analysis.

Research system is a methodology of enquiry, which moves from the fundamental suspicion to research outline and information gathering (Myers, 2009). Despite the fact that there are different refinements in the way things are examined, the most widely recognised arrangements of exploration are qualitative and quantitative modes.

3.3 RESEARCH DESIGN

Research design is the fundamental arrangement of the systematic search for information that answers the research question (Babbie & Mouton 2011:75-77). As indicated by Brink (2006:66), a research design includes the arranging of the examination methods and the systems for information gathering and investigation. It further clarifies whether the exploration is descriptive or experimental in nature and shows the objective population that will be incorporated into the study (Joubert & Ehrlich 2010:77-78, 143).

Table 3.1 Difference between the qualitative and the quantitative research approach

	Qualitative	Quantitative
Objective/purpose	<ul style="list-style-type: none"> To gain an understanding of underlying reasons and motivations. 	<ul style="list-style-type: none"> To quantify data and generalize results from a sample to the population of interest.
	<ul style="list-style-type: none"> To provide insight into the setting of a problem, generating ideas and/or hypotheses for later quantitative research. 	<ul style="list-style-type: none"> To measure the incidence of various views and opinions in a chosen sample.
	<ul style="list-style-type: none"> To uncover prevalent trends in thought and opinion. 	<ul style="list-style-type: none"> Sometimes followed by qualitative research which is used to further explore some findings.
Sample	Usually a small number of non-representative cases. Respondents selected to fulfil a given quota.	Usually a large number of cases representing the population of interest. Randomly selected respondents.

Data collection	Unstructured or semi-structured techniques, for example individual depth interviews or group discussions	Structured techniques such as online questionnaires, interviews, on-street or online interviews.
Data analysis	Non-statistical.	Statistical data is usually in the form of tabulations (tabs). Findings are conclusive and usually descriptive in nature
Outcome	Exploratory and/or investigative. Findings are not conclusive and cannot be used to make generalizations about the population of interest. Develop an initial understanding and sound base for further decision making.	Used to recommend a final course of action

The above table was tabulated in order to show how did the researcher arrived at choosing the qualitative approach for the study.

3.3.1 Research approach

For the purpose of the study, the researcher chose to use the qualitative approach.

Punch (2005) emphasises that very often the point of a qualitative study is “to look at something holistically and comprehensively, to study it in its complexity, and to understand it in its context”. Burns & Grove (2007) define qualitative research as a “systematic approach that locates the observer in describing life experiences and situations and gives them meaning through a series of field notes, interviews, conversations, photographs, recordings, and memos”. They further states that “qualitative researchers study things in their natural settings, attempting to make sense of, or to interpret, phenomena in terms of the meaning people bring to them”.

Burns & Grove (2009:22) state that qualitative research is an orderly, sensible but subjective methodology used to describe individuals' encounters and to offer meaning to them. It is directed towards describing and promoting understanding of human encounters, for example, pain, comfort and caring. Leedy & Ormrod (2010:94) further say that qualitative exploration includes seeing attributes or qualities that cannot easily be reduced to numbers. It is a method for picking up knowledge through deductions. Polit & Beck (2008:17) are of the opinion that, in qualitative studies, analysts start by conversing with or watching individuals who have had direct experience of the phenomenon under study.

The researcher used the qualitative approach due to its characteristics as described by Creswell (2009), as well as Mack, et al. (2005):

Qualitative researchers are occupied with significance; how people make sense of their lives and the structures of the world.

- The qualitative researcher is the essential instrument for information gathering and examination.
- Qualitative research includes hands-on work. The researcher physically goes to the general population, setting, site or foundation to watch or record conduct in its usual setting. The specialist has built connections with the recognized associations in their settings. In this study, the specialist will visit distinctive associations under Umzinyathi District, in KwaZulu Natal, specific schools, DAEA, DoE and in addition neighbourhood Municipalities.
- Qualitative research is explorative by nature; the researcher needs to investigate the phenomenon under scrutiny.
- The procedure of qualitative research is inductive in that the specialist constructs the examples, classifications and topics from the words or stories of the members.

3.3.2 Population

According to Babbie (2011), population is a term that sets boundaries on the study units. Polit & Beck (2004:289) describe the population as the aggregation of all the cases in which a researcher is interested; the group of people that meet the sample criteria for inclusion. The members of a population need to be accessible because they are the intention of the investigation. Babbie (2009) declares that a population is any group of individuals that has one or more features in common interest with the researcher and meets the sample criteria of inclusion. According to Burns and Grove (2009:42), a research population refers to all the elements, individuals, objects or substances that meet certain criteria for inclusion in a given universe. A population is a collection of objects, events or individuals having some common features that the researcher is interested in studying (Brink et al 2008:206; Neuman 2006:224; Polit & Beck 2008:67).

The population for the study is Umzinyathi District.

3.3.3 Sampling

Sampling is utilised since it is not practical to concentrate on every case in the population being focussed on. Babbie (2009) & Neuman (2006) view a sampling as a subset of likely individuals drawn from a population in which we are interested. The basic role of sampling is to speak to the parts of the population from which the researcher tries to gather information by examining particular cases, occasions or activities that can crystallise and develop understanding.

Sampling means taking a bit of a population or universe that is illustrative of that population or universe (Burns and Grove 2009:35; Polit & Beck 2008:33). Qualitative research includes inspecting that which is not likely. Being able to generalise the examination discoveries is not the primary standard, despite the fact that the thoroughness of the techniques can be imitated in comparative settings. In qualitative studies, researchers are not worried with the determination of agent tests. Tests are small and non-arbitrarily chosen. The components are chosen because they are likely to be able to add to the information required (Burns & Grove 2009:353; Polit and Beck 2008:759). Small, data-rich samples have the advantage of allowing qualitative researchers to direct in-depth interviews and to create the kind of rich information that is needed to find innate implications (Burns and Grove 2009:361).

As per Strydom & Delport (2011), Babbie (2009), and additionally Burns & Grove (2007), a qualification can be made between probability and non-probability sampling. Probability

examining happens when the population can be resolved and non-probability sampling is utilised when the population is obscure.

Umzinyathi District is a very big district and many schools. It wouldn't be possible for the researcher to include everyone in the research. So, she had to make use of sampling.

(a) Non-probability sampling

As per Babbie (2011) and Monette et al. (2008), non-probability sampling is used to comprehend the social procedures and significance of a specific group. Non-likelihood inspecting is a kind of testing procedure whereby the specialist can pick up understanding from chosen individuals. In non-likelihood inspecting, the example does not really exemplify the entire population, and the discoveries made can't be summed up to the population in question.

(b) Purposive sampling

Creswell & Plano Clark (2011) characterise purposive sampling as a non-irregular examining technique in which the researcher uses what they already know to choose members who have encountered the central phenomenon being investigated in the study. Creswell & Plano Clark (2011), Babbie (2011) and also Burns & Grove (2007) declare that purposive sampling can be used as a part of three specific cases. Firstly, purposive sampling is suitable when the researcher needs to choose one-of-a-kind cases that can give unusual data. Secondly, a purposive sample is of used where the individuals from the population are hard to get hold of or are specific. Thirdly, purposive sampling is used to choose particular cases for profound examination.

(c) Snowball sampling

Snowball sampling is suitable when people with whom contact has been made use their informal organisations to refer the researcher to other individuals who may perhaps meet the qualification criteria (Babbie 2011).

Considering the above, the researcher opted for purposive sampling.

3.3.4 List of the schools that were involved in the study

Table 3.1

CIRCUIT	SCHOOL
NQUTU	A-Eco School with a green flag
	B-Working towards getting a green flag
	C-Non-Eco-School
ENDUMENI	A-Eco-School with a green flag
	B-Working towards getting a green flag
	C-Non-Eco-School
MSINGA	A-Eco-School
	B-Working towards getting a green flag
	C-Non-Eco-School
UMVOTI	A-Eco-School with green flag
	B-Working towards getting green flag
	C-Non-Eco-Schoo;

3.4 METHOD OF DATA COLLECTION

Burns & Grove (2007) state that, “data collection is the precise and systematic gathering of information relevant to the research purpose, objectives, question or hypothesis of the study”. Creswell (2010) identifies the approaches that can be used in collecting data through open-ended questions such as interviews and group discussions.

3.4.1 Different types of interviews

There are many different types of interview, but this study will use three types of interview, namely the interview guide approach, standardised open-ended interviews and in-depth interviews.

(a) Interview guide approach

With the interview guide approach, topics are selected ahead of time, but the researcher decides on the order and wording of the questions while the interview takes place. The interview guide approach is conversational and situational (McMillan & Schumacher, 2006:351). This type of interview was used to collect information from the SGB members of the involved schools. Nine people were interviewed here - one person from each school - about their understanding of the programme and their attitude towards it.

(b) Standardised open-ended interview

In a standardised open-ended interview, participants are each asked the same questions in the same order. This reduces the flexibility of the interviewer. Because the wording of the questions is standardised, the naturalness and relevancy of the response may be compromised (McMillan & Schumacher, 2006:351). This type of interview was used to collect data from the learners at the involved schools because, as there were a large number of learners to be interviewed, it saved the interviewer time. (See table 3.1 for the list of those schools). It was intended that thirty-two learners be interviewed about their understanding of the environment, the programme, their involvement and what they have achieved through the programme, but since only nine schools were interviewed, and only twenty-seven learners were interviewed.

(c) In-depth interview

Boyce (2006:5) portrays in-depth interviews as a qualitative research system that includes directing escalated singular interviews with a small number of respondents to investigate their viewpoints on a specific thought, programme, or circumstance. Boyce expresses that these sorts of interviews are valuable when the specialist needs nitty gritty data around a person's thoughts

and practices, or needs to investigate new issues in-depth. In-depth interviews are regularly used to give additional background to other information, offering a more finished picture of what happened in the programme and why.

This type of interview was used to collect data from the principals and educators at the involved schools. This type of interview was suitable for interviewing principals and educators because they have information about the programme in their schools, and their thoughts about the programme as well as their attitudes towards the programme are of consequence. Thirty-three people were interviewed (twenty-four educators and nine principals). They were interviewed about their understanding of the programme, support from different stakeholders (like DoE, DAEA, and local municipality), challenges met, and attitudes towards the programme, as well as how they have benefited from the programme.

In addition, in-depth-interviews were used to collect data from the relevant DoE and DAEA officials, Umzinyathi District Director, Superintendent Educational Management (SEMs) of the four circuits and officials of the DAEA and the local municipality. Four people were interviewed: District Director, one SEM, one official from DAEA and one official from the local municipality. The District Director was interviewed on the progress of the programme in the district, the SEMs on the progress of the programme in their circuits, officials from local municipalities were interviewed on their support for the programme and the official from DAEA was interviewed about the growth of the programme, support received from different stakeholders, challenges met as well as attitude towards the programme.

With the consent of the participants, the researcher used a digital voice recorder and note-taking techniques to record the information to ensure that all verbal and non-verbal articulations of the participants were recorded. Notes were also taken by the researcher based on the observations of verbal and non-verbal behaviour of the participants. The interviews were conducted in English and Zulu. Where appropriate, data was then translated from Zulu into English by the researcher.

3.4.2 Observations and site visits

Site visits occurred in characteristic settings and included the scientist taking extensive and illustrative notes of what was going on. Perceptions can here and there bring more solid data about specific things. Perceptions and site visits can likewise serve as a system for checking or validating data in up close and personal experiences.

The researcher did site visits to eight schools that are involved with the programme in order to observe the condition of the schools, such as the neatness and cleanliness of the school grounds, which should be litter free, as well as of the classrooms, if the schools have vegetable gardens, compost heaps and recycling projects, (See table 3.2). Eco-files were observed as evidence of the school's participation with the programme and learners' books were scrutinised to see if there was any activity on the environmental topics.

Table 3.2 List of schools the researcher visited for observation

<i>CIRCUIT</i>	<i>SCHOOL</i>
NQUTU	A
	B
ENDUMENI	A
	B
MSINGA	A
	B
UMVOTI	A
	B

3.4.3 Document analysis

Document analysis includes gathering information, studying the contents and structure of documents, specifying how they relate to each other and naming their properties. This

measuring method means investigating the way organisations and associations communicate (for example, minutes of their meetings) or papers of a more personal nature. It provides products of human behaviour that may be looked into by means of analysing the content of the documents (Welman & Kruger, 2002:144). Records of the historical background of eight schools, (See table 3.2) documentation regarding educational support offered by the two departments, the records kept by Eco-Schools District Offices, physical visits to the schools and portfolios were compared to the records kept by the two Departments about the progress of the involved schools. Also, the documents about the membership of the Eco-Schools in the district were analysed.

The information was validated and analysed by comparing the input of the respondents to the records kept by the Eco-Schools District Offices, that is, the portfolios of schools will also be compared to the records kept by the two departments on the progress of the schools involved. The researcher also looked at the documents, like the minutes of the eco-committee as well as the eco-files.

3.4.4 Data analysis and interpretation

Data analysis involves experiencing the information a few times, arranging information, maybe using index cards, folders or a PC database (Creswell 2007). It also involves examining the whole information set a few times to get a feeling for what it contains overall. Data analysis means organising information into general classifications or subjects, and maybe subcategories, and after that to order every bit of information appropriately.

Creswell (2009) defines data analysis as the process that “involves making sense out of text and image data. It involves preparing the data for analysis, conducting different analyses, moving deeper and deeper into understanding the data, representing the data, and making an interpretation of the larger meaning of the data”. Creswell (2009) further points out that data analysis is an ongoing process. It involves continual reflection about the data, the asking of analytical questions, and the making of notes throughout the study.

To analyse data for the interviews, the researcher followed the steps used when analysing interview data. The first step entails reading the data several times if the interview was recorded

manually. If a tape recorder was used to record the data, the researcher will listen to the tape several times until she understands what was said by the interviewees. The next step to be followed will be to focus on the analysis. Here the researcher focused the analysis on the different age groups especially at schools, where the responses from the learners from all schools were grouped and analysed together. This also applied to the educators, principals, as well as the SGB members. After that the data was categorised and the researcher identified connections and patterns between categories. The last step was the used of patterns and connections to explain the findings and attach meaning and significance to the analysis- which is the interpreting of data (Powel & Renner, 2003:1-4).

To analyse data recorded from observations and sites visits, the researcher read the data several times and concluded if the information from the Eco- file corresponded with what the researcher observed, for example: does the school have a garden, is there any waste of resources, like water and electricity, are the premises free of litter, do they have bins all around the school and if there is any sign of a compost heap?

This also applied to the educators, principals and SGB members. After that, the data was categorised, and the researcher identified connections and patterns between categories (Powel & Renner, 2003:1-4).

To analyse data recorded from observations and sites visits, the researcher read the data several times and concluded whether the information from the Eco-file corresponded with what the researcher observed; for example: does the school have a garden; is there any waste of resources like water and electricity; are the premises free of litter; do they have bins all around the school; and is there any sign of a compost heap?

3.5 ETHICAL CONSIDERATIONS

Ethics manages matters of right and wrong. Collins English Dictionary and Thesaurus (1995:533) characterises ethics as “a social, religious, or common code of conduct considered right, particularly that of a specific gathering, calling, or person”. Research that includes

individuals as members ought to be led in a moral way to ensure their rights. Polit & Beck (2008:167) underscore that, when people are utilised as study members, care must be exercised in guaranteeing that the privileges of the members are ensured.

Banks (2006) describes the concept of ethics as referring to moral philosophy including the study of morality, and the norms and standards of behaviour that are used by people in order to do what is right. Leedy and Ormond (2010) state that “most ethical issues in research fall into one of four categories; protection from harm, informed consent, right to privacy and honesty with professional colleagues”.

3.5.1 Informed consent

Informed consent suggests that the members have satisfactory information about the research, are fit to understand the information, and have the force of free decision, allowing them to agree or disagree intentionally (Polit & Beck 2008:176). Neuman (2006) depicts informed consent as formal agreement to take an interest that is given by individuals once they have learned something about the research system. Informed consent is seen as a key moral guideline of social research: never pressure anybody into taking part; interest must be intentional and voluntary.

The researcher obtained written permission to conduct the study from the Research and Ethics Departmental Committee of the University of South Africa at the Department of Education after submitting the completed Chapter 3. The researcher also obtained written permission from the KwaZulu-Natal Department of Education to conduct research in KZN Department of Education Institutions.

The researcher obtained the informed and voluntary consent of all participants before involving them in the study. The researcher provided the participants with a letter containing information pertaining to the research project, as well as a consent form that they signed. The consent form and the letter requesting permission to conduct the study are included as appendices.

The researcher explained the purpose and significance of the study to the participants. The

participants were given the choice to participate. They were also provided with sufficient information about the study to allow them to decide for or against their participation.

3.5.2 Confidentiality

Neuman (2006) characterises confidentiality as the moral assurance that the identity of the people who are included in the research will not be made known to the general population and that information will not be distributed in a way that connects particular reactions to particular people. The participants were assured that data will be used only for the purpose of the research and that their names will not be mentioned and their privacy ensured. The researcher will under no circumstances make the connection publicly known. The records of interviews have been put in a safe place to which only the researcher has access. The voice records of the interviews will be deleted after the final report has been completed.

3.5.3 Anonymity

Privacy is the freedom from interruption by people in general (Chambers English Dictionary 2006:1211). It is an individual's right to decide the time, degree and general conditions under which individual data will be given to or withheld from others (Stuart 2009:129). In light of the right to protection, members have the right to obscurity and the right to expect that the information gathered is kept secret (Burns & Grove 2009:196).

As indicated by Babbie (2011), anonymity of members is vital. The centre of namelessness is that data given by members ought to not in any way reveal their personality.

In this study, the participants' identity was withheld and protected from disclosure. The use of the tape recorder as the primary instrument to capture the data was explained to them and recordings have been kept secure at all times. Recordings will be destroyed on completion of the research. To ensure anonymity, names of participants were not written on the tapes, notes and transcripts. The researcher ensured that data was transcribed and edited by her. Alphabet letters were used instead of their names or any other personal means of identification to hide their identities.

3.5.4 Reliability and validity

Creswell (2009) characterizes qualitative validity as a process whereby the researcher guarantees the accuracy of the discoveries by using certain systems, while qualitative dependability shows that the researcher's methodology is consistent crosswise over various researchers and typical ventures.

The researcher wanted to find out the experiences, feelings, attitudes and opinions of the schools of Umzinyathi District about the Eco-Schools Programme in their natural settings from their own perspectives. To ensure reliability of the study, the researcher used Gibbs (2007) procedures, and to ensure validity the researcher used the strategies in Lincoln & Guba (2000) as highlighted by Creswell (2009).

As indicated by Creswell & Plano Clark (2011), qualitative data analysis includes coding the information, partitioning the content into little units, allocating marks and gathering the codes into topics. Graneheim & Lundman (2004) guarantee that when researchers are creating examples or topics from subjective information, they can make the categorisation strategy more legitimate and defend against a researcher's own preconceptions and inclinations by getting help from an accomplished or master associate.

The role of the researcher is to change information into discoveries. Information was assembled by perusing comparative themes with the objective of finding the similarities and contrasts between the exploration discoveries and the accessible writing or other research thoughts from the web and library.

3.6 MEASURES TO ENSURE TRUSTWORTHINESS

Efficient immovability in qualitative studies is measured by its reliability or the degree to which the discoveries are consistent with the information and the exploration setting. The point of exploratory examination is to reduce tainting of the outcomes by outer variables (Bowling 2002:118). Reliability is guaranteed by credibility, dependability, conformability and transferability (De Vos in De Vos et al 2005:346).

3.6.1 Credibility

Credibility alludes to keeping up trust in the reality and understanding of the information. Reality of the discoveries is built up as the members are precisely recognized and portrayed and the information is acquired from members who have individual experience (Polit & Beck 2008:539).

3.6.2 Dependability

Dependability alludes to the soundness of the gathered and dissected information after some time and in particular conditions (Polit & Beck 2008:539). In this study, the sound taped data and field notes served as proof that it stays reliable and stable. In every interview, the same questions were asked to the members to guarantee step-wise replication of the research technique.

3.6.3 Conformability

Pilot and Beck (2008:539) maintain that conformability alludes to objectivity; that is the likely agreement between two or more independent individuals about the precision, pertinence and importance of the information. In this study, information accumulation and examination spoke to the data given by members, and not controlled by the analyst. The audio-taped data and field notes serve as proof to mirror the members' reactions.

3.6.4. Transferability

Transferability alludes to the degree to which discoveries can be exchanged or connected to other comparative settings or gatherings. The discoveries of this study can be summed up to the entire Umzinyathi District since it was directed to all the four circuits of Umzinyathi District, and every one of the circuits is represented by three schools.

3.7 DATA VERIFICATION

Qualitative researchers should strive to achieve reliable and valid results by corroborating all the information gathered during the data collecting stage (Creswell 2009, McBrien, Gerrish & Lacey 2007).

3.8 CHAPTER SUMMARY

This chapter discussed the research design and methodology that was used. The researcher used a qualitative research method to explore, describe and contextualise the phenomenon of the non-availability and ineffectiveness of EE through Eco-Schools Programme at Umzinyathi District Schools.

CHAPTER 4

PRESENTATION OF FINDINGS, ANALYSIS AND DISCUSSIONS

4.1 INTRODUCTION

In Chapter Three the researcher explained the methodology that was used when gathering data. Face to face interviews, which are the instruments that were used when gathering data, were also discussed. In addition, the sample, data analysis of the study and the ethical procedures were discussed. This chapter consists of the presentation of findings, analysis and discussions. This chapter analyses and interprets the findings acquired through interviews, observation and document analysis.

4.2 THE PRESENTATION OF FINDINGS AND DISCUSSIONS

The research question is: “Is Environmental Education available and effective enough through the Eco-Schools Programme at Umzinyathi District schools? Yes, it is available in other schools. Not sure if it is effective enough since the number of schools registered with the programme is not increasing as well as the schools that get green flags.

The collection and analysis of data at the selected schools enabled the researcher to develop a data base that attempts to provide an understanding of how educators view the programme of Eco-Schools and if it is succeeding or failing to educate the learners and the school community about the environment.

The researcher intended to involve twelve schools in the study as part of the population group, but participation was voluntary, and three schools did not give their consent to participate. As a result, only nine schools were interviewed and in some schools the members of the SGB were not part of the interviews. In some cases, the researcher couldn't do face-to-face interviews with the participants as was indicated in the research methodology chapter, Chapter 3. They

said they were busy and they would prefer the questions to be left with them so that they could answer them when they got time. This happened with the teachers of one school, the officials of the DAEA and people from the local Municipality.

Because of confidentiality, schools have been identified with pseudonyms. To facilitate presentation, schools are listed as School A up to School I and the educators are named as SA T1 or SA T2 and so on.

Table 4.1 Number of people interviewed and participants per school

SCHOOLS	Eco-School/Non-Eco-School	Number of educators	Number of SGB members	Number of learners	Total
School A	Eco school	1	none	4	5
School B	Eco-School	2	1	4	7
School C	Eco-School	1	1	4	6
School D	Non-Eco-School	2	none	4	6
School E	Eco-School	1	1	4	6
School F	Non-Eco-School	2	none	4	6
School G	Non-Eco-School	1	none	4	5
School H	Eco-School	1	none	4	5
School I	Eco-School	1	none	4	5
TOTAL		12	3	36	51

Apart from interviews, the researcher also did site and document observations on Eco-Schools to observe the conditions of the premises, Eco-files and learners' books.

A variety of research instruments - namely interviews, documents study and observations –

were used in this study to improve the validity and reliability of data collected. The interviews were tape-recorded to ensure completeness of the verbal interaction and to provide material for reliability checks.

The research findings are presented according to the participants' responses to the research questions. The questions were formulated to correspond with the research aim. A copy of the questionnaire is attached in the appendix. All the participants were asked the same questions to increase the validity and reliability of the study.

4.2.1 Teachers' responses to the interviews

The following are the teachers' responses to the interview questions.

4.2.1.1. Knowledge of environmental education

It is clear from the responses of the participants that they had different ideas about what environmental education (EE) entailed. A few indicated that it had to do with awareness. SA T1 explained, *"It is about awareness about the environment. To make learners aware of the environment around them."* SE T1 expressed a similar idea, *"It is about awareness about the environment."* SC T1's answer is similar to the previous respondent's answer, *"It is about teaching about the environment."*

Other participants felt that EE had to do with saving the environment. According to SB T3 *"[EE] Is about teaching children the proper ways of saving our environment, teaching them how to take care of the resources and prevention of global warming which includes prevention of soil erosion, pollution and emphasis on recycling."* In the same vein, SB T2 declared that the aim of EE was, *"To teach learners to save the environment for the sake of the future generations."*

For others, EE was about saving or taking care of the environment such as SF T2 who commented that the aim of EE *"is to teach learners the proper ways of saving our environment,"* whereas SD T1 noted, *"It is to teach learners to take care of the environment."* SI T1: was even more specific about the role of EE:

Environmental Education is to teach children about taking care of the environment, like the importance of wetlands, waste management, water conservation, etc. It is also to teach the community about the importance of saving the environment like saving the resources like water and electricity.

Other educators focussed on the role of EE in addressing the issue of global warming. According to **SG T1**, *“It also includes teaching about the prevention of global warming.”* Likewise, **SG T2**: declared, *“It is to teach learners about saving our communities from global warming.”*

A further aspect on which the respondents focussed was on the role of planting trees and other plants to save the environment. **SD T2** was of the opinion that the aim of EE was *“to teach learners to maintain the school in terms of planting trees, flowers and a vegetable garden,”* whereas **SF T1** added that the aim *“Is to teach learners to plant vegetables.”* In turn, **SH T1** stated: *“It is about greening the school, maintaining our school environment in terms of planting trees, flowers and vegetables. It is also to teach our learners and the surrounding communities about how to prevent soil erosion, pollution and emphasising on recycling.”*

4.2.1.2 Ways of teaching environmental education in schools

The participants responded in different ways with regard to their ways of teaching EE in their schools. **SE T1**, **SF T1** and **SH T1** were of the opinion that EE was part of the curriculum, so they taught it like other subjects. Others, like **SA T1**, **SB T2**, and **SG T1 T2**, said that they taught EE through recycling projects. **SA T1** went further by saying that:

We take it normal; it is part of the school. We teach our learners about picking up the papers as well as greening the school. We even have a vegetable garden where learners take turns in working in the garden. We also teach learners about global warming and the activities causing it.

SI T1 intimated that they did not only teach it but they practised it. **SD T1** and **T2** stated that *“We call the people from the Department of Agriculture and Environmental Affairs to come and address the learners about environmental issues.”* **SC T1** indicated that, *“We used to give learners different environmental topics to discuss at the assembly.”*

4.2.1.3. Knowledge of an environmental policy.

The DoE requires that all schools must have different policies and most of the interviewed schools did have an environmental policy at their schools. What was contained in each policy was different for each school. However, what was common is that most of the policies referred to taking care of the environment such as **SA T1** who noted, *“It says that we must keep our environment clean and safe for our learners.”* In turn, **SB T2** was of the opinion that theirs focussed on EE being integrated with all the learning areas, *“EE must be integrated into all the learning areas and be taught in all grades.”*

SC T1 was of the opinion that they had an environmental policy that stated, *“We must keep our school premises clean. We must also save the resources not only for us but also for the future generations”*. **SG T1** affirmed that they also had a policy. **SG T1** went further by saying that, *“It says we need to educate not only our learners about how to keep the environment, but the whole community as well. We must also invite other stakeholders to come to school to address our learners and parents about the importance of a safe and clean environment.”*

According to **SH T1** their environmental policy was about: *“Integrating environmental topics to all the subjects and making the environment free from litter and that it does not cause dangers to learners,”* and **SI T1** added that their environmental policy referred to keeping the school human friendly and litter free.

On the other hand, some teachers did not know if they had an environmental policy or not. Some of those who had it, did not know what it contained. **SD T1** thought that they had a policy since it was a departmental requirement that all schools must have different policies, but **SD T2** was not sure if they had it or not and **SE T1** said they did not have an environmental policy at their school. **ISF T1** and **SF T2** did not know if they have one or not.

4.2.1.4 Knowledge of the Eco-Schools Programme

Educators at the registered schools had a clear understanding of what the Eco-Schools Programme was all about. Among other things, they mentioned that it is an international

programme for the schools. **SB T1** mentioned that, *“It is an International Programme that works with schools on different education projects. It awards participating schools according to the way they present their projects in a file.”*

Other teachers, like **SA T1** and **SI T1**, were of the opinion that it was a programme run by the Department of Agriculture and Environmental Affairs, *“It’s an environmental programme for the schools run by the Department of Agriculture and Environmental Affairs. It teaches learners about taking care of the environment.”* **SI T1** maintained that, *“It is the programme that teaches the schools and their surrounding communities about how to save their environments. It is a programme that is run by the Department of Agriculture and Environmental Affairs.”*

SB T2 elaborated further that it has a system of awarding participating schools, *“The awards are from Bronze up to the International Flag. It also emphasises on communication amongst schools.”*

On the other hand, non eco-schools did not know what the Eco-Schools Programme was because they had never heard about it. **SD T1**, **SD T2**, **SE T1**, **SF T1** and **SF T2** said, *“I don’t know anything about Eco-Schools Programme,”*, *“I have never heard about Eco-Schools Programme,”*, *“I do not know about Eco-what? Nothing,”* and *“Never heard of it.”*

4.2.1.5. Registration with the Eco-Schools programme

Out of nine schools interviewed, six schools are registered with the Eco-Schools Programme. The non- registered schools are schools **D**, **F** and **B**.

The schools that are Eco-Schools mentioned many improvements in their schools. Like **SA** which registered in 2011 and have a green flag status, mentioned that:

Yes, it is registered. It registered in 2011. We have a green flag status. Our experience is good with the Programme. We got the green flag and our school has improved a lot since we became an Eco-School. We didn’t have a beautiful big vegetable garden before. Our school is now well known in the district because of being an Eco-School.

SB, SC and **SE** all registered in 2005 and now have different statuses. These three schools were the first schools to register with the programme in the Umzinyathi District. They registered as pilot schools.

SB has a green flag status and mentioned that they had developed many environmental projects:

We registered with Eco-Schools Programme in 2005. We have a green flag status. Our school has developed many environmental projects that have helped kids that have disabilities because most of them are talented in handcraft. Eco-Schools Programme has introduced or advised us with different recycling depots. We gain money when selling our handcraft. We have paid less on our water bill as we have been taught about ways of water conservation.

SC also registered in 2005 and had a green flag status and was working towards getting an international certificate. *“Yes, our school is an Eco-school. It registered in 2005. It was one of the three pilot schools here in the Umzinyathi District. We have a green flag status and we are working towards getting the International certificate.”*

SE also registered in 2005 as a pilot school and had a 2nd Platinum level status which is the highest rating in the province. They maintained that by being an Eco-School, the school has exposed them to learning new things, like understanding different trees. They have also learnt to appreciate nature:

We are an Eco-School. We registered in 2005 and we have a 2nd Platinum level, which is the highest rating in the province. We got exposed to learning things we didn't know before. Like before we participated in Eco, we couldn't tell any difference between trees, indigenous and alien trees or plants. We learnt to appreciate nature. The school look changed altogether. Our school now has trees, and a vegetable garden, which was not there before. We learnt how to use school resources in a sustainable way. We also learnt to incorporate environmental topics to the subjects that we teach.

On the other hand, both **SH** and **SI** registered in 2012, but have different statuses. **SH** had a bronze status whereas **SI** had a green flag status.

SH stated that their school had benefited in many ways from being an Eco-School, such as the improvement of their school in terms of cleanliness and starting a recycling project:

Yes, our school is registered with Eco-Schools Programme. We registered in 2012 and we have a bronze status. Our benefits are the school improvement; learners have learnt a lot about taking care of the environment. We have also taught the community how to take care of the environment. Once a week we take learners to the community to pick up litter for two reasons: cleaning up and recycling of different litter.

SH was of the same opinion regarding the school benefits:

We are registered with the Programme. We registered in 2012 and we have a green flag status. Since we became an Eco-School, we have benefited from many things like learning to keep our school clean, saving water and electricity, learning more about recycling and benefiting from it. We also learnt how to integrate environmental topics to all the learning areas.

4.2.1.6 The Eco-Audit

From the educators' responses, it was clear that, even though all the schools seemed to undertake the Eco-Audit, not all of them were clear about how to go about doing it. In their responses, they just mentioned who did it, except for one school where they mentioned who did it and what it entailed.

SA T1 and **T2** informed the researcher who did it as well as what it was or how to do it. They stated that *"The audit is done by the environmental co-ordinator and the teacher who deals with the enviro-projects. He audits how the school was before Eco involvement and at the end it is done by the Eco-committee."* **SI T1** was of the same opinion in saying that it was the responsibility of the co-ordinator to do it. *"The co-ordinator is the one who is delegated to do it and then submit it to the whole committee for approval and input."*

Other schools, like **SA T1**, **SC T1**, **SE T1** as well as **SH T1**, all agreed that all the Eco-committee members were involved in doing the Eco-Audit. **SA T1** said, *"The whole committee*

is involved in doing the audit”. **SC T1** mentioned that “We all do it, members of the Eco-committee”. **SE T1** stated that “Everyone who is the member of the Eco-committee is involved in doing the eco-audit; that is, educators, learners and members of the governing body.” **SH T1**, who was of the same opinion, commented that, “We are all involved in doing the audit.”

4.2.1.7 Challenges encountered in implementing the programme.

According to the responses from the educators, it can be concluded that the programme on its own was not difficult to manage, but different challenges were met in implementing it. One school mentioned the challenges they meet with when implementing the Programme. **SA T2**: “The programme on its own is easy to manage, but there are some challenges we sometimes encounter, like the drought in terms of the garden and animals eating the plants during the weekends and holidays.”

Another challenge most of the schools mentioned was of compiling the Eco-file. They mentioned the point of collecting the pictures and other information needed to compile the file in time and not at the last moment. Of the same opinion was **SB T1**, who said, “The programme is not difficult to manage. The challenge is to make sure that you collect the pictures of different activities that take place at the school.” **SB T2** agreed with this view:

The biggest challenge is of organising and preparing the file to be submitted for the assessment because you need to use your time.

SC T1 maintained that planning very important as a committee. “If you don’t plan well as a committee, it can be a challenge to manage this programme, especially to compile the file if you leave it until the last moment.”

SE T1 mentioned the point of the small number of staff, which is a challenge to them. “If you are a small staff like our school, sometimes it can be a challenge.”

SH T1 went further by saying:

At the begining, yes it was difficult. But once you are used to it, it becomes easy because

you learn to plan properly and do things on time and not at the last minute. Water supply is a big challenge when it comes to our plants. Sometimes people from the community do come and steal our vegetables.

Furthermore **SI T1** observed:

It was difficult to manage it until we realised that it is part of the curriculum as the environmental topics are integrated. Another thing that makes it easy to manage is when you work as a team. If you don't work as a team, to compile the file for assessment can be very difficult and challenging, especially if you do it alone as the co-ordinator.

4.2.1.8 Support from the environmental co-coordinator, the DAEA, DoE and from the local municipality

Schools felt that they did not get enough support from different stakeholders as mentioned above, especially from the DoE as **SA T1** stated:

The support from the different departments is not enough. DoE do support us but not in terms of finance. The support we do get from the DoE is that they allow us to attend the workshops. The local municipality once helped us with water supply after they have been asked to by the DAEA.

SB T1 and **SI T1** also supported **SA T1** regarding the support they got from the DoE that they felt was not enough. **SB T1** mentioned that *“The support we get is not enough especially from our department, DoE.”* **SI T1** was of the same opinion that, *“We do get support, especially from the DAEA and Municipality and we are happy about it. However, from the DoE, there is not much support we get from them.”*

Other schools felt that the support they received from the DAEA, as an implementing agent was not sufficient. This is clear from what **SB T1** and **SC T1** said. **SB T2** mentioned, *“The DAEA comes and teaches the co-ordinator how to compile the file, but we don't think the support is enough because sometimes you will find out that we need some clarity and they are*

not available.” SC T1 supported this idea. “Different departments do support us although sometimes it is not enough especially from the Department of Agriculture and Environmental Affairs.”

SE T1 had a different opinion, saying that they received support from the different stakeholders but they needed to be persistent before getting it. *“There is support from the different stakeholders. But to get the support, you need to nag. You don’t ask for it once, you need to do the follow-up, and then you will get it.”*

SH T1 stated that they did not get the support directly from different stakeholders perhaps because they did not know what support to ask for from whom:

We don’t get direct support from the different stakeholders like you mentioned them, except from the DAEA. However, sometimes we don’t know what each department is supposed to help us with. Maybe we will say we don’t get enough support and they are not supposed to help us with anything.

4.2.1.9 Workload

Educators were of the opinion that the Eco-Schools programme did not create an extra workload since environmental education was part of the curriculum; you just needed to integrate it with all the subjects. Like **SA T1** who maintained that, *“The Eco-Schools Programme does not put an extra workload on us because it is in line with the curriculum.”*

SH T1 was of the same opinion. *“We don’t feel it as an extra load because Environmental Education is being integrated with all the learning areas. To be in the committee is voluntary, but it doesn’t make it an extra load.”* **SE T1** went even further and remarked that you needed to involve all the staff members, especially when it came to the compilation of the eco-file where they needed lesson plans that dealt with the environmental topics from all the educators:

It does not put an extra load on teachers or on the co-ordinator if you work as a team. As a co-ordinator, I work with the different teachers, like when I need the lesson plans

to put in the file for different subjects. Here at school, we also have a policy of when it's time for the eco-file to be submitted, we chose a day where we sit down with the entire staff and do the file together.

Another point that came up was that of planning well and having good strategies regarding how you are going to work throughout the year. **SC T1** stated that, “*Eco-Schools Programme is not difficult to manage. As a committee, you need to come up with the strategy you are going to use in order not to feel the extra job.*” The same idea was expressed by **SI T1** who mentioned that, at first, before they learnt to plan well, they felt that the programme was creating an extra workload for them:

At first, we felt like it was extra work for us as the committee, but now that we are used to it, we find it easy to manage. We realised that it is easy to manage as long as you plan properly at the beginning of the year. We also learnt to distribute the workload amongst all the members of the committee and we don't feel it as an extra load at all because we work as a team.

SB T2 was of a different opinion, namely that the programme put an extra workload on the co-ordinator and Eco-committee only, as they are the only ones who are responsible for compiling the eco-file. “*Only to the co-ordinator and the Eco-committee as they have to compile and submit the file.*”

4.2.2 Responses from the learners regarding the eco-schools programme

The following are the responses from the learners regarding the Eco-Schools Programme

4.2.2.1. Knowledge of the environment

All the learners of interviewed schools had the same understanding regarding what the environment was, namely, the place where we live, we play and everything around us.

According to **SD**, “*The environment is where we all live, like at school and at home as well as where we play in the playgrounds*”. **SF** added that “*Environment is about the natural things,*

like places where we live, water, trees, electricity, and so on.” SH was of the same opinion: “It is where we live like at school and home and also its about where we play and natural resources.” In turn, SI stated that, “Environment is everything around us. It is also placed where we live and play as children.”

4.2.2.2. Methods used to take care of the environment

It was clear from the responses from the learners that they did take care of the environment in many different ways. SA, SB, SC, SD, SG and SH mentioned that they took care of the environment by picking up litter.

SA was even more specific by saying that:

We take care of the environment by not cutting the trees, but instead plant the new ones during arbour week. We also feel that, since our school is in a rural area, the Chief must call the community meeting to teach them about the danger of cutting trees without planting the new ones. We take care of the environment by picking up the papers and other litter at school as well as at home. With plastic, our parents make door mats for all the rooms at home and sometimes they sell them. We burn the papers although we know that it is not the right thing to do since the smoke damages the ozone layer, but we don't have any option like the people in urban areas where the municipality comes on certain days to collect the litter.

SB stated that, “We take care of the environment by picking up the papers at school as well as home, by also not polluting the air and water (by not making fires). They also save water and energy.”

SC and SD were of the same opinion. SC declared that:

We take care of the environment by picking up the papers and cleaning our classrooms. We once went to the community meeting and talked to people about not polluting the environment by burning the papers and polluting water.

SD noted that:

We take care of the environment by not polluting it, keeping it clean all the time by picking up the papers all around the school. We also take care of the environment by planting the vegetables and the flowers.

In addition **SG** indicated that:

We take care of the environment by picking up the papers and cleaning the classrooms. We also take care of the trees because they give us oxygen. We also take care of the environment by not burning the papers because the smoke will pollute the air and we will end up breathing unhealthy air and getting sick.

SH also observed that, *“We take care of the environment by making our school and homes litter free. We pick up the papers all around the school. We also put the litter bins all over the school premises. We take care of the environment by not wasting water and electricity.”*

According to **SE**, they take care of the environment by involving the community, *“We take care of the environment by cleaning our classrooms. By talking to the people in their communities not to pollute the environment.”* **SF** was of the same opinion as **SE**, in terms of involving the community: *“By talking to the people in their communities [and exhorting them] not to pollute the environment. We take care of the environment by doing the recycling projects.”* **SI** felt that taking care of the environment means planting vegetable gardens as well as trees. *“By planting vegetables, closing water taps to save water and by taking care of the trees because they give us oxygen.”*

4.2.2.3 Importance of taking care of the environment

It is obvious from the responses from the participants that they had different ideas about why was it important to save the environment. A few indicated that we needed the environment because a clean environment is life and that we need to breathe healthy air. **SD** explained, *“It is important to take care of the environment because we all need a clean and safe environment.*

A dirty environment can cause us to get sick with many diseases.” SF expressed the same idea: “To take care of the environment is very important. We have to take care of the environment because we all need fresh air to breathe. We as children need to play in a safe environment so that we do not get hurt. We need to drink clean water that is not polluted.”

SG and **SI** were of the same opinion. **SG** stated that, *“Clean environment is a need, we can’t live without it. It is very important to take care of the environment because it is life and it is healthy life.”* **SI** expressed the same viewpoint, *“it is very important to take care of the environment because we all depend on it for living. Without the environment, there is no life. We need to make sure that our environment is clean so that we live a healthy life.”*

According to the other participants, the importance of saving the environment was about not cutting the trees without planting new ones because we need trees for oxygen. **SA** was even more specific:

It is important because if we don’t take care of the environment, we can get diseases easily. If we just cut trees without planting the new ones, we will suffer because they give us oxygen as we give them carbon dioxide. Even the Bill of Rights says that everyone has a right to a healthy and clean environment.

Of the same idea was **SB**:

We take care of the environment in order to save it. It is important to take care of the environment because we need trees to get oxygen. Also, if the air is dirty, we will breathe dirty air and get sick, and also if we drink dirty water we will get diseases like cholera and diarrhoea. If the environment is dirty, the birth and death rate will be affected (less births and more deaths). Everything we pollute is life. If we just cut trees without planting the new ones, we will suffer because they give us oxygen.

Another school that mentioned the point of a dirty environment causing diseases was **SC**, who stated that *“We take care of the environment so that we do not have diseases. The leaking taps cause floods and drought. We also need to save the environment for the sake of the future generations”*.

Some respondents went even further by quoting the Bill of Rights. **SE** said that *“The Bill of*

Rights says that we all have a right to a safe and clean environment. So it is the responsibility of all the people to take care of the environment. We need to take care of the environment to save the resources for our own sake as well as of the future generations.” SC mentioned the same thing: “Even the Bill of Rights says that everyone has a right to a healthy and clean environment.”

4.2.2.4 The role that can be played by the education/schools in teaching and learning about the environment

Learners felt that there was a role the department and schools could play in teaching and learning about the environment. Other learners were of the opinion that it is not only the children at schools who must be taught about the environment but also the entire community. **SC, SD** and **SI** expressed similar sentiments. **SC** felt that *“Schools can encourage learners and parents to save the environment. The DoE can provide the community with big litter bins so that people will not throw the litter on the ground but in the bins.”* **SD** also agreed with this viewpoint and suggested, *“Schools can encourage learners and parents to save the environment. The DoE can provide the community with big litter bins so that people will not throw the litter on the ground but in the bins.”* **SI** went further and stated that:

The schools and the department of education can play a big role in teaching people about taking care of the environment. In the parents’ meetings, teachers can talk to the parents about saving the environment. The department also can call the parents just to talk to them about the dangers of the dirty environment.

Another point that was mentioned was that of putting up posters in the community by teachers and learners to teach people about the environment. **SH** expressed a similar opinion: *“Teachers can work with the children to make posters which will warn the people about the dangers of the dirty environment. The posters also can teach the people how to protect the environment and why.”*

SD and **SE** felt that the DoE could also play an important role in educating learners about taking care of the environment. **SD** maintained that, *“Teachers and learners can call the*

meetings of the community and address the community about how to save the environment. The department of education can make sure that there are enough litter bins in all the schools.”

SE indicated that:

The department of education and schools can advise the learners how to take care of the environment. Schools can invite the people from the Department of Agriculture and Environmental Affairs to come and teach people to plant trees and vegetable gardens and the importance of it.

SG was even more specific by saying that it was everyone’s responsibility to teach learners about the environment. *“Teaching about the environment is everyone’s job, so schools can play a big role in educating people about the environment, not only for our sake but for the sake of the future generations.”* **SB** declared, *“Schools/education can teach the learners as well as teachers about the environment because as a leader you must lead by an example. So teachers themselves must know how to take care of the environment”*. According to **SF**, teaching only about taking care of the environment was not enough, but practise what you have been taught was also very important, *“The schools can teach the learners about the importance of living in a clean environment. They can also encourage learners to practise what they learn at schools as well as at home.”*

4.2.2.5 Knowledge of the Eco-School programme

All the registered schools knew what the Eco-Schools Programme is; only those who were not registered did not know what Eco-Schools Programme is.

SA was of the opinion that it was the programme that taught the importance of the environment and how to take care of it and to respect it. **SB** stated that it entailed talking about nature and things on earth.

SC was more specific:

Yes, it is where at schools they look for the children who will form the Eco-committee and encourage other learners to take care of the environment. It is also to work with the teachers and members of the governing body to teach the community about how to take care of the environment and why.

SE indicated that they knew about Eco-Schools Programme even though they could not explain what it is. They added that *“We have a committee which is called Eco-committee where we are taught to take care of the environment and to encourage other learners to do the same.”*

According to **SH**, the Eco-Schools Programme is, *“the programme that deals with the teaching of learners and the whole community about the environment.”* **SI** explained that *“it is to teach them about why it is important to save the environment. It is about making a file of all the activities that take place at school and submit it for assessment.”*

4.2.2.6 Schools’ registration with the Eco-Schools Programme and their status

Of the nine schools interviewed, six schools were registered with Eco-Schools Programme and they have different statuses.

SA, SB, SC, SE, SH and **SI** are all registered with the programme and they had a different status. **SA** did not know what their status was and when they registered. They said their teachers knew. **SB** also did not know when they registered but they knew that they had a green flag status. **SC** was registered in 2005 with a green flag status. **SE** was registered and had a 2nd platinum status. **SH** and **SI** both registered in 2011 and had a silver certificate status.

In contrast, **SD, SF** and **SG** were not registered with the programme.

4.2.2.7 Eco- audit

There was somewhat confusion amongst some of the learners in terms of understanding what an eco-audit was all about, like **SB** who said, *“We don’t know what eco-audit is”*. The

researcher needed to explain what it is before they could answer and say, *“We are all involved. At the beginning of each year, teachers call us and we discuss about what focus areas are we going to do. We also look back at the previous year to find out how we worked.”*

From the responses given by the learners, it was discovered that they were not all always, if ever, involved in doing the eco-audit. Often it is done only by the educators. **SA** was of the same opinion who said, *“Sometimes we are involved, but most of the time the teachers do it.”* **SE** also indicated that, *“No, only the teachers who are on the committee do it.”* **SH** felt that they conducted the eco-audit sometimes, *“Not all the time are we are involved. Sometimes our teachers do it by themselves and then they tell us what our focus areas are for that year.”* With regard to the Eco-audit in their school **SH** revealed, *“Yes, we are always involved in doing it.”*

4.2.2.8 Improvement regarding taking care of the environment after schools became Eco-Schools

All the learners were of the opinion that there was a noticeable improvement in their schools after they had registered with the programme.

SA felt this way when comparing their school to other schools: *“Our school is beautiful, neat and litter free. It is more exposed to many other schools and projects.”*

SB declared that their school was better managed than their neighbouring schools and it was because it was an Eco-School. They added that their school had improved a great deal since they became an Eco-School. *“We used to have a lot of papers on the school premises and water was being wasted. Now our school has improved. We even have a vegetable garden which we didn’t have before.”*

SC also mentioned that there was an improvement in their school as far as taking care of the environment was concerned because at other schools, like their neighbouring high school, the *“premises are full of papers and most of the classroom windows are broken. Learners do not listen to the teachers when they tell them not to litter and also to take care of the school as a whole for the sake of themselves as well as of those who are still in primary schools.”*

SE indicated that they saw a significant difference between their school and other neighbouring schools in terms of the school's cleanliness. *"Our school is clean, neat and beautiful."*

SH felt that, as the only high school that was an Eco-School, they saw a big difference if they compared their school to other high schools. *"I think other schools are dirty and windows are broken."*

SI stated that, *"Our school is better managed compared to the non-Eco-schools. In our school we have a vegetable garden and we have also planted trees and are running recycling projects that help us to raise funds for the school. Our classrooms are clean from Monday to Friday."*

4.2.3 Responses from the SGB regarding the eco-schools programme

The following are the responses of the SGB members who were interviewed.

4.2.3.1. Knowledge of the Eco-Schools programme

The three SGB members interviewed know about the Eco-Schools Programme.

SB explained that, *"It is the programme that talks about the how to take care of the environment in schools."* He indicated that, *"Our school principal called the SGB meeting and told us about the Programme and that one of us must be a member of the committee."*

SC also knew about the programme that it is the programme that teaches their children to plant vegetable gardens. He stated that *"I heard about the programme at the SGB meeting."*

SE maintained that the Eco-Schools Programme is about the changing weather. *"As a chairperson, I was told by the principal that there was a programme that is run by the Department of Environmental Affairs."*

4.2.3.3. Membership of the Eco- committee and the criteria used for the elections

All three SGB members were also part of Eco-committee. **SB** was elected by the SGB at the SGB meeting, while, **SC** and **SE** volunteered to be Eco-committee members.

4.2.3.4. Changes/improvement in schools' due to being an Eco-School

All the SGB members of the three schools agreed that there was a considerable improvement in their schools since they'd become Eco-Schools in terms of maintaining their schools.

Likewise, **SB** felt that their school had changed since they'd become an Eco-School. He further mentioned that *"We didn't have a beautiful garden before, it was not well managed. Our school is now litter free."* He also mentioned the big litter bins donated by the local municipality.

SC went on to mention the new classroom they'd managed to build with the money they had won from the Cashbuild competition which was about the environment in schools. He added that *"Our school is saving a lot of money because our children have learnt to save water and electricity."*

According to **SE**, not only did the school children learn to take care of the environment, but the whole school community did so as well. She further suggested that *"It will be a good thing if all the schools register with Eco-Schools Programme because it brings a great improvement in schools in terms of taking care of the environment"*.

4.2.4 Responses from the officials of the DoE regarding the Eco-Schools Programme

The following are the responses for the officials of the DoE regarding Eco-Schools at Umzinyathi District (two officials were interviewed: **OF1** and **OF2**).

4.2.4.1 Knowledge of Eco- Schools Programme and when was introduced in South Africa.

Only **OF2** was able to respond to the question, and said that, *"It is the programme that deals with environmental issues in schools to educate learners and educators, as well as the surrounding community, like how to take care of the environment and how to save the resources even for the future generations. Even though I can't remember the year when it was introduced in S.A., I think it has been more than five years"*.

OF1 mentioned that he can't answer the question because he has not been an SEM for long; he just got promoted a few months ago.

4.2.4.2 Number of schools that are registered with the Programme in the circuit/district/ward and the number schools that have a green flag status and international certificate status.

Neither official knew the number of schools that are registered with the programme as well as the number of those with green flag status and international certificate status, but **OF2** explained that, *“I don’t know the number of Eco-Schools in the District, but I think they are very few. I will need to check with the DAEA since they are the implementing agent and have the records.”*

4.2.4.3 Views on Eco-Schools Programme as an important or necessary tool in teaching our children about taking care of the environment.

OF1 responded for the first time saying, *“Even though I don’t have a full understanding of what Eco-Schools Programme is, but as it deals with teaching about how to take care of the environment I think it is an important tool in teaching our children about how to take care of the environment.”*

OF2 was of the same opinion as **OF1** and said, *“Of course the programme is an important tool in teaching our children how to take care of the environment and to save the resources. It calls upon all of us to play a certain role in implementing the programme. It must not be the responsibility of the DAEA alone as it is the implementing agent”.*

4.2.4.4 Environmental Education as a subject on its own and being an Eco-School be compulsory to all the schools.

Both officials agreed that in order for EE be successful, *“It needs to be a subject on its own like other subjects learnt at schools and Eco-Schools Programme become compulsory to all schools. This will help the DAEA not to work alone. Another thing our children will learn at an early stage is to protect and take care of the environment”.*

4.2.5 Responses from the officials of the DAEA

Two officials from the DAEA were interviewed, namely, Official 1 (**O1**) and Official 2 (**O2**)

4.2.5.1. The success of the Eco-Schools Programme since its introduction in 2003 in South Africa

They felt that the programme had been successful since its introduction in 2003 in South Africa. The large numbers of registered schools are a proof of that. **O2** stated that:

Yes, more than 10 229 schools in all nine provinces have participated in the WESSA Eco-schools programme, of which 6 000 have sustained their environmental projects for 3 to 12 years, involving more than 500 000 learners and 40 000 teachers.

4.2.5.2 Success of Eco-Schools Programme at Umzinyathi District schools

There is a confusion of the facts in saying that the programme at Umzinyathi District is a success, for when we look at the numbers of schools registered, it is a different story. They explained that even though the number of registered schools was not increasing, there were schools that had been with the programme since 2003. **O2** added:

Yes, the schools are now using all the natural resources sustainably, managing their environment correctly, protecting their earth by planting trees during the commemoration of Arbour days, implementing recycling projects, organic vegetable garden without using fertilizers and so on.

4.2.5.3. Number of e registered schools with green flag status since 2003

Even though the number of Eco-schools with green flag status in the entire country was increasing, this was not happening in the Umzinyathi District.

O1 pointed out that, “*Under Umzinyathi no, but in the whole South Africa yes, more than 10 229 in the 9 Provinces, however, Umzinyathi have only six schools.*”

4.2.5.4 Challenges and problems encountered in implementing, supporting, monitoring as well as assessing the programme

Many challenges were mentioned, among others, the poor attendance of educators at the workshops, the poor monitoring of registered schools by the DAEA due to the lack of transport, the co-ordinators were not getting enough support from the principals and the entire staff. The point of late files submission was also mentioned.

O1 indicated that:

The poor attendance of educators at the workshops, lack of funds for materials and refreshments, lack of support from the head teachers, lack of accommodation for workshops. Monitoring is not always due to lack of transport to visit schools, or school coordinators' commitment. Sometimes the school coordinator does not get the full support from his committee members in the schools. Late submission of files by the participating schools is also a challenge.

4.2.5.5 Support from the DoE as well as the local municipality

According to **O2** they did get support from the DoE, especially from the district manager:

The Department, especially the District Manager, is supporting this Programme 100%, when we are having events, he assigned special official who will make sure that invitation letters reach the school Principals in time, and sometimes he visits our events and he gives words of wisdom, encouraging all the schools to participate in the program.

4.2.5.6 The number of physical and human resources to run the programme

O1 asserted that, *“The number of physical and human resources is still a challenge. We do not have enough.”*

4.2.5.7 EE to be a subject on its own and Eco-Schools to be compulsory for all the South African schools

In their responses, it was indicated that the idea that EE should be a subject on its own, is a good one. In this regard, **O2** declared that:

Yes, learners are our future generation. Therefore, if they are given valuable environmental education and awareness some of them might be future environmentalist in terms of their career choice and profession, others may choose to continue to be ambassadors in making sure that the environment is managed effectively and efficiently, most importantly conserved appropriately for another future generation. Various forms of activities are conducted for awareness like excursions, road shows, exhibitions, campaigns, presentations, information session, events hosted, roadblocks and so on.

4.2.5.8 Appointment of people from the DoE to work with the DAEA in the programme

The idea of the DoE appointing people from the department to deal with the environmental issues was accepted by the DAEA officials. They felt that it would make their workload easy. **O1** expressed similar sentiments: *“Yes it can make life easier, because they listen better if the instruction comes from their own Department.”*

4.2.5.9 The Eco-School Programme placed an extra workload on the environmental officers who were responsible for the programme

O2 noted that *“Yes there are many KRAs, and this programme has five themes and each theme needs many environmental projects and you need to include different stakeholders.”*

4.2.6 Responses from the officials of the local municipality (one official)

There was one official from the local municipality who was asked for her opinions about various aspects of the Eco-Schools programme.

4.2.6.1 Knowledge of the Eco-Schools programme

From the responses of the official interviewed about the municipality's understanding of the Eco-Schools programme, it was discovered that they had knowledge of the programme.

MO1 explained that:

This is a programme aimed at influencing and supporting the integration of environmental learning in the existing learning areas in schools by the Department of Environmental Affairs (National and Provincial) as well as environmental organisations like WESSA (in KwaZulu-Natal). It, in turn, supports the Department of Basic Education in integrating environmental management, development and sustainability in the curriculum. Hence creating necessary awareness on the environment in schools and the community at large.

4.2.6.2 Support from the DAEA and DoE in implementing the programme in the District.

Support was given by the two departments with regard to implementing the programme. **MO1** stated that:

The municipalities provide mentorship and guided tours to environmental assets and facilities, like: landfill sites, recycling facilities, wetlands, waterfalls, game parks, and the like. When the municipality is invited by an eco-school to participate in their environment-related events, waste collection services and at times promotional material and refreshments are provided.

4.2.6.3 Management of the programme by the local municipalities

They would like to see the programme managed by local municipalities as was the case with other countries overseas. **MO1** declared that:

I would love to see the programme managed by the local municipalities as soon as they can have enough capacity to establish environmental units under which this

programme can be incorporated. I believe this programme can give local municipalities an active participation in environmental education in schools and community at large.

4.3 CHAPTER SUMMARY

This chapter has discussed the findings of the interviews from the participants. The sample of schools used in the research demonstrated that the Eco-Schools Programme has the potential to bring about education for sustainable development. Furthermore, the involvement and support of all the stakeholders in the Programme is crucial in order to achieve the goals of the Agenda 21.

The following chapter will present the conclusions and recommendations in relation to the research findings.

CHAPTER 5

RESEARCH QUESTIONS, FINDINGS AND RELATED RECOMMENDATIONS

5.1 INTRODUCTION

The aim of the research was to investigate whether the EE was available and effective enough through the Eco-Schools Programme at the Umzinyathi District schools. This chapter provides a summary of the findings and offers recommendations to strengthen the implementation of the Eco-Schools Programme in terms of the statements on environmental education made at the Tbilisi Conference (see paragraph 2.2.3), the Rio Declaration on Environment and Development (sustainable development) as set out in Agenda 21 (see paragraph 2.2.5), the World Summit on Sustainable Development (see paragraph 2.2.6) and the United Nations General Assembly Resolution 57/254 (see paragraph 2.2.7).

5.2. WHY WAS THIS RESEARCH CHOSEN?

5.2.1 Research problem

In the Umzinyathi district, the number of schools registering with the programme is not increasing. It is suspected that many teachers in the district do not know that there is such a programme because of the low number of schools that are Eco-Schools. It is also not clear to what extent the DoE supports the programme, because it is easy to transmit the information to school principals through circulars or else invite the DAEA officials to come and inform the principals themselves. Furthermore, the amount of municipal involvement in the Eco-Schools programme was also questionable. This study intended to clarify all the suspicions and answer the questions behind the programme's slow growth in this district.

It was also not clear if the DAEA has enough resources, both human and physical, to implement, support, monitor and assess the progress of the participating schools. There is one environmental officer who is responsible for servicing the whole circuit and, at the same time, he/she is expected to perform his/her full duties in the department (DAEA). This does not give him/her enough time to visit all the schools within the circuit to give them support. Sometimes, even if they do get the time to visit schools or when the schools need them, they cannot because of the shortage of transport.

5.2.2 How the research was designed and undertaken

Because the researcher intended to visit the participants in their settings and have face-to face interviews, she opted for qualitative research method.

Three methods were used to collect the data in this study, namely, interview site visits and observations and document analysis.

The researcher did site visits to eight schools that were involved with the programme in order to observe the conditions of the schools, such as the neatness and cleanliness of the school grounds, which must be litter free, as well as of the classrooms, and if the schools have vegetable gardens, composts and recycling projects (see table 3.2). Eco-files were observed as evidence of the schools' participation in the programme and learner's books to see if there are any activities on the environment topics.

5.2.3 Limitations of the study

This study focused only on the selected schools falling under the Umzinyathi District, the local DAEA and the local municipalities, also falling under the Umzinyathi District; therefore, the findings cannot be generalised to other districts in KZN or in South Africa.

5.2.4 Sub-problems

The sub-problems of this study were given as the following, their findings and the recommendations

- The level of support to the schools registered with the programme from different stakeholders, such as the DoE, DAEA as well as local municipalities.
- The number of schools registered with the eco-school programme is not increasing.
- The number of human and physical resources from the DAEA to implement support and monitor the programme.

5.3 AIMS AND OBJECTIVES OF THE STUDY

5.3.1 Aims of the study

The aims of the study were to determine if the Eco-Schools Programme is available and effective enough in Umzinyathi district and the factors that might cause the lack of availability and effectiveness of the programme, and to determine how and to what extent different stakeholders - such as the DAEA, the DoE, WESSA, as well as the local municipality - are supporting the programme. Another aim is to find out if the teachers and learners are enthusiastic about the programme and, if they are not, what the reason is.

5.3.2 Objectives of the study

The objectives of the study were to:

- Find out how the DoE supports the programme.
- Ascertain whether the DAEA has enough and effective resources to implement, manage and support the programme and whether the assessment tools and techniques used are effective enough to achieve the goals of the programme.
- Determine what role the local municipality is playing with regard to supporting the programme.
- Determine if the teachers as well as the learners know about the programme and if they are interested in the programme.

The research was chosen to find out if EE is available and effective enough at Umzinyathi District schools through the Eco-Schools Programme. It also intended to find out which challenges face the programme, and what assessment tools the Department of Agriculture, Environmental Affairs and Rural Development (DAEARD), which is now known as the Department of Agriculture and Environmental Affairs (DAEA), is using to assess the progress of the programme for participating schools, as it is the implementing agent. It also intended to look at the involvement of the Department of Education (DoE) at district level in supporting the programme as well as the role the local municipality is playing to support the programme.

5.3.3 Instrumentation and data collection techniques

Three methods were used to collect the data in this study, namely, interviews, site visits and observations and document analysis. Since there are many types of interviews, this study used three: which are interview guide approach, standardised open-ended interviews and in-depth interviews.

The interview guide approach was used to collect data from SGB members, Standardised open-ended interviews were used to collect data from the learners of the participated schools and in-depth interviews were used to collect data from the principals and educators.

Educators were selected because they are the members of the Eco committees in those schools that are Eco-Schools. In those schools that are not registered with the programme, educators were selected so that they could tell if they had ever heard about the Eco-Schools Programme and also about the state of the environment in their schools.

In addition, in-depth-interviews was also used to collect data from the relevant DoE and DAEA officials, the Umzinyathi District Director, Superintendent Educational Management (SEMs) of the four circuits, that is, Nqutu circuit, Endumeni circuit, Msinga circuit and Umvoti circuit and officials of the DAEA and the local municipality.

The researcher used a digital voice recorder and note-taking techniques to record the information, with the consent of the participants, to ensure that all verbal and non-verbal articulations of the participants were recorded. Notes were also be taken by the researcher based on the observations of verbal and non-verbal behaviour of the participants. The interviews were conducted in English and Zulu. Data was then translated from Zulu into English by the researcher.

5.3.4 Observation and site visits

Observations and site visits can also serve as a technique for verifying or nullifying information provided in face-to-face encounters. The researcher did site visits to eight schools those that are registered with Eco-Schools in order to observe the conditions of the schools, such as the

neatness and cleanliness of the school grounds which must be litter free as well as of the classrooms, if the schools had vegetable gardens, composts and recycling projects. Eco-files also were observed as an evidence of the schools' participation in the programme and learners' books to see if there were any activities on the environmental topics.

5.3.5 Document analysis

Records of the historical background of Eco-Schools, documentation regarding educational support offered by the two departments, the records kept by Eco-Schools District Office, physical visits to the schools and portfolios were also compared to the records kept by the DAEA about the progress of the involved schools.

The information was validated and analysed by comparing the input of the respondents to the records kept by the Eco-Schools District Offices, that is, the portfolios of schools will also be compared to the records kept by the two departments on the progress of the schools involved. The researcher also looked at the documents, like the minutes of the eco-committee as well as at the eco-files.

5.3.6 Data analysis and interpretation

To analyse data for the interviews, the researcher followed the steps used when analysing interview data. The researcher listened to the tape several times until she understood what was said by the interviewees. The next step followed was to focus on the analysis. Here the researcher focused the analysis on the different age groups especially at schools, where the responses from the learners from all schools were grouped and analysed together. This also applied to the educators, principals, SGB members as well as SEMs. After that, the data was categorised and the researcher identified connections and patterns between categories. The last step was the use of patterns and connections to explain the findings and attach meaning and significance to the analysis, which is the interpreting of data.

To analyse data recorded from the observations and site visits, the researcher read the data several times and concluded if the information from the Eco-file correspond with what the researcher observed. For example, did the school have a garden, was there any waste of

resources like water and electricity, were the premises free of litter, did they have bins all around the school and was there any sign of a compost heap?

5.3.7 Ethical considerations

The researcher obtained written permission to conduct the study from the Research and Ethics Departmental Committee of the University of South Africa at the Department of Education after submitting the completed Chapter 3.

The researcher also obtained written permission from the KwaZulu-Natal Department of Education to conduct research in KZN Department of Education Institutions. The researcher also obtained the informed and voluntary consent of all participants before involving them in the study. She also provided the participants with a letter containing information pertaining to the research project, as well as the consent form that they had to sign. The researcher explained the purpose and significance of the study to the participants. The participants were given the choice to participate. They were also provided with sufficient information about the study to allow them to decide for or against their participation.

5.3.8 Confidentiality

The participants were assured that the data will be used only for the purpose of the research and that their names will not be mentioned and that their privacy will be ensured. Under no circumstances will the researcher make their identities publicly known. The participants used pseudonyms with which they felt comfortable. Furthermore, the records of interviews have been put in a safe place where only the researcher has access. The voice records of the interviews will be deleted after the final report has been completed.

5.3.9 Anonymity

Maintaining confidentiality of information collected from research participants means that only the investigator(s) or individuals of the research team can identify the responses of individual subjects; however, the researchers must make every effort to prevent anyone outside of the project from connecting individual subjects with their responses.

The core of anonymity is that reports of the data collected should in no way disclose the identity of the participants. In the case of this study, the participants' identities were withheld and protected from disclosure. The use of the tape recorder as the primary instrument to capture the data was explained to them and recordings will be kept secure at all times and will be destroyed after completion of the research. To ensure anonymity, names of participants were not written on the tapes, notes and transcripts. The researcher ensured that data was transcribed and edited by her. Alphabet letters were used instead of their names or any other personal means of identification to hide their identities.

5.3.10 Reliability and validity

The researcher wanted to determine the experiences, feelings, attitudes and opinions of the schools of Umzinyathi District about Eco-Schools Programme in their natural settings from their own perspectives. To ensure the reliability of the study, the researcher employed Gibbs (2007) procedures, and to ensure validity the researcher employed the strategies in Lincoln and Guba (2000) as highlighted by Creswell (2009).

5.4 MAIN FINDINGS

The main findings of the research in relation to the aims of the research are the following:

5.4.1 PRESENTATION OF THE FINDINGS

The list of the schools visited and the number of the participants interviewed per each school is shown above (see table 4.1). It was also explained that, even though the researcher intended

to include 12 schools in the study, only 9 schools gave their consent for participation. The following paragraphs will present the findings of the research from the interviewees conducted.

5.4.2 Findings from the educators

The educators were all asked the same questions.

All the educators seem to know and understand what environmental education is, which is the teaching and learning about the environment. Even the schools that are not Eco-Schools said that they teach it. Teachers indicated that, since it is part of the curriculum, it is easy to teach it. Others said that they don't only teach it, but they practise it. They make sure that when they teach learners something in the class, they see to it that their learners practise it outside of the classroom. The schools that are Eco-Schools do have environmental policies in their schools as one of the requirements of Eco-Schools Programme. Those that are not Eco-Schools don't have environmental policies at their schools. Out of 9 schools interviewed, 6 schools know about Eco-Schools Programme and those are Eco-Schools. Three of the six schools registered in 2005, of which 2 have green flag status and one has reached the 2nd Platinum level. One school that registered in 2011 has green flag status and the one that registered in 2012 has bronze status.

Most of the schools don't know what Whole School Development is. Some educators said that in their schools they do an Eco-Audit even though in some cases not the whole committee is involved and only the co-coordinator does it. The educators said the programme is not difficult to manage when you are used to it. They also mentioned that they need to plan well at the beginning of each year and do things on time and do not wait for the last moment. Schools do get support from the different departments although some said it is not enough. Educators mentioned that the programme does not put an extra load on them because it is part of the curriculum. The feeling is that Environmental Education should be integrated with all the subjects.

5.4.3 Findings from the learners

All the learners were asked the same questions.

All learners understand what the environment is. They all explained it well. They take care of the environment by making sure that the places where they live are clean, by doing things like picking up the litter and planting trees and taking care of them. They said it is important to take

care of the environment because if we don't we will get sick from the dirty environment and from breathing unhealthy air. Learners think that the schools can play a big role in teaching and learning about the environment. They mentioned that the teachers and learners can make posters about the awareness of the environment and stick them up in the community places. Learners understand what Environmental Education is. They did mention that it is teaching about how to take care of the environment.

Only the learners whose schools are registered with the programme know what the Eco-Schools Programme is. Most of the learners did not know what an Eco-Audit is. The researcher had to explain and some responded by saying that they are not always involved in doing it. They mentioned that it's only the teachers who most of the time do it and inform them of their findings. The learners said that they would recommend that all the schools become Eco-Schools because they see a big difference between their schools and those who are not Eco-Schools in terms of taking care of their schools.

5.4.4 Findings from the SGB Members

The SGB members who were interviewed have an idea of what the Eco-School Programme is. All the members were informed by their principals about the programme. They think all the schools should be Eco-Schools because their schools have benefited a lot since they registered with the programme.

5.4.5 Findings from the DAEA

The official of the DAEA who was interviewed believe that the programme is succeeding in meeting the goals of the Agenda 21. The evidence is the numbers of the schools that are registered with the programme in the whole country. As much as the programme is achieving the goals in the country, it is felt that it is not achieving the goals at Umzinyathi District schools if you look at the number of schools from that are registered with the programme.

The challenges they are facing are, among others, the poor attendance by the educators at the workshops, lack of support from the head teachers and a lack of accommodation for workshops.

Monitoring of participating schools, on their side, is also a challenge due to the shortage of transport. Poor support for the school coordinators from the committee members is also a challenge and also the late submission of files by the participating schools.

5.4.6 Findings from the DoE

Even though one of the officials didn't have a full understanding of what the Eco-Schools Programme is, both officials see the programme as an important tool in teaching our children about taking care of the environment. They also think that it would be better if EE become a subject on its own and the Eco-Schools Programme became compulsory in all schools.

Table 5.1 Checklist for school's observation

	SCHOOLS	A	A	B	B	C	C	D	D	E	E	F	F	G	G	H	H	I	I
		Y	N	Y	N	Y	N	Y	N	Y	N	Y	N	Y	N	Y	N	Y	N
1.	Pleasant and welcoming reception.	√		√		√		√		√		√		√		√		√	
2.	Door mats placed at strategic points.	√		√		√		√		√		√		√		√		√	
3.	Well managed school grounds.	√		√		√		√		√		√		√		√		√	
4.	Evidence of learner's involvement in their environment through murals and vegetable garden.	√		√		√		√		√		√		√		√		√	
5.	Adequate heating and ventilation.	√		√		√		√		√		√		√		√		√	
6.	Recycling projects at schools.		X	√		√			X	√			X		X		X		X
7.	Sufficient litter bins available in classrooms, toilets, corridors and playgrounds.	√		√		√		√		√		√		√			X	√	
8.	Availability of compost.	X		√		√			X	√			X		X			√	
9.	Evidence of environmental topics on learner's books.	√		√		√			X	√			X		X	√		√	

Analysing the results from the site visits and observation

From what the researcher observed during the sites visits; this was concluded.

In all seven schools, the reception was pleasant and welcoming, doormats were placed at strategic points, and the school grounds were well managed. There was evidence of learners'

involvement in environmental issues and projects; for example, vegetable gardens, adequate heating and ventilation as well as sufficient litter bins around the schools. Only three schools had recycling projects, SB, SC and SE. Three schools also had compost: SB, SC and SE. In four schools evidence of environmental topics in learners' books was found: SA, SB, SC and SE.

5.5 Presentation of the findings

The list of the schools visited and the number of the participants interviewed per each school are shown above (see Table 4.1). It was also explained that even though the researcher intended to include 12 schools in the study, only nine schools gave their consent for participation. The following paragraphs will present the findings of the research from the interviews conducted.

5.5.1 Factors causing the lack of the availability of the programme.

The findings of the research regarding what caused the lack of availability and effectiveness of EE through the Eco-Schools Programme at the Umzinyathi District schools were, firstly, the lack of support from the different stakeholders, especially the DoE, which was not enough. Secondly, the poor attendance of the educators at the workshops which was caused by the DoE officials who do not cascade the information, like meetings and workshops invitations, to the educators. Thirdly, there was the lack of support from the head teachers and, fourthly, the extra load that the programme put on the DAEA coordinators as well as the school coordinators. Lastly, there was a lack of transport for the DAEA coordinators to use to visit the participating schools for monitoring and support.

5.5.2 Anomalies and surprise findings

The researcher found that school E had been with the programme for more than ten years and it had a platinum status which is the highest status in the whole KwaZulu-Natal Province. This school was also registered with the SEEP (School Environmental Education Programme) which is run by the DAEA, in which it was also doing well. According to school E, the SEEP

seems to operate better than Eco-Schools Programme in terms of implementation and monitoring as well seeming to have more resources, both human and physical. They further elaborate that they do not see Eco-Schools Programme competing with SEEP and succeeding. They also recommended SEEP to other schools rather than the Eco-Schools Programme.

Another surprised finding was that the DAEA is no longer an implementing agent of the Eco-Schools Programme but is instead the implementing agent of SEEP. The Head Office of WESSA is now implementing the programme itself.

5.6 RECOMMENDATIONS

The following recommendations can be made as a direct result of the information gathered during the interviews and the site observations:

- At all the interviewed schools that were Eco-Schools, it was observed that their schools were well managed and maintained. In addition, the resources were saved better than at the schools that were not Eco-Schools. It is recommended that the Department of Education should make the Eco-Schools Programme compulsory for all schools.
- It was discovered that the DAEA alone was not coping in terms of the human and physical resources. The officials of this department stated that sometimes the work load was too heavy since they also had other duties they had to fulfil in their department. So it is recommended that the DoE should appoint people within its department to be in charge of the programme on a daily basis and work with the people from the DAEA.
- Another recommendation that is made based on the research is that the programme should be run by the local municipalities as is the case in some of the European countries, such as the Bornem Municipality in Belgium.
- Since there is another environmental programme which only one school (SE) in the Umzinyathi District is registered with, the recommendation is that the DAEA introduces it to other schools as well, because it doesn't matter who the implementing agent is, so long as it has all the resources needed to run the programme.

With this research, I hope to once again initiate dialogue around the future of EE research. I invite others to contribute to what I have shared in much the same way that I have attempted, humbly, to build on what others before me have done. My findings suggest many opportunities for EE through the Eco-Schools Programme, and emphasize the importance of linking EE research efforts to broadly relevant social, ecological and economic trends. The philosophical perspectives, theoretical lenses, research traditions, and practical tools that EE research can bring to bear on complex socioecological issues make EE researchers particularly well suited to engage in research at multiple levels that are both innovative and highly relevant for society. I believe this can be accomplished by staying rooted in our history as a field committed to the community context (UNESCO 1978), drawing upon the field's pedagogical and social foundations to engage people in productive and motivating dialogue, and pursuing EE research that addresses the complexity of our changing world.

5.5 CHAPTER SUMMARY

The purpose of the study was to assess whether EE was available and effective enough through the Eco-Schools Programme in the Umzinyathi District.

The aims of the study were to look at the factors that caused the lack of availability of the programme in all the schools and the ineffectiveness of EE of the Eco-Schools Programme in the Umzinyathi District schools and to determine how, and to what extent, different stakeholders such as the DAEA, the DoE, as well as the local municipality were supporting the programme. Another aim was to find out if the teachers and learners were enthusiastic about the programme and, if they were not, what the reason was.

The formal education system is the best vehicle to bring about a paradigm shift. However, it must be emphasized that the system cannot do it alone. Sustaining one's world to cover the right of survival for all living organisms requires everyone to lobby more aggressively to implement environmental and sustainability education. Sustainable development and education can only take place if it becomes a way of life. This can be achieved through whole school development that is essential to the Eco-Schools Programme and the National Education Policy. Whole school development has the capacity to bring together local activists, traditional teachers, indigenous knowledge and non-governmental organisations that have gained

knowledge through experience or personal interest in environmental issues. The Eco-Schools Programme is recognised by the United Nations Environmental Programme (UNEP) as among its “preferred school-based/children and youth global model programmes for environmental education, management, sustainability and certification at the international level.”

From the research findings, it can be concluded that EE through the Eco-Schools Programme is not available and effective enough at the Umzinyathi District schools.

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Appendix 1

Letter of request to conduct the research from the Department of Basic Education



kzn education

Department:
Education
KWAZULU-NATAL

Application for Permission to Conduct Research in KwaZulu Natal Department of Education Institutions

1. Applicants Details

Title: Prof / Dr / Rev / Mr. / Mrs. / Miss / Ms

Surname: Buthelezi

Name(s) Of Applicant(s): Sibongile Alleta

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Dundee

3000

2. **Proposed Research Title: An assessment to assess the non-availability and ineffectiveness of Environmental Education through Eco-Schools Programme at Umzinyathi District schools.**

3. **Have you applied for permission to conduct this research or any other research within the KZNDoe institutions?**

Yes

No

If "yes", please state reference Number: N\A

4. Is the proposed research part of a tertiary qualification?

Yes	No
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If “yes”

Name of tertiary institution: University of South Africa

Faculty and or School: Teacher Education

Qualification: Masters Degree

Name of Supervisor: Prof C.P. Loubser

Supervisors Signature _____

If “no”, state purpose of research: N/A

5. Briefly state the Research Background

The Curriculum 2005, hereafter referred as C2005, Review Committee presented its report on 31 May and confirmed the limitations of C2005 (Choma.2003:15). The Revised National Curriculum Statement,(RNCS) made some changes and reduced the features of C2005 to 3, viz: critical and development outcomes, learning outcomes and assessment standards (Department of Education 2001 3).The committee also recommended that C2005 be streamlined and strengthened to emphasize Environmental Education (EE) (Lotz-Sistka & Raven.2001:9).and that EE should receive “special attention” in the revised curriculum (Lotz-Sistka & Raven.2001:67). In light of this, there is a need for effective EE, since the task of the EE has usually been assigned to academics because most environmental educators did not have the academic training to do so (Loubser.1992:90). Basic concepts of the EE have been partially addressed by South African authors (Loubser.1992:90). On the other hand, very little teacher development has taken place, and other teachers have to learn new jargon related to both Outcome Based Education (OBE) and EE (Le Grange & Reddy.1997:15-16).

6. What is the main research question(s):

The general research question that requires the investigation is as follows:

Is EE through Eco-Schools Programme available and effective enough to all schools of Umzinyathi District? If not, what are the factors?

7. Methodology including sampling procedures and the people to be included in the sample:

7.1 Research design and methods

The study will use the qualitative research design

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7.2 Sampling

The study will be conducted in 4 circuits of Umzinyathi District. From each circuit, 3 schools will be selected from different wards. The first school will be the school which has a green eco flag, the second school will be the school that is working towards getting a green eco flag and the third school will be the school which is not an eco school. SGB members of the involved schools will also be part of the participants. District Director, SEMs of the 4 circuits, officials of the local Municipality as well as of the DAEARD will also be part of the participants.

8. What contribution will the proposed study make to the education, health, safety, welfare of the learners and to the education system as a whole?

The results of the study will be useful to all stakeholders in the following manner:

- The research findings will inform policy-making in spheres of the government and at the District level since research findings are usually publicized to the public domain and are subjected to the public discourse.
- The District management of Education, Environment as well as Municipality, will be aware of the problem and give necessary support where possible.
- The national/or provincial departments may consider the results of the study and figure out the type of support in terms of workshops, refresher courses or in-service training that would be needed for EE and Eco-Schools Programme.
- The knowledge that would have been revealed by the study, will contribute to the body of knowledge.
- Furthermore, the study will address the topic from a South African perspective and context by focusing at Umzinyathi District.

KZN Department of Education Schools or Institutions from which sample will be drawn – If the list is long please attach at the end of the form

NANE OF SCHOOL	CIRCUIT	
1.Luvisi Primary	Nqutu	
2.Mashesheleng Secondary	Nqutu	
3.Ncome Primary	Nqutu	
4.Oscarsberg Primary	Endumeni	
5.Shiyane High	Endumeni	
6.Morningside Secondary	Endumeni	
7.Zimisele Primary	Msinga	
8.Zwelihle High	Msinga	

9.Pomeroy Primary	Msinga	
10.Ophathe Primary	Mvoti	
11.Mkhuphula Primary	Mvoti	
12.Keates Drift Primary	Mvoti	

9. Research data collection instruments: *(Note: a list and only a brief description is required here - the actual instruments must be attached):*

Data shall be collected using interview guide approach for SGB members, standardized open-ended interviews for learners, in-depth interviews for principals and educators, site visits for Eco-Schools and informal conversation interview for the District Director, SEMs, officials of the Department of Agriculture and of the Municipality.

10. Procedure for obtaining consent of participants and where appropriate parents or guardians:

Consent/Assent forms will be sent out together with the letter inviting participants or requesting permission from guardians that minors participate in the study.

11. Procedure to maintain confidentiality (if applicable):

I, the researcher, shall maintain the confidentiality of all data collected from or about the research participants, and impose strict controls in maintenance of privacy. I shall record all the data captured during interview in accordance with ethical guidelines outlined in paragraph 5 of UNISA's Policy of Research Ethics which places a huge emphasis on the integrity of the research and I shall ensure that I conduct the research with the highest integrity taking into account UNISA's Policy for Copyright Infringement and Plagiarism.

12. Questions or issues with the potential to be intrusive, upsetting or incriminating to participants (if applicable):

Not Applicable.

13. Additional support available to participants in the event of disturbance resulting from intrusive questions or issues (if applicable):

The researcher will be present to attend to respondents' queries and concerns that might arise and politely resolve them, failing which; issues may be referred to the Supervisor.

14. Research Timelines :

Research Proposal (MPCHS91) registered : March 2011

Research Topic accepted : March 2012

Research Module passed : N/A

Dissertation (DFEDU95) registered : January 2013

Notice to submit dissertation : September 2015

Submission of dissertation : November 2015

The researcher aims to go to the field to collect data in July 2015. Analysis of results will be done in August 2015, thereafter the researcher will apply for submission. The examination will be planned by Unisa.

15. Declaration

I hereby agree to comply with the relevant ethical conduct to ensure that participants' privacy and the confidentiality of records and other critical information.

I, Sibongile Alleta Buthelezi, **declare that the above information is true and correct**

Signature of Applicant

Date

16. Agreement to provide and to grant the KwaZulu Natal Department of Education the right to publish a summary of the report.

I/We agree to provide the KwaZulu Natal Department of Education with a copy of any report or dissertation written on the basis of information gained through the research activities described in this application.

I/We grant the KwaZulu Natal Department of Education the right to publish an edited summary of this report or dissertation using the print or electronic media.

Signature of Applicant(s)

Date

Appendix 2: A response from the Department of Basic Education



education

Department:
Education
PROVINCE OF KWAZULU-NATAL

Enquiries: Nomangisi Ngubane

Tel: 033 392 1004

Ref.:2/4/8/528

Mrs SA Buthelezi
01 Azalia Street
DUNDEE
3000

Dear Mrs Buthelezi

PERMISSION TO CONDUCT RESEARCH IN THE KZN DoE INSTITUTIONS

Your application to conduct research entitled: “**AN ASSESSMENT TO ASSESS THE NON-AVAILABILITY AND INEFFECTIVENESS OF ENVIRONMENTAL EDUCATION THROUGH ECO-SCHOOLS PROGRAMME AT UMZINYATHI DISTRICT SCHOOLS**”, in the KwaZulu-Natal Department of Education Institutions has been approved. The conditions of the approval are as follows:

1. The researcher will make all the arrangements concerning the research and interviews.
2. The researcher must ensure that Educator and learning programmes are not interrupted.
3. Interviews are not conducted during the time of writing examinations in schools.
4. Learners, Educators, Schools and Institutions are not identifiable in any way from the results of the research.
5. A copy of this letter is submitted to District Managers, Principals and Heads of Institutions where the intended research and interviews are to be conducted.
6. The period of investigation is limited to the period from 01 September 2015 to 30 September 2016.
7. Your research and interviews will be limited to the schools you have proposed and approved by the Head of Department. Please note that Principals, Educators, Departmental Officials and Learners are under no obligation to participate or assist you in your investigation.
8. Should you wish to extend the period of your survey at the school(s), please contact Miss Connie Kehologile at the contact numbers below.
9. Upon completion of the research, a brief summary of the findings, recommendations or a full report / dissertation / thesis must be submitted to the research office of the Department. Please address it to The Office of the HOD, Private Bag X9137, Pietermaritzburg, 3200.
10. Please note that your research and interviews will be limited to schools and institutions in KwaZulu-Natal Department of Education.

UMzinyathi District

A handwritten signature in black ink, appearing to be 'Nkosinathi S.P. Sishi', written over a horizontal line.

Nkosinathi S.P. Sishi, PhD
Head of Department: Education
Date: 27 August 2015

Appendix 3: Ethical Clearance letter

COLLEGE OF EDUCATION RESEARCH ETHICS REVIEW COMMITTEE

15 July 2015

Ref # :2015/07/15/33607133/15/MC
Student#: Mrs SA Buthelezi
Student Number 33607133

Dear Mrs Buthelezi

Decision: Ethics Approval

Researcher

Mrs SA Buthelezi

Tel: +2734 212 4211/+2772 159 8407 33607133

emvlife.untsa.ac.za

Supervisor

Prof C.P Loubser

College of Education

Department of Science and Technology Education

Tel: +2712 429 4614

Loubscp@unisa.ac.za

Proposal: An assessment of availability and effectiveness of environmental education through the Eco-Schools programme at Umzinyathi District schools


Qualification: M Ed in Environmental Education

Thank you for the application for research ethics clearance by the College of Education Research Ethics Review Committee for the above-mentioned research. Final approval is granted for 2 years.

For full approval: The application/ resubmitted documentation was reviewed in compliance with the Unisa Policy on Research Ethics by the College of Education Research Ethics Review committee on 15 July 2015.

The proposed research may now commence with the proviso that:

- 1) The researcher/s will ensure that the research project adheres to the values and principles expressed in the UNISA Policy on Research Ethics.
- 2) Any adverse circumstance arising in the undertaking of the research project that is relevant to the ethicality of the study, as well as changes in the methodology, should be communicated in writing to the College of Education Ethics Review Committee.



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An amended application could be requested if there are substantial changes from the existing proposal, especially if those changes affect any of the study-related risks for the research participants.

- 3) The researcher will ensure that the research project adheres to any applicable national legislation, professional codes of conduct, institutional guidelines and scientific standards relevant to the specific field of study.

Note:

The reference number 2015/07/15/33607133/ 15/MC should be clearly indicated on all forms of communication [e.g. Webmail, E-mail messages, letters] with the intended research participants, as well as with the College of Education RERC.

Kind regards,



Dr M Claassens
CHAIRPERSON: CEDU RERC
mcdtc@netactive.co.za University of So



Prof VI McKay
ACTING EXECUTIVE DEAN

APPENDIX 4: A Parental Consent letter.

Dear Parent/ Guardian

Your child is invited to participate in a study entitled 'An assessment of the availability and effectiveness of environmental education through the Eco-Schools Programme at Umzinyathi District schools'. I am undertaking this study as part of my Masters research at the University of South Africa. The purpose of the study is to understand how school related and home related factors cause poor in Physical Sciences in Public high schools of Libode District, Eastern Cape and the benefits of the study are the improvement of the pass rate in Physical Sciences. I am asking permission to include your child in this study because he/she was identified by his/ her school. I expect to have nineteen other learners from his/her school participating in the study.

If you allow your child to participate in the study, I shall request him/ her to provide information by means of a questionnaire and to complete a test. Any information that is obtained in connection with this study and can be identified with your child will remain confidential and will only be disclosed with your permission. His/ her responsibilities will not be linked to his/her name or your name or the school's name in any written or verbal report based on this study. Such a report will be used for research purposes only. The researcher will try by all means to keep the confidentiality of the information provided by your child. There are no direct benefits from participating in the study. However, possible benefits to education are improving performance in Environmental issues. Neither your child nor you will receive any type of payment for participating in this study.

Your child's participation in this study is voluntary. Your child may decline to participate or to withdraw from participating any time. Withdrawal or refusal to participate will not affect him/her in any way. Similarly, you can agree to allow your child to be in the study now and change your mind later without any penalty.

The study will take place during regular class activities with the prior approval of the school and your child's teacher. However, if you do not want your child to participate, an alternative activity will be available. In addition to your permission, your child must agree to participate in the study and you and your child will also be asked to sign the assent form which accompanies this letter. If your child does not wish to participate in the study, he/ she will not be included and there will be no penalty.

If you have questions about this study, please ask me or my study supervisor, Prof CP Loubser, Department of Science and Technology, College of Education, University of South Africa. My contact number is 072 1598 407 or by email at 33607133@mylife.unisa.ac.za. The email for my supervisor is loubcp@unisa.ac.za. Permission for the study has already been granted by the Eastern Cape Education Department and the Ethics committee of the college of education, UNISA.

You are making a decision about allowing your child to participate in this study. Your signature below indicates that you have read the information provided above and have decided to allow him/ her to participate in the study. You may keep a copy of this letter.

Name of child: _____ child's signature _____ Date _____

Parent/ Guardian's name _____ Parent or Guardian's signature _____ Date _____

Researcher's name _____ Researchers signature _____ date _____

APPENDIX 5: Schedule for interviews for principals and teachers (In-depth interview)

1. Do you know what environmental education is? Explain.
2. If yes, how does your school teach it?
3. Does your school have an environmental policy? If yes, what does it say about Environmental education?
4. What do you know about the Eco-Schools Programme?
5. Is your school registered with Eco-Schools Programme? If yes:
 - When did it register?
 - What is your school's Eco-Schools status?
 - What is your experience with Eco-Schools programme?
 - How have you benefited from being an Eco-School?
6. Have you heard about whole school development? Explain?
7. Tell me about the Eco-Audit? Who is involved in doing it?
8. Is the Eco-Schools Programme easy to manage? What challenges do you encounter?
9. What support do you get from your environmental co-coordinator from the DAEEA, DoE, and from your local municipality?
10. Are you satisfied with the support you get? Explain.
11. Does the Eco-School programme place an extra load on the teachers and SMT? Explain.

Appendix 6: Interview Schedule for learners (standardized open-ended interview)

1. What is an environment?
2. How do you take care of the environment in your school/community?
3. Why do you think it is important to take care of our environment?
4. What role do you think education/schools can play in teaching and learning about the environment?
5. Do you know anything about environmental education? Can you explain it?
6. Do you know what an Eco-School Programme is? What do you know about it?
7. Is your school registered with it? If yes, when and what is your Eco status?
8. Are you always involved in the school's Eco-audit?
9. If you can assess your school, do you see any improvement as far as taking care of the environment is concerned after your school became an Eco-School?

Appendix 7: Interview Schedule for the SGB (interview guide approach)

1. Do you know what an Eco-School Programme is?
2. How did you learn about it?
3. Are you a member of the Eco-committee in your school? How were you elected?
4. What has changed in your school since it started to be an Eco-School? Can you recommend that all schools become Eco-Schools? Explain.

Appendix 8: Interview Schedule for the officials of the DoE (District Director and SEMs: In-depth interview)

1. Can you please explain what you know about Eco- Schools Programme? When was it introduced in South Africa?

2. Do you have a number of schools which are registered with the Programme in your circuit/district/ward? How many of those schools have green flag status? How many have international certificate status?
3. If you look at the records of the total number of schools in your circuit/district/ward, are you happy about the number of the Eco-Schools?
4. What problem/challenges might there be?
5. As far as you are concerned, do you think or see Eco-Schools Programme as an important or necessary tool in teaching our children about taking care of the environment? Please explain.
6. Do you think that Environmental Education deserves to be a subject on its own and should being an Eco-School be compulsory for all schools? What about the DoE to appoint people who will work with the DAEA in this programme?

Appendix 9: Interview Schedule for the officials of the DAEA (In-depth interview)

1. Eco-Schools Programme was introduced in 2003 in South Africa – which makes it 11 years old. Would you say it is succeeding in meeting the goals of the Agenda 21? Please explain.
2. As an implementing agent here at Umzinyathi district, would you say you are also succeeding in meeting the goals of the Agenda 21? If yes, how?
3. Since 2003, are you happy with the number of schools registering with the Programme? How many are there now? How many have achieved green flag status and how many the International certificate?
4. What challenges and problems are you facing in implementing, supporting, monitoring as well as assessing the programme? What support do you get from the DoE as well as the local Municipality? Do you have enough physical and human resources to run the programme?
5. Would you recommend EE to be a subject on its own and the Eco-Schools Programme to be compulsory to all South African schools?
6. Do you think it would be better if the DoE appointed people from its department to work with your department in this programme?

7. Does the Eco-School Programme create an extra work load for the Environmental Officers who are responsible for the Programme?

Appendix 10: Interview Schedule for the officials of the local Municipality (In-depth interview)

1. What do you know about the Eco-Schools Programme? Explain.
2. What support do you give to the DAEA and the DoE in implementing the programme in your District?
3. Would you like to see this Programme managed by the local Municipalities, as happens in other European countries, like Belgium, Bornem Municipality?

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