CHAPTER ONE
OVERVIEW AND RATIONALE

1.1 INTRODUCTION AND BACKGROUND

Environmental education in Swaziland began in the 1970's mainly through the efforts of the Swaziland National Trust Commission (a parastatal organisation), non-governmental organisations and individual efforts (Swaziland Environmental Authority (SEA) 1997:76). Allen (2000:3) states that environmental education took early root in Swaziland because the country has a rich culture and traditions with important environmental considerations.

As part of the global community, Swaziland is not immune from environmental problems experienced worldwide. For this reason, Swaziland has identified herself with the global concern for the environment as expressed in the Stockholm Conference of 1972 and the determination to arrest and reverse the degradation of the environment (National Curriculum Centre (NCC) 1986:1). Swaziland is a signatory of a number of international conventions and a member of several environmental bodies. These include the United Nations Environment Programme (UNEP), the Convention to Combat Desertification (CCD), the World Resource Institute and others (SEA n.d.:87). Swaziland was one of the 34 African countries that took part in the United Nations Conference on Human Development in Stockholm.

In 1975 the National Environmental Education Programme (NEEP), the national body for environmental education was created (SEA 1997:76; SEA 2000:8). NEEP has been instrumental in the establishment of Malolotja Environmental Education Centre and the Clean and Beautiful Forum (SEA 2000:8). In 1987 NEEP staff members founded *Yonge Nawe Action Group* as a non-governmental organisation with the aim of creating conservation clubs in schools and communities and this organization according to Kidd (1993:28), is probably the most far reaching in the non-formal environmental educational sector. Yonge Nawe, together with NEEP and government extension services, shoulder most of the responsibility for non-formal environmental education (SEA n.d.24).

In 1992 the Swaziland Environment Authority (SEA) was created as a statutory body within the Ministry of Tourism, Environment and Communications. The SEA is charged with the responsibility to co-ordinate all environmental matters, which include promoting the development of policies, legislation and enforcement mechanisms for sound environmental management and regulating all development planning and implementation (SEA n.d.:8). The Swaziland Environment Authority is also statutorily obliged to promote and co-ordinate environmental education in Swaziland (SEA 2000:8). This is contained in the Swaziland Environment Authority Act, 1992, Section 5 (g). The Government of Swaziland has committed itself to environmental education through Chapter 36 of Agenda 21 as agreed at the Rio de Janeiro Earth Summit (SEA 2000:8).

1.2 FORMAL ENVIRONMENTAL EDUCATION IN SWAZILAND
1.2.1 Primary School Level

In 1983-1984, while Swaziland was developing her own primary school curriculum, initiatives were taken to integrate environmental concerns into some subjects such as Science, Practical Arts, Home Economics and Agriculture (Allen 2000:4; SEA 1997:76).

1.2.2 Secondary and High School Level
At Junior Certificate level (junior secondary), a subject called "Development Studies" which incorporated environmental education was designed and taught in schools as from 1980 (SEA 1997:76; Examinations Council of Swaziland 2000/2001:68). (Development Studies is described in detail in paragraph 1.3). At high school level (senior secondary) there are some subjects (such as Geography, Biology and Agriculture) that contain environmental elements (SEA 1997:76). However, these subjects have not been made compulsory in schools.

1.2.3 Tertiary Level

At the University of Swaziland (UNISWA), only the Geography and Environmental Studies Department offers specific courses on Environment Studies (SEA 1997:76). From 1994/95 academic year students doing B.Sc. have been able to specialise in Environmental Science (UNISWA 2001/2002:254). The Faculty of Science also offers a Master's degree with Environmental Chemistry as one of the specialisations and a Master's degree in Environmental Resource Management. The Faculty of Agriculture offers a course called Soil and Water Conservation (course code, LUM 302) in the third year of the Diploma in Agriculture and Diploma in Agricultural Education programmes (UNISWA 2001/2002:118 & 121). Further, the Faculty of Health Sciences offers courses with environmental concerns in their Diploma in Environmental Health Science and Bachelor of Science in Environmental Health programmes. Examples of such courses are Solid Waste Management (course code, EHS 205) and Environmental Impact Assessment (course code, EHS 402) (UNISWA 2001/2002:202 & 217).

The Swaziland College of Technology (SCOT) does not offer environmental education (SEA 1997:76). SCOT is the main source of technical and vocational training in Swaziland. It offers a variety of courses in electrical, technology, motor mechanics and fitting and turning. It provides training in carpentry, sheet metal and building technology. SCOT provides training in secretarial, accounting and in related commercial fields (Government of Swaziland 1985: 45-46). SCOT also offers training for commercial and technical teachers at diploma level.

Other than SCOT and UNISWA, there are three teacher training colleges in Swaziland. These are the Manzini Nazarene Teacher Training College, William Pitcher College and Ngwane College. Manzini Nazarene Teacher Training College and Ngwane College offer a three-year Primary Teachers' Diploma while William Pitcher College trains secondary school teachers at diploma level in the Languages, Sciences, Mathematics and Social Studies (History, Geography and Religious Knowledge). The teacher training colleges made efforts to incorporate some environmental issues within existing courses particularly in science and social studies when their two-year certificate programmes were upgraded to

three-year diploma courses in 1987 (Mthethwa 1993:204; SEA 1997:76; SEA 2000:27). This study will now focus briefly on Swaziland's National Environmental Education Strategy.

1.2.4 National Environmental Education Strategy

According to SEA (1997:79), Swaziland does not have an Environmental Education Policy. A draft National Environmental Policy was completed in January 1999, but it is still awaiting cabinet approval (SEA n.d.:62). The development of a National Environmental Education Strategy has been identified as a priority by the government of Swaziland. Environmental education is part of the strategy as outlined by the SEA. The strategy was published in May 2000. In its development, broad policy statements will have to be pursued. These will include:

- Integration of environmental education into the primary school curriculum through infusion into existing subjects and not through the creation of a separate environmental education course.
- Integration of environmental education into junior secondary level through the subject "Development Studies".
- Integration of environmental education into relevant secondary level subjects under appropriate topics and tied to existing environmental problems and issues.
- Introduction of environmental education into all tertiary education institutions (SEA 1997:79).

A brief description of Development Studies will now follow.

1.3 DEVELOPMENT STUDIES

This is a school subject, which according to SEA (1997:79) was designed with a view to integrate environmental education into junior secondary level. It is a cluster of subjects. Development Studies draws upon such disciplines as History, Geography, Civics, Commerce, Sociology, Anthropology and others. Environmental topics have been infused into this subject. This subject has been placed under Social Studies together with History

and Geography. According to the Examinations Council of Swaziland (2000/2001:68), as from 1980, Geography, History and Development Studies constituted a new group of subjects. Development Studies has its own curriculum designer (who is different from the Social Studies curriculum designer) based at the National Curriculum Centre in Manzini. The Social Studies Inspector is responsible for the teaching of this subject in schools. Development Studies exists alongside the traditional subjects such as History, Geography, Religious Knowledge and so on.

According to the Examinations Council of Swaziland, the aims of teaching Development Studies in schools are:

1. To increase the learners' knowledge and understanding of the problems and processes of development (cultural, social, economic and political change).
2. To equip learners with the intellectual and social skills required for responsible citizenship and participation in community and natural development.
3. To develop attitudes and values conducive to social harmony, natural unity and economic progress (Examinations Council of Swaziland 2000/2001:68).

1.4 WHY ENVIRONMENTAL EDUCATION IN SWAZILAND?

Swaziland is one of the smallest countries in the world, but has a high population growth and rapid urbanisation (SEA 2000:13). Swaziland has an average population growth rate of about 3.2 per cent per annum (Economic Planning Office 1993:37), and this rate is relatively high. This high population growth rate is placing a great strain on the natural resources. Consequently, there is a growing, uncontrolled demand for natural resources such as water, land and vegetation in the country. Environmental education, therefore, is one important and essential step for improving the state of the environment in Swaziland (Saxena 1996:v).

The rapid urbanisation in Swaziland is manifested in the springing up of unplanned settlements with low quality housing, poor sanitation and unhealthy living conditions and shortage of job opportunities for the urban population. These conditions have culminated

in a significant degradation of the environment in Swaziland (SEA 2000:13). Environmental education is the main vehicle which Swaziland could use to create environmental awareness. This can go a long way into reducing environmental degradation. It is assumed that educating people and raising their awareness about the environment is one way of tackling environmental problems. It is argued that personal lifestyles and behaviour which are in harmony with the environment can be developed through education and teaching (UNESCO; Robottom in Bowen, 1994; Ballantyne & Packer in Gebreab & Bak 2000:8). The 1977 Tbilisi Conference also recommended that environmental education should be provided for all ages, at all levels and in both formal and non-formal education (UNESCO 1980:11).

1.5 PROBLEM STATEMENT

Development Studies as a school subject was designed with a view to integrate environmental education into the secondary school curriculum (see paragraphs 1.2.1 and 1.2.3). It would appear that the subject has not been popular in schools. In 2001 Development Studies was taught in eleven schools in Swaziland and in 2002 the number of schools offering the subject declined to nine (Examinations Council 2003). It would appear that the subject through which environmental education is incorporated into the secondary school curriculum is unpopular with teachers and learners to the point of being phased out of the school curriculum in Swaziland. Even in schools where the subject is offered, it has been made an elective.

In addition, there is no tertiary institution in Swaziland which trains teachers in Development Studies. However, it is expected that a teacher who has not had any training in Development Studies should teach the subject. These teachers may not be familiar with the methods and strategies to teach environmental education effectively.

It would appear that environmental education has not yet been made an integral part of the curriculum in secondary education in Swaziland. There are, however, subjects that contain elements of the environment that are offered in secondary schools in Swaziland. These subjects include, among others, Geography, Biology and Agriculture. It would appear that

these school subjects that are supposed to introduce learners to aspects of the natural environment are taught as if there were nothing wrong with the environment and as if the environment were just another terrain, far removed from where learners live (Schreuder 1991/2:11). It also appears that these subjects are not taught with the primary aim of stimulating positive attitudes towards the environment, but rather that of imparting knowledge. It is expected that schools should afford their learners the opportunities to acquire knowledge, values, attitudes, commitment and skills to protect and save the environment and to create new patterns of behaviour (Saxena 1996:37).

Against this background, the researcher felt the need to undertake a formal study to pursue the following research question.

1.6 RESEARCH QUESTION

The study seeks to answer the following research question:

1. What do secondary school teachers think of Development Studies as a school subject?

1.7 OBJECTIVES OF THE STUDY

The main objectives of the study are as follows:

1. To explore the views of secondary school Development Studies teachers on the subject in Swaziland and then to generate a theory by means of a grounded theory against these views. The research is basically an in-depth exploration of Development Studies teachers' views, claims and concerns with the view to elicit adequate and substantial information so that characteristics, patterns and other aspects of the subject are highlighted (Shongwe 1996:39).

2. To describe an educational approach for secondary school Development Studies teachers.

1.8 OVERVIEW OF THE RESEARCH DESIGN AND METHOD

In the context of this study, "research design" refers to the road map or blueprint according to which the researcher intends achieving his research goal and objectives (De Vos & Fouche 1998: 99). Research design basically concerns the researcher's plan of how to carry out the research (Bogdan & Biklen 1992:58). The research design followed in this study will include information about who will be studied (respondents), what will be studied in the respondents, when will the study occur and how these data will be gathered (De Vos & Fouche 1998:99).

This will be a grounded theory study. The grounded theory approach refers to "a qualitative research method that uses a systematic set of procedures to develop an inductively derived grounded theory about a phenomenon" (Strauss & Corbin 1990:24). The use of the systematic sampling and data analysis will enable the researcher to develop a grounded theory (De Vos & Fouche 1998:81). On the basis of the phenomenon being investigated, the study will assume a qualitative, explorative, descriptive and contextual grounded theory design. A qualitative design entails exploring the participants' "feelings, thoughts, or observations" about the phenomenon under investigation (Krueger & Casey 2000:202). Since the study is largely on perceptions that deal with teachers' views, most of which cannot be quantified, qualitative approach seems appropriate. However, this will be a flexible design as it may change as the study progresses. Taylor and Bogdan (1984:5) state that in qualitative studies, researchers pursue a flexible research design and that they commence their studies with vaguely formulated research questions. Research design and method followed in this study will be discussed in detail in Chapter Two.

1.8.1 Ethical measures

Ethics in the context of this study refers to a set of moral principles which is suggested by an individual or group as widely accepted, and which offers rules and behavioural expectations about the most correct conduct towards respondents, employers, sponsors, other researchers, assistants and students (Strydom 1998:24). Various authors have discussed ethics in research extensively (Bogdan & Biklen 1992:42; Cohen & Manion 1994:366-367; Berg 1998:31-46). The researcher will ensure that ethical measures are

observed in this study. Ethical measures in research will be discussed in greater depth in Chapter Two.

1.8.2 Trustworthiness

Trustworthiness refers to how the information collected is to be declared as true, applicable, consistent and not in any way influenced by the researcher (Shongwe 1996:63). Trustworthiness in this study is synonymous with what is generally referred to as validity and reliability in research (Schurink, Schurink & Poggenpoel 1998:331). In this study, trustworthiness measures will be taken into account. Guba & Lincoln (in Schurink, Schurink and Poggenpoel 1998:331) state that trustworthiness in qualitative research can be applied successfully. Using the four criteria of Lincoln and Guba's model will ensure trustworthiness in this study. These criteria are truth value, applicability, consistency and neutrality (Guba & Lincoln 1994:114; Schurink, Schurink & Poggenpoel 1998:331). The criteria for trustworthiness will be discussed in detail in Chapter Two.

1.8.3 Research method

Various authors have defined research differently (Kerlinger 1986:10; De Vos, Schurink & Strydom 1998:21; Lebeloane 1998:20). De Vos, Schurink and Strydom (1998) have fused research definitions from various sources (Grinnell 1993; Rothman & Thomas 1994; Rahman 1993) and came up with the following definition that is embraced in this study. Research is viewed as "a scientific enquiry into a relevant problem that provides an answer contributing to an increase in the body of generalisable knowledge about the particular profession; applied professional research is geared to the development of knowledge and technology with participatory action research in that professional researchers should empower research participants to understand and solve their situation and problems, become aware of their potential and regain their sense of dignity, so as to take collective action for their self development" (De Vos, Schurink & Strydom 1998:20).

In order to understand the perceptions of secondary school Development Studies teachers on environmental education, the study will employ the unstructured face-to-face individual interviews. This method will enable the researcher to gather descriptive data in

the respondents' own words, so that the researcher can develop insights into how the respondents interpret their world (Bogdan & Biklen 1992:96). The researcher will begin on the premise that he does not know in advance what all the necessary questions are and therefore, he cannot predetermine fully a list of questions (Berg 1998:61). However, the researcher will develop, adapt and generate questions and follow-up probes relevant to the given situation and the main purpose of the study (Berg, ibid.).

1.8.3.1 Sample

Sample refers to a total small fraction of the total set of objects, events or persons that together constitute the subject of the study (Arkava & Lane 1983:27 in Strydom & De Vos 1998:190). Cohen and Manion (1994:87) assert that owing to factors of expenses, time and accessibility; it is not always possible or practical to get measures from a population. They state that researchers, therefore, try to get information from a smaller group of subjects of the population in such a way that the knowledge gained is representative of the total population. The smaller group is called 'sample'.

There is a general notion in research that the larger the population, the smaller the sample to be and that if the population itself is relatively small the sample should constitute a reasonably large percentage of the population (Strydom & De Vos 1998:191). However, qualitative researchers determine their sample as the study progresses (Taylor & Bogdan 1984:18). This study will employ purposive sampling. This type of sampling will be described in detail in Chapter Two.

1.8.3.2 Data collection

The researcher is the key instrument in qualitative research. However, field notes and a tape recorder will be used as instruments to collect data in this study. The interview will be recorded on an audiotape and the respondents' attention will be drawn to this prior to the interview. Bogdan & Biklen (1992:128) suggest that when a study entails extensive interviewing as a major technique, then a tape recorder should be used.

1.8.3.3 Data analysis

Huberman and Miles (1994:428-429) assert that data analysis in qualitative research comprises of three linked sub processes: data reduction, data display and conclusion drawing/verification. These processes take place before data collection, during study design and planning; during data collection as interim and early analyses are carried out; and after data collection as final products are approached and completed.

The researcher will transcribe the interview tapes, read the transcript and make notes. The transcript will be coded and coding categories will be developed to organise the data (Krueger & Casey 2000:130). An inductive, open-ended coding approach will be adopted when analysing the data. This is because the researcher will not be testing predetermined ideas, but he will be constructing a theory that is grounded in the people, in the setting under study (Schurink 1998:282). After data have been generated, the researcher will attempt to find relationships or patterns through close examination of the data (Poggenpoel 1998:336).

1.8.3.4 Literature control

Literature study in research can take the form of technical literature and non-technical literature. Technical literature includes background materials against which the researcher compares findings from actual data gathered. On the other hand, non-technical literature could be materials that can be used as primary data or to supplement interviews and field observations in grounded theory studies (Strauss & Corbin 1990:48).

Literature study will form part of this study. Relevant literature will be reviewed and analysed to establish the context of the study. Literature study will be used, among other reasons, to stimulate theoretical sensitivity by providing concepts and relationships that will be checked against actual data (Strauss & Corbin 1990:50) Theoretical sensitivity refers to the attribute of having insight, the ability to give meaning to data, the capacity to understand and capability to separate the pertinent from that which is not (Strauss and Corbin 1990:42). A description of the form this study will take follows.

1.9 DIVISION OF CHAPTERS

This study will assume the following form:

Chapter Two contains a detailed explanation of the research methodology followed in this study. Chapter Three entails the research results on perceptions of secondary school Development Studies teachers in Swaziland on Development Studies. Chapter Four includes cross validation and literature control. Chapter Five presents the conclusions emanating from the study. This chapter also presents recommendations that shall be based on the researcher's experience, the review of the literature, data recorded and the results of the analysis.

CHAPTER TWO
RESEARCH METHODOLOGY

2.1 INTRODUCTION

Chapter one dealt with background information and an overview of what this research report will entail. Chapter one also presented an introduction to the investigation, the problem statement, the aim of the investigation, a description of the methods of investigation, and an explanation of concepts. Chapter Two presents a detailed account of research design followed in this study. The study followed a qualitative, explorative, descriptive and contextual grounded theory design.

In this chapter, qualitative research will be briefly discussed and its role and importance discussed within the context of this study. The procedure followed in conducting this study will be described. A concluding summary based on this chapter will be made.

2.2 RESEARCH DESIGN

The purpose of the study was to explore the views of secondary school Development Studies teachers on the subject in Swaziland and to generate a theory based on these views. Development Studies as a school subject was designed to integrate environmental education into the secondary school curriculum in Swaziland (SEA 1997:79). This subject, therefore, is used as a vehicle for environmental education in secondary schools in Swaziland. The primary focus of the investigation was to answer the following research question:

What do secondary school teachers in Swaziland think of Development Studies as a school subject?

This study followed a qualitative, explorative, descriptive and contextual grounded theory study employing unstructured interviews. Since the research is based largely on perceptions which deal with the views, experiences, claims and concerns of the respondents, a qualitative approach seemed appropriate. The purpose of qualitative

research is to understand social life and how people view and make sense out of their lives (Bogdan & Biklen 1992:32). This research investigated how secondary school teachers in Swaziland viewed Development Studies as a school subject. Furthermore, when people are observed in their everyday lives, listened to when they talk about what is in their minds and documents they produce looked at, the qualitative researcher gets first-hand knowledge of the social life not marred by concepts, operational definitions and rating scales (Taylor & Bogdan 1984:6).

The study was explorative in that it was not guided by a hypothesis, but it simply attempted to elicit individual opinions and perceptions about all the facets of Development Studies as a school subject.

This research gathered descriptive data in the respondents' own spoken words. The results of this research include verbatim quotations from the data to illustrate and support the presentation (Bogdan & Biklen 1992:30).

This study was contextual in that the data was considered in the context in which it was gathered (Borg & Gall 1989:389). The researcher visited respondents in their natural environment. In qualitative research the natural setting is viewed as the main source of data (Bogdan & Biklen 1992:29). Qualitative researchers go to particular settings under investigation, because they are concerned with context. They are of the view that action can be best understood well when it is observed in the setting in which it occurs (Bogdan & Biklen 1992:30).

This research followed a flexible design seeking to answer the following research question: what did secondary school teachers in Swaziland thought of Development Studies as a school subject? Qualitative researchers follow a flexible research design (Taylor & Bogdan 1984:5). This section focuses on the selection of respondents and how they were visited and interviewed.

2.2.1 Selecting respondents

The respondents in the study were teachers of Development Studies in secondary schools in Swaziland and the Development Studies curriculum designer. Although the researcher did not start out with a predetermined fixed number of respondents to interview prior, the researcher had a general idea of what people to interview and how to find them. Development Studies teachers were selected on the basis of their instructional experience of the subject in secondary schools in Swaziland. The researcher was of the view that these teachers' special insight could make a significant contribution to the study. The curriculum designer was to provide information that was vital for the study because she is the key player in the designing of the Development Studies syllabus.

2.3.2 Invitation to prospective participants

The researcher obtained a list of secondary schools that offered Development Studies in 2002 from the Examinations Council of Swaziland with a view to invite Development Studies teachers in those schools to participate in the study. Thus, a list of names and telephone numbers of the target population was obtained. The list showed that there were eight schools offering the subject. Three of the schools were in the Lubombo region and five in the Shiselweni region. (In Swaziland, there are four administrative regions namely, Hhohho, Lubombo, Manzini and Shiselweni). For a start, the researcher decided to interview three teachers in Shiselweni schools and two teachers in the Lubombo schools. According to Taylor and Bogdan (1984:83), it is difficult to ascertain how many people to interview in a qualitative research. In most in-depth interviewing, the researcher will not know how many interviews to conduct with respondents until the researcher begins speaking to them (Taylor & Bogdan 1984:85). The teachers were contacted by telephone. Those who could not be reached by telephone were visited in person. Permission to conduct the interviews from the teachers was obtained through the principals in each school. Arrangements to interview the curriculum designer were made through the telephone.

For those schools that were visited personally by the researcher, the researcher brought a cover letter from the University of South Africa seeking permission to collect the data

(refer to annexure 1). The teachers in the schools were asked to suggest the most convenient day and time for the administration of the instrument. For the schools where the requests had been made by telephone, the cover letter was brought on the day of the interview. On the appointed dates the researcher visited the respondents to conduct the interviews.

2.3 RESEARCH METHODS

There is no single method for carrying out qualitative research (Schurink 1998:241). There are, however, various methods and approaches that fall under qualitative research. These include observations, interviews, participant observation, documents, (Strauss & Corbin 1990: 18; Denzin & Lincoln 1994:1) visual methods and data that have been quantified for purposes such as census (Strauss & Corbin 1990:18).

2.3.1 Ethical measures

A cover letter from the University of South Africa explaining the purpose of the research was given to each of the respondents. In addition to that, the respondents' consent was sought when recording the interviews on tapes. Bogdan and Biklen (1992:100) warn that researchers should not record interviews without the respondents' permission.

The research undertook to:
- protect the respondents against any form of harm that would have emerged (Bogdan & Biklen 1992:53; Strydom 1998:25).
- give accurate and complete information to respondents so that they would fully understand the investigation and consequently be able to make a voluntary and thoroughly informed decision to participate (Bogdan & Biklen 1992:53; Strydom 1998:25-26).
- respect the respondents' rights to privacy. Information given by respondents was treated in a confidential manner (Cohen & Manion 1994:366; Strydom 1998:38).
- assure respondents of anonymity. Information given anonymously ensured the privacy of respondents (Cohen & Manion 1994:367; Strydom 1998:28).

- acknowledge the collaborators' or colleagues' contribution or involvement in the study (Strydom 1998:31-32).

2.3.2 Measures to ensure trustworthiness

In this study, the four criteria of Lincoln and Guba's model (Schurink et al. 1998:331) were used to ensure trustworthiness. These criteria, which are truth value, applicability, consistency and neutrality, will be briefly outlined.

Truth value attempts to ascertain how confident the researcher is with the truth findings derived from the research design, respondents and context (Shongwe 1996:63). Truth value is manifested in the accurate explanations and analyses. This research met this criterion. Nine individual face–to-face interviews were conducted and the transcripts consisting mainly of verbatim quotations, were referred to the respondents for confirmation. Field notes were also taken during the interview sessions and were used when analysing the data.

Applicability is another criterion that can be used to ensure trustworthiness in a research study. Applicability refers to the extent to which the findings can be applied to other contexts and settings or to other groups (Shongwe 1996:65; Schurink et al. 1998:331). This criterion is met in research "when the findings fit into contexts outside the study situation that are determined by the degree to which contexts fit." Purposive sampling was done in this study and it was not, however, reflective of the population. The findings of this study are not applicable to other contexts.

The third criterion of trustworthiness, consistency, seeks to ascertain whether the findings would be consistent if the research were replicated with the same subjects or in a similar context (Shongwe 1996:65; Schurink et al. 1998:331). This qualitative study cannot ensure that this happens, because people change over a period of time as far as their thoughts and behaviour are concerned. There are no fixed steps that should be followed in qualitative research and it cannot be exactly replicated (Interpretations of Neuman and Denzin and Lincoln in Schurink 1998:243).

The fourth criterion of trustworthiness, neutrality, means the extent to which the findings are solely what has been revealed by the respondents and are not in any way influenced by the researcher (Shongwe 1996:66). Since this is a qualitative research, the researcher is expected to suspend or set aside his beliefs, perspectives and predispositions (Taylor & Bogdan 1984:6). The data in this study were obtained without any influence and are presented verbatim.

2.3.3 Pilot study

A pilot study is one way in which a researcher can acquaint him or herself with the project he or she is about to undertake. A pilot study is, therefore an integral part of the research process (Strydom 1998:178). The significance of a pilot study is to give a researcher an idea of how the methods or instruments designed will perform, and what result, whether intended or not is likely to occur (Slavin in Shongwe 1996:39). Pilot testing a study also contributes to improving questions, identifying kinds of probes needed and developing a sequence that makes sense and fosters interest (Borg & Gall 1989:401).

The research method used in this study was pilot tested on four colleagues (that is, teachers at the school where the researcher is teaching) who had taught Development Studies. One of these was a teacher who had taught the subject for six years and who had been a member of the subject panel which is responsible for drawing up the syllabus. These teachers were selected on the basis of proximity and convenience to the researcher (Cohen & Manion 1994:103). The method was found to be appropriate for the study.

2.3.4 Sample

Purposive sampling was used to select respondents for the study. The respondents were selected because they possessed insights which were important for this study (Strydom & De Vos 1998:198). In this specific case, the number of people chosen to be studied, was relatively unimportant. What was important, though, was the value of each person in helping the researcher to develop theoretical insights into the phenomenon under investigation (Taylor & Bogdan 1984:83).

Development Studies teachers and the subject curriculum designer were included in the study, because they were believed to possess special knowledge or perceptions that was vital for the study (Borg & Gall 1989:398). The respondents were included in the study on the basis of their potential for developing new insights or expanding or refining those already gained (Taylor & Bogdan 1984:18).

The number of respondents included in the study was determined by data saturation. This is the point in research where there is repetition of the information obtained and confirmation of previously collected data (Taylor & Bogdan 1984:18; Morse 1994:230) and thus, the researcher was not getting any new information. This lack of new information indicated that data generation had reached a saturation point (Schurink et al. 1998:313). Eight Development studies teachers and one Development Studies curriculum designer were included in the study.

2.3.5 Data collection

For the purpose of this research, interviews have been the main source of the data which have been gathered. The study employed unstructured, face–to face individual interviews with Development Studies teachers and a Development Studies curriculum designer recorded on a tape (refer to paragraph 1.9). English as well as Siswati were used as languages in the interviews. The respondents were interviewed in the language they were comfortable with. Some respondents insisted in being interviewed in English. Qualitative interviewing used in this study provided a framework within which the respondents expressed their understanding on the phenomenon under investigation. This method assisted the researcher in discovering what the Development Studies teachers and the curriculum designer thought about the subject. The respondents were encouraged to talk freely about the area of interest, while the researcher probed, selecting the topics and issues the respondents initiated (Bogdan & Biklen 1992:97).

Taylor and Bogdan (1984:79) state that every research method has its strong points as well as its flaws. They argue that no research method is suitable for all situations. The

interview method was preferred for this study because of its advantages over other research methods.

(a) Advantages of the interviews

Interviews were a direct way of obtaining information from the respondents. A bulk of information in social scientific research can be obtained from respondents by direct questions (Kerlinger 1986:439).

Probing and clarification of questions was possible when required by the researcher (Taylor & Bogdan 1984:97; Kerlinger 1986:440) and the respondents respectively. Thus, more data could be obtained and there was greater clarity (Borg & Gall 1989:446). The researcher could probe the respondents on any item for in-depth information. On the other hand, the respondents could seek clarification from the researcher for unclear or ambiguous questions.

Interviews allowed for greater in-depth clarity when compared with other methods of data collection (Borg & Gall 1989:446; Cohen & Manion 1994:272).

Interviews were found to be a flexible tool which could be adapted to various situations (Kerlinger 1986:446).

The researcher was able to use the respondents' non-verbal cues, for example, facial expressions, body movements and gestures in order to obtain more information from the respondents (Bogdan & Biklen 1992:100).

Interviews could easily be used as a tool to measure knowledge or information, values and preferences, as well as the attitudes and beliefs of people (Tuchman in Cohen & Manion 1994:272).

According to Schurink (1998:300) and Borg and Gall (1989:447), interviews can be used to discuss socially and personally sensitive topics openly.

(b) Disadvantages of the interview method

The following disadvantages of the interview method were noted during this study.

It can be time consuming because obtaining information from respondents may take a relatively long time (Kerlinger 1986:440; Schurink 1998:300).

Data collected through interviews can be so vast that it could render ordering and interpretation thereof difficult (Schurink 1998:300).

It is prone to subjectivity and bias on the part of the interviewer and respondent (Borg & Gall 1989:448; Cohen & Manion 1994:272).

In terms of costs, an interview is relatively expensive compared to, for example, a questionnaire which is posted by mail. (Kerlinger 1986:440).

It could be subject to fabrications, deceptions and exaggerations which characterise a conversation between any two people (Taylor & Bogdan 1984:81).

2.3.5.1 Procedure in data collection

As a result of the study utilising unstructured interviews, the researcher did not prepare the questions prior to conducting the interviews. Bogdan and Biklen (1992:2) state that, even though "people conducting qualitative research may develop a focus as they collect data, they do not approach the research with specific questions to answer or hypotheses to test. They … are concerned with understanding behavior from the subjects' frame of reference." Only one question, followed by relevant probes was presented to the respondents. The question asked was:

What do you think of Development Studies as a school subject?

Basically, the interviews were aimed at eliciting individual opinions and perceptions about all the facets of the subject (Shongwe 1996:52). Eight Development Studies teachers and

one curriculum designer were interviewed. The same question presented to Development Studies teachers, was presented to the curriculum designer.

Nine respondents in total participated in the interviews. All the interviews were recorded on tape in order to preserve the information and to help reduce the researcher's biases (Borg & Gall 1989:455 & 456). Borg and Gall (1989) state that recording interview data for research, among other things, helps the researcher to reduce an unconscious selection of data favouring his or her biases. Interview tapes can also be used to validate the data (Shongwe 1996:55).

2.4 DATA ANALYSIS

Analysis entails working with data, organising them into manageable units, synthesising them, searching for patterns, discovering what is important and what should be learnt as well as deciding what the researcher would tell others (Bogdan & Biklen 1992:153).

In qualitative research, data analysis is an ongoing process (Bogdan & Biklen 1992:154). In this study some analysis was done during data collection. Bogdan and Biklen (1992:154) state that without this analysis, the data collection would have no direction. This research employed inductive analysis. Shongwe (1996:60) states that if patterns, themes and categories develop from the data and are not determined before data collection and analysis, such analysis is inductive. For the purpose of this study, the categories were generated from the comments of the interviewed respondents, that is the Development Studies teachers and the curriculum designer. For the purpose of the interviews conducted in Siswati, the data were first analysed in that language.

This study followed Tesch's (Poggenpoel 1998:343-344) approach to data analysis. This approach, which entails the following eight steps, was followed with the data collected.

1. The researcher reads through all the transcripts in order to make sense out of them. The researcher jots down ideas as they emerge.

2. The researcher picks one transcript: the most interesting, the shortest or the transcript at the top of the pile.

3. After having gone through several transcripts, the researcher makes a list of topics. Similar topics are grouped together.

4. The researcher revisits the data with the list of topics. The data is coded.

5. The researcher finds the most descriptive words for the topics.

6. The researcher makes a final decision on the abbreviation for each category.

7. The researcher assembles the data material belonging to each category.

8. The researcher re-codes existing data, if necessary.

The results of this research will be presented in Chapter Three.

2.5 SUMMARY

This chapter mainly dealt with the research methodology for this study. The research design followed in this study was described. The qualitative, explorative, descriptive and contextual design using unstructured individual face–to-face interviews was employed for the purpose of this study. In this chapter, ethical measures undertaken in this study are outlined. This chapter also describes measures undertaken to ensure trustworthiness of this research. This chapter also indicates the importance of a pilot study in research. Finally, this chapter describes how data for this study has been gathered and analysed. The next chapter presents the results and a discussion of the results for this research.

CHAPTER THREE
RESULTS AND DISCUSSION OF RESULTS

3.1 INTRODUCTION

The previous chapter presented the research methodology followed in this study. The role and importance of qualitative research was discussed within the context of this study. The procedure followed in conducting this research was also described. This chapter presents the views of secondary school Development Studies teachers with regards to the subject in secondary schools in Swaziland. Data presented in this chapter were obtained from the nine respondents who participated in the unstructured face–to-face individual interviews. These interviews were recorded on tapes.

In attempting to understand the secondary teachers' and the curriculum designer's views of Development Studies as a school subject, the unstructured face–to-face interviews were employed where only one question was posed in each interview, namely:

What do you think of Development Studies as school subject?

Follow up probes to the above question were developed. (Berg 1998:61). This study is an in-depth exploration of the Development Studies teachers' and the curriculum designer's opinions with a view towards eliciting adequate and substantial information so that characteristics, patterns and other aspects of the subject are highlighted (Shongwe 1996:39). This research followed the descriptive analysis of Tesch (in Poggenpoel 1998:343 –344).

3.2 VIEWS OF SECONDARY SCHOOL DEVELOPMENT STUDIES IN SWAZILAND

The following key themes emerged from the respondents' views of Development Studies as a school subject. These themes are not presented in any order of importance.

- Characteristics of the subject
- Teaching methods used by Development Studies teachers
- Positive learner interest

- Problems encountered by Development Studies teachers
- Recommendations to improve the subject

Table 1 Summary of the views of the respondents on Development Studies as a school subject in secondary schools in Swaziland.

Themes	Issues raised
Characteristics of the subject	Good / important subject
	Vehicle for environmental education
	Practical subject
	Integrated subject
Teaching methods used	Discussion
	Lecture
	Textbook
	Field trips
	Project
	Survey
Positive learner interest	Learners enjoy the subject
	High pass rate in the subject
Problems with Development Studies	Teachers not trained
	Subject ends at junior secondary level
	Phasing out the subject is becoming a trend
	Teachers have to defend the subject
	Lack of support from the Ministry of Education
	Little teaching time
	Lack of teaching and learning materials
	Attitude of other subject teachers
Recommendations	Creating awareness about the subject
	Training of teachers
	Subject should be made compulsory in

	schools.
	Subject should be introduced at senior secondary and tertiary institutions.

3.2.1 Characteristics of Development Studies

3.2.1.1 A good subject

All the respondents perceived Development Studies positively as a subject of great value and most of them were enthusiastic about the subject. The first thing that all the respondents said when they were asked about their views of Development Studies as a school subject, was that Development Studies was a "good" or "important" subject. The following are examples of what have been asserted by some of the respondents:

"I think it is a good idea that students do the subject …"

"My experience with Development Studies is that … it is a good subject."

"This is an important subject."

3.2.1.2 Development Studies as a vehicle for environmental education

The respondents acknowledged the fact that Development Studies is an important vehicle for environmental education in junior secondary schools. The respondents stated that they deal with environmental issues in Development Studies. This view confirms what is stated in Swaziland's National Environmental Education Strategy. This document states that environmental education at junior secondary school level in Swaziland will be integrated through Development Studies (SEA 2000:8). However, most of the respondents were not aware of the existence of such a document. This is what some of the respondents said about Development Studies:

"… it is of great help when it comes to environmental issues …"
"This subject includes environmental education, that is the conservation of the environment from the soil to water and air …"

Another respondent confirmed the above assertions when she said,

"Okay, … we deal with topics such as desertification, that is how desertification can be prevented. We deal with topics like soil degradation. This subject can help to change learners' attitudes towards the environment …"

3.2.1.3 Development Studies as a practical subject

It appeared from the interviews that Development Studies is a practical subject of which its teaching and learning goes beyond the classroom. The respondents stated that Development Studies provided learners with activities through which they (learners) learn by performing. This is what some of the respondents said:

"There are some practicals, actually, that one needs to carry out while teaching Development Studies."

"The way I see this subject, is that it is practical."

"What students learn in Development Studies is what they apply in everyday life."

3.2.1.4. Development Studies as an integrated subject

The respondents described Development Studies as integrated discipline. They said that Development Studies is multi-disciplinary in that it incorporates a number of subjects. The prominent subjects that were mentioned during the interviews as being covered in Development Studies, were History, Geography and Economics. This is how some of the respondents described Development Studies:

"You have to understand that Development Studies is an integrated subject. It includes such subjects as Economics, Civics, Sociology, History, Geography …"

"… it is a mixture of many subjects, because in Development Studies you find there is a bit of History, Geography, Agriculture, Economics and many more."

"So it looks at aspects of culture, Agriculture, Commerce and Anthropology … it is a subject that incorporates even the other subjects."

3.2.2   Teaching methods used to teach Development Studies

This section of the study seeks to outline the teaching methods used by secondary school Development Studies teachers as revealed during the interviews. The respondents outlined the teaching methods that they use in order to teach Development Studies as discussion, lecture, textbook, field trips, project and surveys. Discussion and lecture were the most prominent methods. The following are some of the comments made by the respondents with regards to the teaching methods that they use to teach Development Studies:

"You would use discussion and lecture. At times you would have to take students on field trips eh … for them to actually do things practically. That is how we teach the subject. Learners, at times, would have to make presentations on their findings because we give them assignments to do, surveys of some sort and then they would come and present in class what their findings were. Even statistics are part of this study."

It emerged from the data that some of the teaching methods are used because the subject is free from foreign oriented content and is relatively easy for the students to understand. The respondents stated the content of Development Studies is locally based, hence the learners participated in the class discussions without much problem.

"We use mainly discussion and lecture … often we use the discussion method. Learners are familiar with most topics in the subject, that is why we use the discussion method."

It appears some of the respondents use the team teaching approach for some of the aspects of the subject that they are not familiar with.

"Sometimes I also use other teachers as **Development Studies** *touches on the different subjects. If, for example, a topic is on population, I consult a Geography teacher, he or*

she can go deeper in the subject more than I can do. So we consult also with the other teachers."

Another respondent had this to say,

"… as we are not qualified to teach the subject some of us we have to ask, for example, the Home Economics teacher to teach some of the aspects that we can't fully grasp …"

3.2.3 Positive learner interest

Most of the respondents indicated that Development Studies is a popular subject among the learners who study it in their schools. The respondents said that learners find the subject fascinating and interesting. The respondents stated that the learners reflected a positive attitude towards Development Studies. One respondent said the following:

"Even the students themselves I think they enjoy…The students … find the subject interesting…Ever since I started teaching it they have been doing well in the subject." (This respondent had taught the subject for six years).

The respondents also stated that the subject had a high pass rate in local and national examinations. This is what one of the respondents said:

"What I can also say is that students enjoy the subject and we have been getting a very high pass rate in the last two years". (The school in question obtained a 100 percent pass rate in Development Studies in the Junior Certificate national examinations in 2001 and 2002).

3.2.4 Problems with Development Studies

Problems with Development Studies in secondary schools in Swaziland emerged from the interviews. The following problems were noted:
- Teachers are not trained for the subject
- The subject ends in Form 3 (junior secondary level)

- Phasing out the subject is becoming a trend in schools
- Teachers are unnecessarily forced to defend the place of the subject in their schools' curricula
- Perceived lack of support from the Ministry of Education
- Little teaching time
- Lack of teaching and learning resources
- The attitude of other subject teachers towards Development Studies

3.2.4.1 Teachers not trained for the subject

All the respondents acknowledged that they were not trained to teach Development Studies. They viewed this as a concern and a problem for Development Studies. The respondents regarded lack of training as critical and stated that it needed to be addressed urgently. The problem of not being trained, emerged throughout the interviews.

"The only problem with Development Studies, I think when it was introduced there was no proper planning because it was supposed to have been introduced in teacher training colleges, so that there will be trained teachers to teach the subject. I think those people in charge at the time, thought that the subject was easy to pass and any teacher can teach it, particularly those who majored in History and Geography."

It also appears from the interviews that school principals used their criteria to select teachers for the subject although most of Development Studies teachers had History as one of their areas of specialisation. The following is what one respondent said:

"I don't know how the head of the school and the grantee arrived at picking me to teach the subject. Perhaps, they deemed it fit that I was better placed to teach the subject."

Another respondent put it this way,
"… but the problem is that we never received … training for it. Yes, we only know the subject because we are History teachers. It is just our understanding besides just not

having gone for training. That is the only disadvantage: that we are not trained for teaching the subject."

From the interviews it also appeared that there are now some teachers trained in Development Studies in Lesotho. The respondents estimated the number of qualified teachers in the whole of Swaziland to be between four and six.

"But now we do have teachers who are qualified in Development Studies. These teachers were trained in Lesotho."

3.2.4.2 Subject ends in Form 3 (junior secondary level)

All the respondents expressed concern that Development Studies ends at the junior secondary level and is not offered at senior secondary level and in tertiary institutions. The respondents stated that this was discouraging and frustrating them and the learners. The respondents also stated that other subject teachers have used the fact that Development Studies as a basis for phasing out the subject in their schools. The following are examples of what some of the respondents said with regard to the subject ending in Form 3.

"… it is annoying that it doesn't progress, it ends in Form 3."

"So, that really discourages some of the students and some teachers even if they realise that it is a good subject. So once a student goes to senior secondary school level, that is the end of Development Studies."

"They like the subject, but they feel discouraged because it looks like the subject doesn't have a future … even in the tertiary institutions, there is nothing like D.S."

It has, however, appeared from the interviews that a new syllabus that would take learners to senior secondary level, has been developed but it is still awaiting approval from education authorities.

3.2.4.3 Phasing out the subject becoming a trend

Although the respondents viewed Development Studies as a subject of great value, they asserted that they found themselves under pressure to phase it out, because the subject appeared to be static in that it ends at junior secondary level. The respondents appeared to be succumbing to pressure from the school principals and other subject teachers who view Development Studies as a subject of little value. It would appear from the data that phasing out the subject is becoming a trend in schools. This is what one of the respondents said:

"We are a role model for the south, if we phase out D. S…other schools in the south will follow suit. They will say Evelyn Baring High School has phased out D.S. from its curriculum, let us also phase it out."

Another respondent put it this way:

"The school administration has decided that the subject will be phased out as from next year (2004). The present Form 3s are doing it for the last time this year (2003)."

It also appeared that Development Studies was being phased out in some schools to give way to new subjects. One respondent had this to say:

"… we are phasing it out in my school because of these other, should I say modern subjects such as computer."

3.2.4.4 Teachers having to defend the subject

Some of the respondents stated that they often found themselves having to justify the place of Development Studies in their schools' curricula. This appeared to be subjecting the respondents to unnecessary pressure. It seems from the interviews that some school principals and other subject teachers did not value the subject. It also seems that school principals had authority to decide on the subjects to be taught in their schools. The following is what some of the respondents said.

"Some head teachers have a problem with the subject. The head teacher in 1998 or 1999 wanted to phase out the subject from the school curriculum because he did not understand what it was all about. I tried to defend the subject and with the support of the other subject teachers I succeeded."

"One time I invited …(a Ministry of Education official whose identity is protected) *to try and convince the principal of the school about the importance of the subject. She failed dismally … I had called her to help me defend the subject to the school administrators."* (The school in question is phasing out Development Studies as of 2004).

"As the one who is teaching the subject, I tried to make the administration realise the importance of Development Studies in our school, but I failed."

3.2.4.5 Perceived lack of support from the Ministry of Education

The respondents were of the view that the Ministry of Education in Swaziland was not giving sufficient support to the teaching and learning of Development Studies in schools. This is what one respondent said:

"… it would seem like our ministry doesn't see the importance of the subject, whereas we, as teachers from our experience feel it is an important subject."

Asked on the challenges he encountered when teaching the subject, one respondent said:

"The challenge is how one is going to convince the Ministry of Education that Development Studies is the real thing."

The Ministry of Education seems to be failing to fund workshops for Development Studies teachers. The respondents acknowledged that they used to attend Development Studies' workshops in the past but that it was no longer the case. When asked why they no longer had workshops, one respondent said:

"Well, I don't know. But what we are told is that there is no money to fund these workshops."

Another respondent who had this to say confirmed this view:

"But … (a Ministry of Education official whose identity is protected) *complained that the Ministry of Education allocates very little money to Development Studies …"*

3.2.4.6 Little teaching time

The respondents revealed that the time allocated to Development Studies in their schools' timetables was not adequate. They said on the basis of that they were not able to complete the syllabus within the stipulated time. Some of the respondents had this to say:

"When it started we were given enough time, but with the introduction of other subjects the time became little."

"The time allocated to the subject is not enough."

"…there is not enough time for the subject in the timetable. We have only two periods a week. You find that you cannot do enough, you cannot cover … the syllabus in time."

Some of the respondents stated that because of shortage of time they were not able to carry out the activities that the subject requires them to.

"The subject activities require us to engage in field trips … but this is impossible … there is no time for this."

3.2.4.7 Lack of teaching/learning materials

Most of the respondents were satisfied with teaching and learning materials that they had at their disposal. They stated that they obtained most of the required materials from other departments in their schools and that they were able to improvise for the required

materials. Those who had a problem with lack of teaching and learning materials in their schools had this say:

"They are not enough. Even the textbook itself still needs to be improved or revised, because there are some things that are not correct in the textbook. We still have to review the book."

"Unfortunately there are not much resources that I can use."

3.2.4.8 The attitude of other subject teachers towards Development Studies

Several respondents asserted that in their schools other subject teachers had a negative attitude towards Development Studies. This, according to the respondents, was attributed to the fact that Development Studies was taught as far as junior secondary school level and was not offered in senior secondary school level and in tertiary institutions in Swaziland and, therefore, other subject teachers felt it was a subject of little value. The respondents stated that this kind of attitude had a negative impact on the learners doing the subject, as it discouraged them. This is what some respondents said:

"In my school, they (other subject teachers) *never like it* (Development Studies)*. And the reason that makes them not to like the subject … is that they feel it is not an important subject … it has no future whatsoever in terms of training. That was the main reason for them suggesting that it should be sidelined, for learners would not receive training from any of the institutions as Development Studies is offered up to Form 3. To them that is just useless, because a learner would have to start a new subject altogether at high school and Development Studies would end at secondary school level."*

"… some of the teachers do not understand … the teaching of the subject because they think it is not a continuous subject because learners do not take it up to Form 5, so then in a way they feel it is a useless subject. Unfortunately those words even reach some of the learners ..."

The fact that environmental education in secondary schools in Swaziland has been integrated through one subject, Development Studies, implies that the teachers of the other subjects are not fully involved in environmental education activities. Environmental teaching requires co-operative work by teachers (Eichler 1977:108).

3.2.5   Recommendations by respondents

The respondents outlined the following as ways in which they thought the teaching and learning of Development Studies could be improved in schools. This is what they came up with:

- creating awareness about the subject to school principals
- teachers should be trained for the subject
- Development Studies should be made compulsory in schools
- Development Studies should be introduced at senior secondary level and tertiary institutions.

3.2.5.1 Creating awareness about Development Studies

The respondents felt that since school principals had a significant role to play in the teaching and learning of Development Studies in schools, they should be educated and be made aware of the importance of the subject. The respondents suggested that this could be done in the form of lobbying, regional meetings, public debates, seminars and workshops. The following are what some of the respondents said.

"Up until they (Ministry of Education) *convince the headmasters about the importance of this* (Development Studies)*, the subject is going to die a natural death because they are the people responsible for setting up timetables in schools."*

"I think the best thing in my opinion is that they (Ministry of Education) *have to organise a seminar for heads of schools to try and convince them about the importance of the subject and later may be some workshops."*

"I guess we may need to call regional meetings again to talk to the head teachers … if they are convinced, then the path is clear for Development Studies."

3.2.5.2 Teachers should be trained in Development Studies

The respondents acknowledged that they were not trained in Development Studies. On the basis of that, they suggested that Development Studies teachers should be trained in the subject. This is what some of the respondents said:

"They have to train teachers for the subject."

"I think it would be of much help if teachers for the subject would be trained specifically for teaching the subject."

One respondent revealed that they were promised training although it was not clear how the training was going to be carried out. This is what the respondent said:

"They have promised to train us when the subject is introduced at high school and teacher training colleges."

It appears that William Pitcher Teacher Training College is prepared to start training Development Studies teachers. But it would appear that government bureaucracy and red tape is delaying the process of training Development Studies teachers. This is what one respondent said:

"William Pitcher College is ready to train teachers in Development Studies. They are saying to the Ministry of Education: Give us the personnel to kick-start this course. The problem is still with the decision makers. William Pitcher is ready to start any time they are given the go- ahead and the personnel."

3.2.5.3 Subject should be made compulsory in schools

Most of the respondents pointed out that Development Studies is an optional subject in their schools. One respondent mentioned that they have made the subject compulsory in

her school. The respondents suggested that, because of its value to the learners (particularly being locally based), Development Studies should be made compulsory in schools for all the learners to benefit from it. This is what some of the respondents said:

"It must be made compulsory … because it has a lot of information to open the eyes of the Swazi children …"

"Well, I'm not quite sure how they have made the schools to do Mathematics, to do English, to do Science, but they must do the same for this subject. They must do the same … all children should be given the subject …"

3.2.5.4 Subject should be offered at senior secondary and tertiary institutions

The respondents suggested that Development Studies should be offered at senior secondary level and in tertiary institutions. The respondents were of the view that this could motivate learners. This is what some of the respondents said:

"They should have it at higher level. It should continue."

"… the way I see it, this subject should be proceeding to Form 5."

"… learners realising that they have an opportunity of enrolling in higher learning institutions, it would really help."

3.3   CONCLUSION

This chapter presented the perceptions of secondary school Development Studies teachers about the subject in Swaziland. The individual face–to-face interviews carried out in this study, gave a detailed picture of Development Studies in Swaziland as summarised in Table 1. The results of this study, focused on the five themes that emerged from the analysis of data, namely characteristics of the subject, teaching methods, positive learner interest, problems with Development Studies and recommendations by the respondents.

The respondents in this study outlined what they perceived to be characteristics of Development Studies; they listed the teaching methods they use for Development Studies; they expressed positive learner interest in the subject; they outlined what they perceived to be problems with Development Studies and they made suggestions on how the teaching and learning of Development Studies could be improved in secondary schools in Swaziland. Although the respondents' suggestions were outlined in this chapter, recommendations regarding this study will be made in Chapter Five. The next chapter, Chapter Four reviews and analyses the literature consulted within the context of this study.

CHAPTER 4

CROSS VALIDATION AND LITERATURE CONTROL

4.1 INTRODUCTION

Chapter 3 presented the views of secondary school Development Studies teachers on the subject in Swaziland. Five themes emerged from the analysis of the data for this study. Chapter 4 presents cross validation and literature control. As stated in Chapter 1, literature in grounded theory research can be divided into technical literature and non-technical literature. A distinction between these two types of literature was drawn in Chapter 1. Chapter 4 of this study, however, presents technical literature consulted. Technical literature refers to background materials against which the researcher compares his or her findings from the actual data gathered in the research (Strauss & Corbin 1990:48). Literature control in research is mainly conducted to compare results obtained from a study with results of other research so that similarities, differences and unique contributions of the research are identified (Poggenpoel in Shongwe 1996:62). In this chapter the findings of this study are thus compared with what is obtained in the literature consulted. There is not much written about Development Studies per se in Swaziland. The literature consulted is mainly literature on environmental education. This is because Development Studies is a subject that was designed with a view to incorporate environmental education into the secondary school curricula in Swaziland.

4.2 APPROACHES TO ENVIRONMENTAL EDUCATION

In secondary schools in Swaziland, environmental education is taught through a multi-disciplinary subject called Development Studies. This subject has been grouped under Social Studies together with History. This approach to environmental education is supported by Muyanda-Mutendi (in Cowie 1997:120) who asserts, "EE best fits into a social studies course in the curriculum." The Environmental Education Policy Initiative (EEPI) (1995:2 – 3) proposes four main approaches for incorporating environmental education in South Africa, namely:

- Environmental education as local, problem-solving curriculum action;

- Environmental education as an integrated approach (an environmental perspective within separate subjects);

- Environmental education as a separate subject;

- Environmental education as a component within a subject.

These approaches will be discussed in detail in the following pages.

4.2.1 Environmental education as a local, problem-solving curriculum action

This is a local, problem-solving, participatory approach to environmental education where direct curriculum linkages are established (EEPI 1995:4; Environmental Education Curriculum Initiative (EECI) in van Rooyen 1998:127). This method of incorporating environmental education into the curriculum, entails a team approach where the main focus is on the real, local environmental issues. In this approach the learning institution and the community work co-operatively in addressing these environmental issues that could be social or bio-physical (EEPI 1995:4).

The local, problem-solving curriculum approach entails

- The identification of learning resources (including people) in the immediate environment of the learning institution;

- Enthusiastic and committed teachers, as well as school management in sustaining an environmental ethos;

- Engaging teachers in action research towards continually improving curricula through first-hand involvement with the environment (EEPI 1995:4).

This approach could be used successfully in conjunction with any environmental education activities in a school's extracurricular learning programme (van Rooyen 1998:127). The success of this approach is mainly dependent on the commitment and enthusiasm of the personnel involved (EEPI 1995:4).

4.2.2 Environmental education as an integrated approach

In this method of incorporation of environmental education into the school curriculum, environmental concepts are infused in the already existing curriculum. The environmental concepts are infused and the traditional disciplines are retained (Saxena 1996:37). In this approach, environmental education makes its contribution to the various subjects of the school curriculum (Allers 1997:41). According to Allers (1997:40), elements of environmental education will not necessarily need to be to be 'infused' into subject area curriculum because they are already there. What needs to be done, is to identify these elements and appropriately emphasise them in subject area curriculum plans. In this approach, environmental education permeates through all the subjects in the school curriculum. The result is that no new subject is added to the curriculum and understanding is more integrated (Saxena 1996:37). However, the structure of secondary school curricula in Swaziland can be a hindrance to the development and promotion of environmental education. Secondary school subjects in Swaziland are largely compartmentalised. "Learning is capsuled into subject packages and disciplines are pursued for their own sake" (Stapp & Vande Visse in McInnis & Albrecht 1975:xiv). Secondary school subjects in Swaziland are generally not coordinated. Such an approach is not appropriate for environmental education due to the interdisciplinary and holistic nature of environmental problems and solutions (Da Silva 1996:120). The fact that secondary school subjects in Swaziland are compartmentalised makes meaningful environmental education programmes difficult to implement (Tyldesley 1990:23).

It has to be noted that all subjects have a part to play in environmental education (EEPI 1995:5). Subjects such as Geography, Biology and Agriculture are most closely related to the environment, they could be used to develop environmental knowledge and positive environmental attitudes, and therefore environmental teaching could be integrated into these subject areas (Eichler 1977:108; Department of Environment Affairs for the Council for the Environment (DEACE) n.d.: 9). "However, working primarily in these subjects, is to miss the point that all subjects have a unique place in the curriculum and each one can make a different yet complementary contribution by incorporating an environmental perspective (EEPI 1995:5). In the case of Swaziland, subjects with environmental

elements (for example, Geography, Agriculture and others) are offered in secondary schools but it appears that these subjects are taught with the primary aim of imparting knowledge and not necessarily to develop values, attitudes, commitment and skills to protect and save the environment (Saxena 1996:37). Furthermore, the environment education found in these subjects lacks coherence, integration and practicality (Da Silva 1996:120).

With this approach, there may be the impediment of organising environmental conservation activities. Furthermore, it is likely that it is those teachers with a strong commitment towards the environment who would teach the units of environmental study efficiently (Eichler 1977:108). The EEPI (1995:6) acknowledges that some subjects are difficult to utilise for an integrated approach and, therefore, suggests that such subjects should not be exploited to 'make them environmental.'

The integrated approach appears to be the mostly accepted method of incorporating environmental education into the secondary school curricula. Countries such as Nigeria, Korea, Mongolia and Tanzania follow this approach at school level (Saxena 1996:42). According to Bornman (1997b:60), it is preferable that through courses such as the natural sciences, biology, geography, languages, art, history and technology, environmental education becomes a cross-curricula, multi-disciplinary learning experience for learners in the primary and secondary school phases.

4.2.3 Environmental education as a separate subject

Environmental education may also be incorporated into the school curriculum as a single subject. In this approach environmental education is a multi-disciplinary and independent subject in its own right. It gets the same treatment as any other discipline (Saxena 1996:103). The subject specific discipline approach can take the form of environmental studies or, as in the case of Swaziland, Development Studies, taught by a specially trained teacher or by a team of teachers (Eichler 1977:107). The EEPI (1995:9) proposes that if a specific subject discipline approach is adopted, environmental education should be offered as Environmental Studies at lower primary level, Life Science or Education for

Sustainable Living at middle school level and as Environmental Studies at Further Education Level.

Saxena (1996:103) finds the specific subject discipline approach an advantage in that environmental education would get its due importance and would not play the role of a second fiddle. He further argues that the infusion of environmental education with the already existing subject areas reduces the efficacy of environmental education activities (Saxena 1996:57).

The specific subject discipline approach to environmental education contradicts the recommendation of the 1977 Tbilisi Conference. As a guiding principle, the Tbilisi Conference recommended that environmental education should be interdisciplinary in its approach, drawing on the specific content of each discipline in making possible holistic and balanced perspective (Saxena 1996:11; Allers 1997:5). Eichler (1977:108) summarises the disadvantages of the specific subject discipline approach to environmental education as follows:

- With this option, it is most likely that true 'educational renewal' will not occur. Learners may regard the new subject as 'one more change' and may not like the subject or they may even resist its introduction.
- Learning in other traditional subjects may contradict and counteract environmental teaching.
- Opportunities for practical activities may be minimal and learners may not be motivated towards the real human and social objectives of environmental study.
- Teachers of other subjects, and the school as a whole, would remain detached.

4.2.4 Environmental education as a component or module within a subject

This approach entails incorporating environmental components in a range of subjects. These components or modules examine the environmental implications of what is being dealt with in that subject (EEPI 1995:10). For example, in History, learners could be taught about the founders of environmental education, while in Biology a topic on the impact of pollution on human health could be appropriate.

According to Eichler (1977:108), this approach implies a reorganisation of the traditional subject curriculum and entails co-operative work by teachers. Eichler (ibid.) further argues that this approach to environmental education, requires careful planning to adequately relate environmental studies to the various subject areas and that the choice of content material to be included and the method of presenting it are of considerable significance.

It is not the intention of this study to recommend one approach over the others. It is up to learning institutions to choose options that suit them best. The researcher is of the view that it is a particular learning institution's situation and circumstances that would determine an approach suitable for it. This study will now focus on the nature of environmental education.

4.3 THE NATURE OF ENVIRONMENTAL EDUCATION

The data in this study revealed the nature of Development Studies, which corresponded with what was alluded to by Saxena (1996:14 and 16) as characteristics of environmental education. The respondents in this study acknowledged that Development Studies is a vehicle for environmental education in secondary schools in Swaziland and they described the subject as "practical" and "integrated". The nature of environmental education will be discussed under the following headings:

- Environmental education as an interdisciplinary and holistic educational approach;
- Environmental education as a problem-solving approach at the centre of real, practical problems;
- Environmental education as a lifelong process;
- Environmental education as an integration of education in the community and
- Environmental education as the basis of environmental value systems.

4.3.1 Environmental education as an interdisciplinary and holistic educational approach

Environmental education is interdisciplinary and holistic in nature and application (Palmer & Neal 1994:21; Bornman 1997b:60). Most authors are in agreement that environmental education is and should be interdisciplinary in nature (UNESCO 1980:28; Palmer & Neal

1994:21; Bornman 1997b:57; Allers 1997:40). Since environmental education views the environment in its totality including social, political, economic, technological, moral, aesthetic and spiritual aspects (Palmer and Neal 1994:21), it, therefore, draws on the expertise of practically all subject disciplines (Smyth 1988:40). Environmental issues are also largely complex (Scottish Environmental Education Council in Neal & Palmer 1990:39) and, therefore, environmental education employs "diverse learning environments and a broad array of educational approaches, strategies and resources to teaching, learn about and from the environment with due emphasis on practical activities including field study, action research, simulations, information technology and residential experience" (Allers 1997:6). The holistic perspective means that environmental education is concerned with "education for the whole person" (Bornman 1997b:63). This implies that environmental education seeks to develop an individual in all facets of life.

According to Allers (1997:40), environmental education has to be interdisciplinary because one of the main ways to demonstrate holistic perceptions, is to approach problems from an interdisciplinary angle. He argues that environmental problems cannot be resolved by one scientific discipline, other disciplines have to be involved. He states that environmental problems themselves are interrelated and therefore require an interdisciplinary approach. The interdisciplinary approach to environmental education implies close co-operation between and among teachers. UNESCO (1980:28) states that the integration of an interdisciplinary approach to school curricula is a relatively difficult task that has to be implemented gradually.

4.3.2 Environmental education as problem solving approach at the centre of real, practical problems

According to Fien (in van Rooyen 1998:125), environmental education lays emphasis on the formation of problem-solving and thinking skills through interdisciplinary, practical learning experiences, which focus on real world problems. Saxena (1996:16) states that it is generally accepted that environmental education should be centred on practical problems related to real life. This implies that environmental education should create awareness of the environmental problems confronting individuals and the community,

help at clarifying the causes of these problems and establish appropriate ways of preventing and resolving them (UNESCO 1980:25).

According to Palmer and Neal (1994:22), environmental education fosters the development of sensitivity, awareness, understanding, critical thinking and problem-solving skills. The complexity of environmental problems calls for the need to develop critical thinking, decision-making and problem-solving skills to deal with environmental problems in a proper manner (Allers 1997:6). Problem solving, critical thinking and decision-making are three important thinking strategies that should be taught in schools (Allers 1997:179).

This kind of education, which focuses on the practical problems of the environment, suggests a coming together of different facets of knowledge to present an explanation of complex realities (UNESCO 1980:27). Environmental education is learner-centred in that learners are involved in the planning of their learning and are afforded opportunities to take decisions on the problems of the environment (UNESCO 1980:27; Tbilisi; Queensland Department of Education; Tilbury in Bornman 1997b:62).

4.3.3 Environmental education as a lifelong process

Environmental education is viewed as an integrated lifelong process that is available to individuals that should take place at all levels of education; both in and out of school (UNESCO 1980:20; Schreuder in Allers 1997:6). This implies that an individual is never too young or too old to learn environmental education; that there is no stage in an individual's life when the individual is satiated with environmental knowledge to such extent that he or she does not need to learn further and that one does not necessarily have to be in a formal education setting to learn environmental education. All people should be involved in environmental education regardless of gender, age, religion or class. UNESCO (1980:29) states that since the environment by its nature is subject to constant and profound change, environmental education should be able to incorporate change. It should have a lifelong and forward-looking character.

At the 1970 conference of the International Union for the Conservation of Nature (IUCN) in Nevada, United States of America, environmental education was viewed as a lifelong learning process which is aimed at the acquisition of knowledge, understanding and skills and the promotion of values and attitudes towards the natural and built environment (Bornman 1997b:58). The advance of science and technology has a profound impact on human influence on the environment and this speeds up changes occurring in natural and built environment resulting in the emergence of new economic and socio-cultural systems and on that account, of new problems (UNESCO 1980:29). On the basis of that environmental education is continuous, progressive and a lifestyle (Tbilisi; Queensland Department of Education; Tilbury in Bornman 1997b:62). Smith et al. (in Allers 1997:41) describe environmental education as "the acquiring of skills with which to enjoy a lifetime of creative living."

4.3.4 Environmental education as an integration of education in the community

According to Bornman (1997b:62), environmental education is "community oriented". Ideally, environmental education should enable communities to care for their environment (Allers 1997:3). Environmental education involves individuals in an active problem-solving process within the context of real problems in their community (UNESCO 1980:12). Environmental education empowers the individual to take an initiative to prevent or resolve environmental problems, thus developing a sense of responsibility and commitment in an individual towards building a better community (UNESCO 1980:12; SEA 2000:12).

4.3.5 Environmental education as the basis of environmental value systems

According to SEA (2000:11), environmental education is value based. Environmental education fosters the clarification of values and the development of values sensitive to the environment (Palmer & Neal 1994:22). There is a general agreement among authors that environmental education should aim at building up a sense of values (UNESCO 1980:27; Saxena 1996; 16; Allers 1997:60). UNESCO (1980:27) states that since environmental conditions occur due to social, political, economic and technological choices rather than physical constraints, environmental education should have the formation of a new system

of values as its goal. According to Ballantyne and Packer (1996:26), there has been a "widespread belief that teaching positive environmental attitudes and values is more important in bringing about change in environmental behaviour than the teaching of environmental knowledge". They call this approach the "values education approach." Environmental education incorporates knowledge, skills, values, attitudes and actions into an educational experience for sustainable management of the environment (SEA 2000:12).

From the aforementioned it can be concluded that with the development of appropriate values and attitudes essential for the protection of the environment, learners can reflect the accepted kind of behaviour that is responsible environmental behaviour. Responsible environmental behaviour according to UNESCO (in Ballantyne and Packer 1996:26) is the ultimate goal of environmental education. This study will now focus on the teaching methods for environmental education.

4.4 TEACHING METHODS FOR ENVIRONMENTAL EDUCATION

The interviews carried out in this study revealed the teaching methods that are used by Development Studies teachers in Swaziland. The mentioned methods were discussion, lecture, textbook, field trips, project and surveys. These methods were found to be appropriate for environmental education as stated in the literature (Wolsk (1977:36-44); Engleson & Yockers (1994:119); Saxena (1996:113); Lebeloane (1998:107-108); Examinations Council of Swaziland (2000/2001:169).

Wolsk (1977:35-36) notes that a difficulty in describing the variety of teaching methods used in environmental education is that there is no universally accepted system of classifying methods. He asserts that there are just as many methods as are teachers or many individual days. However, Saxena (1996:112) points out that that there is a variety of teaching methodologies that can be employed to teach environmental education. He states that most of the teaching methodologies that are effective for teaching science and social science can be used for teaching environmental education.

4.4.1 Recommended teaching methods for environmental education

According to Saxena (1996:112) the teaching methodologies that are recommended for environmental education are those that:

- enhance learners' participation and foster their talents and abilities;
- offer a large variety of direct experience using local environment to foster basic skills of science and mathematics;
- offer learners an opportunity to analyse a situation on the basis of their own observations and to draw conclusions and to make value judgements;
- allow learners to apply the knowledge they have gained from experience, to the problems encountered;
- require learners to be more responsible for their learning.

Wolsk (1977:36-44); Engleson and Yockers (1994:119); Saxena (1996:113); Lebeloane (1998:107-108); Examinations Council of Swaziland (2000/2001:69) and other authors outline several methods that can be used for environmental education. These methods can be categorised into those that are learner-centred, teacher-centred, resource-centred and those that are integrated (Farrant 1980:128-132). The following teaching methods are identified as appropriate for the teaching and learning of environmental education (Wolsk 1977:36-44; Engleson & Yockers 1994:119; Saxena 1996:113; Lebeloane 1998:107-108; Examinations Council of Swaziland 2000/2001:69).

1) Problem solving methods:
(a) Inquiry methods

- discovery method
- investigation method

(b) Research methods

- experimental method

(2) Simulation methods

- Role play

- Game

(3) Outdoor methods
- Field trip

(4) Other methods
- Project method
- Discussion
- Narrative
- Textbook
- Cooperative learning
- Demonstration
- Drill
- Free-activity method
- Question–and–answer (Wolsk 1977:36 – 44; Saxena 1996:113; Lebeloane 1998:107-108; Examinations Council of Swaziland 2000/2001:69).

According to Taylor (in Samuel 1993:27), environmental education is a discipline that focuses on relationships encompassing cultural, political, ethical, philosophical and aesthetical interpretations and, therefore, demands a problem-solving, enquiring, action-oriented approach. Since there are various teaching methods that can be used in environmental education it follows, therefore, that teachers have to draw on a wide range of teaching methods to teach environmental education effectively. Palmer & Neal (1994:24) and Saxena (1996:112) suggest the use of a variety of methodologies for environmental education. Studies conducted by Good and Brophy and Wise (in Wilen, Ishler, Hutchinson and Kindsvatter 2000:218) found that using a variety of teaching methods enhanced the chances that learner interest will be prolonged and that learner academic achievement will be high . Good and Brophy (in Wilen et al. 2000:218) even noted that the "systematic use of a variety of techniques produces better results than heavy reliance on any one technique, even a good one."

This study found that Development Studies teachers generally used teaching methods that actively involved learners in the learning process although some teachers stated that due to lack of teaching time they were forced to resort to teacher-centred teaching methods, especially the lecture method. Duminy (1972:74) is critical of teacher-centred teaching methods and he declares that teachers have to select learner-centred teaching methods that involve high-level participation by learners. According to Taylor (1998:210), the use of learner-centred teaching methods is "frustrated by a number of factors, many of which are considered by a considerable proportion of teacher training staff to be sufficiently significant to justify neglecting to teach or advocate their use." A study into the status of Social Studies in Kenya and Uganda considered these factors to include:

- overloading of the curriculum;

- lack of flexibility in the timetable;

- lack of financial support;

- lack of essential facilities and resources;

- examinations and

- class size (African Social and Environmental Studies Programme (ASESP) in Taylor 1998:210).

These factors will be discussed in this study as barriers to the integration and implementation of environmental education in secondary schools. The study now focuses on these barriers.

4.5 BARRIERS TO THE INTEGRATION AND IMPLEMENTATION OF ENVIRONMENTAL EDUCATION IN SECONDARY SCHOOLS

This study found that the teaching and learning of Development Studies in secondary schools in Swaziland is encountering problems. The respondents in this study outlined what they perceived as problems with Development Studies. Some of the problems expressed in the interviews correlated with what is found in the literature. According to

Bornman (1997a:231), the incorporation of environmental education into the school curriculum has caused structural and qualitative change. She contends that, because of this, it has to be acknowledged that the incorporation of environmental education as an approach to education worldwide should confront constraints from various stakeholders involved in education, existing education systems and procedures. The study of the barriers to the integration of environmental education into the secondary school curricula is important for this research, because if teachers, teacher educators and education authorities are aware of the potential barriers even before planning for the implementation of environmental education, they can prevent or even overcome them.

4.5.1 Barriers regarding education policy

Swaziland does not yet have an Environmental Education Policy (SEA 1997:79). It appears that this is not a problem peculiar to Swaziland only. There is a lack of policy in some countries (for example, Hungary, England and Eritrea) about how environmental education should be implemented and what should constitute the environmental education curriculum (Bornman 1997a:151&164; Gebreab & Bak (2000:10). In England, for example, there is no uniformity in the incorporation of environmental education and, therefore, its implementation varies from school to school (Bornman 1997a:164). Taylor (1998:208) argues that the inclusion of provisions for the development of environmental education is essential for the development of national programmes in environmental education.

Environmental education has not yet been made an integral part of education in schools in Swaziland. Bornman (1997a:232) and Cowie (1997:119) support this assertion when they state that environmental education has not yet been widely accepted and implemented in schools and that it has not attained statutory status in government documents in various countries worldwide, particularly in developing countries. Because of this, environmental education has also not been made compulsory in secondary schools and teacher training colleges in various countries worldwide. Muyanda-Mutendi and Yiga Matovo (in Cowie 1997:119) argue that environmental education lack official recognition. They state that less than a quarter of nations worldwide have effectively implemented environmental

education in their schools' curricula. They also point out that the remaining three quarters that have not implemented environmental education are mainly the developing and the least developed countries. Teachers are generally not aware of the need to introduce environmental education in schools (Bornman 1997a:220).

Filho and Murphy (1993:7) state that even though environmental education may not be formally implemented in some countries, there are a number of environmental projects taking place in these countries aimed at arousing the awareness of people in both formal and non-formal teaching. Filho and Hale (in Filho and Murphy 1993:7) express the problem with regard to implementation of environmental education in developing countries this way:

"Many developing countries have advanced environmental regulations and environmental education programmes, but they are not frequently implemented for a number of reasons: lack of political will; shortage of resources and funds; inadequate knowledge at senior administrative levels and so on. Consequently, although requisite legislation is in place, implementation is inadequate".

This study has found that Development Studies teachers in secondary schools in Swaziland have not had any formal training in environmental education and yet they are expected to teach it in schools. This study found that lack of training for teachers is a problem for environmental education in schools in Swaziland. Lack of teacher training, among other things, negatively affected the teachers' confidence to teach the subject. This finding is supported by SEA (2000:13), which asserts that environmental education activities in Swaziland are frustrated by inadequate skills and an acute shortage of personnel trained in environmental education. Cowie (1997:120) states that, largely due to lack of training, teachers are reluctant to teach environmental topics in schools. Cowie asserts that teachers are generally hesitant to set out on a field where they would be required to respond to questions they are not capable of handling. Most authors are in agreement that teachers are generally not trained in environmental education methodologies and that they are also not familiar with environmental education themes and how they can be incorporated in their subject areas (Samuel 1993:27; Bornman

1997a:220; Gebreab & Bak 2000:10-11). It is inappropriate to expect teachers who have not had formal training in environmental education to teach it effectively in schools. Environmental education teachers have to possess certain skills and competencies to teach the subject effectively (Stone 1989:159). Environmental education's interdisciplinary and multi-disciplinary nature also makes it difficult for teachers and teacher educators to conduct environmental education programmes effectively (Saxena 1996:57). According to Taylor (1998:203), the fact that teachers lack training in environmental education "suggests that specific teacher training provisions for EE must exist if teachers are to be adequately equipped with both the knowledge and the associated pedagogical approaches to teach EE." There is therefore an urgent need for pre-service and in-service training for teachers.

This research has found that the teaching and learning of Development Studies in Swaziland is affected by lack of funding. Lack of funding in Swaziland affects largely the organising of workshops for Development Studies teachers. Lack of funding can seriously hamper the implementation of environmental education in schools (Gebreab & Bak 2000:10), particularly with regard to the purchasing of instructional materials and carrying out of field trips (Muyanda-Mutendi & Yiga Matovu in Cowie (1997:119). According to Saxena (1996:57); Bornman (1997a:151); Gebreab and Bak (2000:10), lack of funding appears to be a common problem, which hinders the development of environmental education in most countries. Lack of funds cause delay in delivery of environmental education programmes and dampens the enthusiasm and vigour that teachers may have in carrying out environmental education activities (Saxena 1996:57; Bornman 1997a:232). One of the most essential areas of support for environmental education, particularly in formal education, is adequate budgetary allocation (Bynoe & Hale in Gebreab & Bak 2000:10).

4.5.2 Barriers regarding curriculum

The integration and implementation of environmental education into the school curriculum requires some changes particularly on the content and teaching methods. However, teachers are generally not willing to change their traditional practices (Bornman

1997a:221). On the same note, Loubser (1997:28) asserts that resistance to change is a global phenomenon. Teachers, in general, are not keen to change their teaching practices (Loubser & Raath in Loubser 1997:28).

The teaching and learning of Development Studies in secondary schools in Swaziland, just like all the other subjects, is affected by centrally controlled public examinations. Learners write Junior Certificate examinations at the end of junior secondary school level. According to Saxena (1996:57), the curricula in schools and teacher training colleges are generally rigid in nature and are largely affected by a centrally controlled examination system. On account of this, teachers teach to meet the requirements of the curriculum and examinations and not necessarily for what is required for environmental education. This is because the schools' performance is usually judged by how they perform in public examinations. Saxena (ibid.) states that the centrally controlled examination system works against the aim of environmental education, which is locally specific especially at primary and secondary levels.

Respondents in this study did not view large class numbers in schools as a significant problem. This can be attributed to the fact that Development Studies is generally an optional subject in schools and not all learners in a class do it. But from the literature it appears that it can be a serious problem. Gebreab and Bak (2000:10) state that large class numbers in schools work against some environmental education teaching methods such as field trips and the discussion method. In Eritrea, for example, teachers have to contend with classes of 70-75 learners and this makes it difficult for them to use effective teaching methods that require mainly learner involvement, hence the teaching and learning process is largely characterised by lecturing (Gebreab & Bak ibid.).

This study has found that there is a lack of teaching time for Development Studies in secondary schools, especially as more subjects are added to the schools' curricula. A research conducted by Ham and Sewing (1988) pointed to lack of time in the school day and lack of preparation time as one of the main impediments to implementing environmental education in schools. In the implementation of environmental education in schools, time is needed to develop the curriculum, to prepare materials and lesson plans

and to teach the subject in class (Ham & Sewing 1988:17). Shortage of teaching time can be a barrier to the teaching and learning of environmental education. A teaching period in secondary school in Swaziland ranges between 35 and 40 minutes. Gebreab and Bak (2000:10) assert that in Eritrean schools one period is 40 minutes and this works against more time consuming and generally enjoyable learner centred teaching methods that foster effective environmental education learning. While some teaching methods like field trip, project and role-playing may be relevant for environmental education, teachers may be reluctant to use them because they are time consuming. Teachers have syllabuses to complete within a specified time.

The perceived lack of time in the school day may generate the misconception that environmental education is a single subject that is added to the existing curriculum that competes with the other subjects. This is contrary to the widely held view that environmental education should be interdisciplinary and multidisciplinary.

Most of the respondents in this study did not view shortage of teaching and learning materials as a significant problem. However, SEA (1997:78) states that Swaziland faces a general lack of environmental education materials, particularly audio/ visual on local and national environmental issues. The document further states that materials on indigenous knowledge of environmental strategies are also needed. Lack of appropriate instructional materials to support the teaching of environmental education in schools is a common problem (Ham & Sewing 1988:17; Saxena 1996:57; Bornman 1997a:220). A study conducted by Taylor (1998) found that in the ten countries he had sampled in southern and eastern Africa, lack of instructional materials was a common problem. The study found that "even where instructional materials did exist, there were considered generally inadequate (in terms of content, quality or availability) for the effective teaching of EE" (Taylor 1998:211). Lack of instructional materials in schools has been attributed to lack of funding by governments (Muyanda-Mutendi & Yiga Matovu in Cowie (1997:119). Lack of appropriate instructional materials in schools may hinder teachers to implement the curricula activities with enthusiasm and vigour (Saxena 1996:57).

4.5. 3 Conceptual Barriers

This study did not reveal any conceptual barriers to the incorporation of environmental education into the secondary school curricula in Swaziland. Even though that is the case, it is necessary to outline what the literature says on the conceptual barriers to the integration of environmental education in schools. Environmental education is generally not understood in terms of what it is all about. On account of this, a number of misconceptions have been created. According to Bornman (1997a:234), the following are some of the known misconceptions about environmental education:

- Environmental education is the sole responsibility of the natural sciences.

- Environmental education is equivalent with field trips, outdoor education, education about nature.

- Humanism is the sole responsibility of environmental education.

- A chosen group of teachers should teach environmental education.

- Ecology and environmental education are synonymous (Hungerford 1988 in Bornman 1997a:234). In reality, environmental education is value laden and ecology is associated with the natural sciences (Bornman ibid.).

- Traditional assessment and evaluation procedures can be used for the assessment of attitudes and values.

Bornman (1997a:233) maintains that these misconceptions and ignorance had a negative impact on the development and integration of environmental education in schools' curricula. This suggests, among other things, that teachers who do not have a significant understanding of environmental education are expected to teach it in schools. Saxena (1996:57); Gebreab and Bak (2000:10) allude to the fact that because of environmental education's complexity, misconceptions about it and lack of proper training for teachers, it is difficult to integrate and implement it effectively in schools. This research will now focus on teacher training in environmental education.

4.6 TEACHER TRAINING IN ENVIRONMENTAL EDUCATION

All respondents in this study recommended and stressed the importance of the training of teachers. According to Stone (1989:159), teachers play a significant role in the implementation of environmental education in schools. She asserts that teachers are the determiners of the curriculum. Caduto (1985:31); Stone (1989:161) and Saxena (1996:56) are of the view that teachers need knowledge and skills to handle environmental education in an effective way. It would appear that teachers would acquire the needed knowledge and skills mainly through training in environmental education. Teacher training is vital for an innovative like environmental education to be implemented effectively in schools (Crandell & Loucks; Hungerford & Volk; in Samuel 1993: 27). Glasgow (1996:72) argues that if teachers are so crucial to the success of environmental education, then their thorough preparation for the work should be given high priority. Teacher training in environmental education could be at pre-service and in-service levels (Caduto 1985:31; Saxena 1996:54; Loubser 1997: 31-32). Environmental education encompasses, among other things, social, cultural, ethical, philosophical, political and aesthetic aspects (Samuel 1993:27; Saxena 1996:54), and, therefore, for teachers to handle it effectively, their training has to be different from that of traditional teachers (Saxena 1996:54).

With regard to teacher training in environmental education, the Tbilisi Conference recommended the following:

- environmental science and environmental education should be included in the curricula for pre-service teacher education;

- education authorities should take the necessary steps to make in-service training of teachers available to all who need it;

- teachers in education should be given an understanding of the widest possible range of educational materials and aids with special reference to low cost materials and opportunities and improvisation according to local circumstances;

- teachers and learners should be involved in the preparation and adaptation of instructional materials for environmental education (Saxena 1996:54).

4.7 CONCLUSION

This chapter focused on the relevant technical literature consulted. In this chapter the findings of this study were compared with what is obtaining in the literature. The literature consulted generally corresponded with the findings of this study particularly in the characteristics of Development Studies, teaching methods used by Development Studies teachers and problems encountered in the teaching and learning of the subject. The following could be adduced from this chapter:

1. Environmental education offered in schools can take the form of a subject specific, as an independent discipline or it can be infused in the existing school subjects.

2. The characteristics of environmental education outlined in the literature tallied with the characteristics of Development Studies as revealed by the respondents in this study.

3. Some of the teaching methods used by Development Studies in Swaziland appeared in the literature as those recommended for environmental education.

4. Some of the problems perceived by the respondents as problems for Development Studies in secondary schools in Swaziland appeared in the literature consulted as barriers to the integration of environmental education in schools. What emerged in the findings of this study and literature consulted was that:

    (a) There is a lack of environmental education policy in Swaziland and other countries.

    (b) Environmental education has not yet attained statutory status in Swaziland and other countries, particularly developing countries.

    (c) Lack of training in environmental education for teachers is a problem in Swaziland and other countries.

(d) Shortage of teaching time for environmental education is a problem in secondary schools in Swaziland and other countries.

(e) Lack of appropriate instructional materials is a common problem in schools in many countries.

5. The training of teachers for effective teaching of environmental education was highlighted.

The next chapter focuses on conclusions drawn from this study, limitations of this study, recommendations and general guidelines for environmental education teachers.

CHAPTER FIVE

CONCLUSIONS, LIMITATIONS AND RECOMMENDATIONS

5.1 INTRODUCTION

This study was designed to explore the views of secondary school Development Studies teachers about the subject in Swaziland. Development Studies is a school subject that was designed to incorporate environmental education into the secondary school curriculum. This study followed a qualitative, explorative, descriptive and contextual grounded theory design. In Chapter Four, literature control and cross-validation was conducted. The literature consulted was reviewed and analysed and was used to compare findings from actual data collected (Strauss & Corbin 1990:48). In this chapter conclusions and recommendations emerging from the empirical research and literature consulted will be outlined. This chapter will also highlight the limitations of this study.

5.2 DEDUCTIONS

As a result of the analysis of the data gathered from eight Development Studies teachers and one Development Studies curriculum designer as well as literature consulted, the following deductions were arrived at:

1. All the respondents who were interviewed in this study expressed that Development Studies is a vehicle for environmental education in secondary schools in Swaziland. Development Studies creates environmental awareness in schools where it is taught particularly in local environmental problems such as health problems, sanitation, pollution, soil erosion and so on. This emerged in the data for this study.

2. Respondents in this study viewed Development Studies as an "integrated" and "practical" subject. This is in line with what is perceived as the nature of environmental education by the literature consulted in this study.

3. Teachers reflected a positive attitude towards Development Studies, a subject that is a vehicle for environmental education in secondary schools in Swaziland. The respondents in this study viewed Development Studies as a subject of great value to learners. This could be viewed as a positive step for environmental education in schools in Swaziland. Stone (1989:161) states that for effective environmental education in schools, teachers have to possess and demonstrate positive attitudes towards environmental education.

4. Teachers are aware of the appropriate teaching methodology to use in the classrooms. Most of the teaching methods that the teachers said they used are listed as recommended methods for teaching environmental education in the literature consulted. The Development Studies syllabus (Examinations Council of Swaziland 2000/ 2001:69) lists the recommended teaching methods for the subject.

5. Development Studies has a relatively high pass rate in national examinations. Learners doing the subject perform very well in it. This has been attributed to the fact that the subject is popular with learners, because it is locally based; therefore the subject content is not foreign to learners. The learners' own experiences are taken into account in the teaching of Development Studies.

6. Environmental education at junior secondary school level in Swaziland is integrated through a specific discipline, Development Studies. This subject is generally optional in schools. This deprives the learners who do not study the subject of the opportunity to learn about the environment. Although subjects that contain elements of the environment (for example, Geography and Agriculture) are offered, these subjects are not taught with the primary aim of creating awareness or developing positive attitudes towards the environment. The environmental education found in these subjects "lacks coherence, integration and practicality" (Da Silva 1996:120).

7. Development studies teachers are not trained in environmental education. This is a tragedy for environmental education in schools in Swaziland. Teachers who have not been trained in the field are expected to teach environmental education. Clearly, such teachers cannot be expected to teach environmental education effectively. For

environmental education to be taught effectively in schools, teachers have to be trained in order to possess environmental education competencies (Stone 1989:159).

8. School principals have authority to decide on which subjects to be offered in their schools. Development Studies has been dealt a severe blow in some schools, because some school principals did not find it worthy to be in their schools' curricula. This has been attributed mainly to ignorance about the importance of environmental education. Development Studies has been viewed as a subject of little value, hence it was phased out of some schools' curricula. Other subject teachers, some of whom expressed their perceptions about the subject to the students doing it, also share this kind of attitude. This has a negative impact on both Development Studies teachers and learners doing the subject.

9. Some schools have viewed phasing out Development Studies from the schools' curricula as the answer to the problems confronting the subject. Some schools have phased out Development Studies from their curricula and some of those, which are still offering it, are contemplating following suit. If this situation is not averted, Development Studies is on the verge of being phased out completely from the secondary school curriculum.

10. Some Development Studies teachers are subjected to unnecessary pressure of having to justify the place of Development Studies in their schools' curricula, whenever there is a threat to phase out the subject. The teachers generally like the subject and the threat of phasing out and the eventual phasing out of the subject from the schools' curricula has a negative impact on them.

11. Development Studies in Swaziland ends at junior secondary level. This appears to be the source of frustration for most Development Studies teachers. The fact that the subject is static has apparently been interpreted to mean that the subject has no future for its teachers and learners by some school principals and other subject teachers. This has been used as a basis for phasing out the subject in some schools. The fact that Development Studies ends at junior secondary school also deprives the learners who

would have liked to pursue the subject at senior secondary and tertiary institutions the opportunity of doing it.

12. The Ministry of Education in Swaziland does not appear to be giving adequate support to the teaching and learning of Development Studies in schools. The Ministry of Education does not seem to be addressing the problems confronting the subject, particularly the training of teachers and the declining numbers of schools offering the subject. Also, the Ministry of Education appears to be failing to fund Development Studies workshops.

5.3 RECOMMENDATIONS

The following recommendations are proposed regarding the incorporation of environmental education into the secondary school curriculum in Swaziland:

1. The teachers, school principals, teacher educators, curriculum designers and policy makers should be provided with training in environmental education. All teacher trainees in teacher training colleges, regardless of their areas of specialisation should be provided with pre-service training in environmental education. Teachers already in the field should be provided with in-service training. Swaziland should also consider the use of lower cost teacher training approaches such as distance learning (Taylor 1998:211). Appropriate teacher training programmes should be started as soon as possible in order to implement environmental education in all schools in Swaziland. (Recommendations of International Conference on Environmental Education: Global Perspective in Saxena 1996:238). The Ministry of Education should also place the need for teacher training in environmental education among its priorities. It is with trained personnel that the teaching and learning of environmental education in schools could be effective.

2. The Ministry of Education should establish links and relations with countries in the Southern African region where environmental education is well established. These links and relationships could take the form of regular study tours for Ministry of Education officials including policy makers, curriculum designers, teacher educators,

school principals and teachers to these countries. Personnel from such countries should also be invited to Swaziland. This would enable the Ministry of Education officials to share ideas with their counterparts and learn from them and hence improve the standard of teaching and learning of environmental education in schools in Swaziland.

3. The Ministry of Education should hold regular workshops and seminars for teachers, heads of schools, teacher-educators, college principals, policy makers, parents' representatives and other stakeholders to create awareness and sensitise them about environmental education (SEA 2000:29). International organisations such as UNESCO could be urged to assist financially and technically in this regard. It is when all the stakeholders have been sensitised about the environment and are involved in the planning and implementation of environmental education programmes in schools and tertiary institutions, that the integration of environmental education into the school curriculum in Swaziland could be a success.

4. A Ministry of Education policy relating to the teaching and learning of environmental education in schools should be formulated. The policy should make environmental education a continuous school subject from primary school to tertiary level, as there are many facets to environmental education. This policy should also reflect the importance of environmental education in schools. Schools should also be encouraged to develop their own environmental education policies. A clear national policy on environment is essential for Swaziland and without this, curriculum development for environmental education would be deficient in direction and purpose (Recommendations of International Conference on Environmental Education: Global Perspective in Saxena 1996:238). For environmental education to be successfully incorporated into the school curriculum on a national level, it needs to be supported by a national environmental education policy (van Rooyen 1998:126).

5. The Development Studies curriculum designer and senior inspector should monitor the use of materials developed by National Curriculum Centre (N.C.C.) closely and the teaching strategies used by the teachers even more closely so that they may be

kept informed about everything. This would enable them to offer relevant assistance and advice to Development Studies teachers.

6. As an alternative to Development Studies, environmental education concepts should be integrated into the curriculum at all levels in Swaziland (SEA 2000:29). An integrated approach to the incorporation of environmental education into the secondary school curriculum is recommended. In this approach, environmental concepts would be incorporated into the already existing subjects and no new subject would be added to the curriculum (Saxena 1996:37). In the integrated approach all learners would get to learn about the environment. This approach to environmental education would also help to curb the problem of lack of teaching time, since environmental education would not be competing for time with the traditional subjects. This approach would, however, have significant implications for curriculum development and teacher education and training (Bornman 1997b: 57).

7. Developing and implementing an integrated approach to environmental education for secondary school curricula in Swaziland, may take a relatively long period of time because of the many processes involved. While means are being made to develop an integrated approach to environmental education, Development Studies should be made compulsory in junior secondary schools in Swaziland. It should also proceed to senior secondary level and tertiary institutions. This would enable all learners in secondary schools to be exposed to environmental education.

8. Team teaching in schools should be encouraged to deal with aspects of the subject that Development Studies teachers find problematic. This may help to change the perceptions that other subject teachers have about the subject since they would also be involved in the subject.

9. Teaching and learning materials should be made readily available in all schools. The NCC which is responsible for developing Development Studies teaching and learning materials for schools, should work towards producing these materials at low cost or no cost. The NCC should also help teachers to produce their own materials.

10. Non-government organisations ((NGOs) should be involved in creating environmental awareness and the integration of environmental education in schools. NGOs involved in environmental education in Swaziland such as the Yonge Nawe Action Group, should be included in all stages of the development of environmental education programmes for schools.

11. The purpose of this study was to explore the views of secondary school Development Studies teachers on the subject in Swaziland. While carrying out this study, the researcher observed that there were relatively few materials on environmental education in Swaziland. This observation is also shared by SEA (1997:78), which asserts that research on environmental education in Swaziland is lacking. In this research, a number of issues came to the fore that require further investigation. The following are some of these areas:

   • the extent to which Development Studies as a school subject in Swaziland in secondary schools enables learners to be environmentally literate;

   • conceptual barriers to the incorporation of environmental education into the secondary school curriculum in Swaziland;

   • an assessment of current knowledge, attitude and perceptions on the environment amongst learners and teachers. (SEA 2000:29).

5.4 GUIDELINES FOR TEACHING IN AN ENVIRONMENTALLY DIRECTED WAY

The following are guidelines that Development Studies teachers in Swaziland could find helpful:

   • The various stakeholders, including parents, teachers and learners must be included in the construction of subject syllabus (Doll in Carl 1995:88).

- The syllabus must not be viewed as prescriptive: The teacher has to demonstrate his or her creativeness and professionalism (Cowie 1997:288).

- Clear, well-defined unambiguous learning objectives should be developed.

- The syllabus must allow for creative, divergent and investigative thinking on the part of the learners and teachers (Neal & Palmer 1990:39; Cowie 1997:287).

- The subject must be relevant, taking into account our constantly changing world (Engleson 1985:4; Cowie 1997:286).

- The syllabus must be learner-activity based (Neal & Palmer 1990:61; Cowie 1997:287). The teaching methods used must be learner-centred to ensure greater learner autonomy (Cowie 1997:288). Involvement of learners is a key to their learning (Allman et al. 1976:12).

- The teacher must use a variety of methodologies (Neal & Palmer 1990:61; Palmer & Neal 1994:24; Saxena 1996:112). There should be a wide variety of teaching and learning environments so that learners are not confined to the classroom (Neal & Palmer 1990:1).

- Field work should be an integral part of the subject (Hurry 1980:166; Cowie 1997:285). Field work should be continuous, focused and progressive and well integrated with classroom and other learning experiences (Neal & Palmer 1990:40). The experience of field work should foster skills of observation and note taking, and should stimulate positive environmental attitudes and behaviour in the learner (DEACE n.d.: 9).

- Role play exercises and simulations should be employed to more effectively impart various concepts and ideas to learners (Cowie 1997:286).

- Problem solving and problem handling techniques (Cowie 1997:287) need to be included in the Development Studies syllabus. This is one of the guiding principles for effective environmental education (DEACE n.d.: 9).

- The development of research skills should be emphasised in the teaching of the subject (Cowie 1997:286).

- The teacher must use a variety of teaching/learning resources and experiences (Neal & Palmer 1990:1; Cowie 1997:288). Other than textbooks, other kinds of teaching materials such as guides, handbooks, slides, films, models and so on should be developed in a comprehensive manner (Saxena 1996:241).

- The teacher has to see his or her role as that of a guide or facilitator. He or she has to make learning material accessible and real to the learner (Allman, Kopp & Zufelt 1976: 12); Cowie 1997:288).

- Learner assessment and evaluation needs to be continuous and interactive between teacher and learner with more emphasis on the formative type of evaluation rather than summative evaluation (Cowie 1997:287).

- When assessing or evaluating learners, emphasis should not be on the knowledge gained, but how the knowledge was gained (process involved) (Cowie 1997:286).

5.5 LIMITATIONS OF THE STUDY

The following are the limitations of this study:

- The study employed purposive sampling. The number of respondents who participated in the study was determined by data saturation and was not reflective of the population. The findings of this study are, therefore, not applicable to other contexts.

- Some of the interviews were conducted in Siswati and the exact meaning might have been lost when the interview transcripts were translated to English.

5.6 CONCLUSION

This study has been exploring the views of Development Studies teachers about the subject in secondary schools in Swaziland. Development Studies is a subject that was designed to integrate environmental education in secondary schools in Swaziland. In this study, face–to-face individual interviews were carried out where respondents expressed their opinions, thoughts, concerns and feelings about Development Studies as a school subject. It is those thoughts, concerns and feelings which enabled the researcher to determine how Development Studies teachers perceived the subject.

The idea behind the introduction of Development Studies in secondary schools in Swaziland was a positive one for environmental education. Development Studies can to a great extent be used as a vehicle for environmental education in secondary schools in Swaziland. But all learners have to benefit from it. It has been recommended in this study that environmental education concepts should be integrated into the curriculum at all levels in Swaziland or at least Development Studies should be made compulsory in all secondary schools in Swaziland. The main problem appears to be with the education authorities that are apparently not doing much to promote the teaching and learning of environmental education in schools. Schools generally phase out Development Studies at their convenience. Furthermore, Development Studies teachers in Swaziland are not trained in environmental education. Can such untrained teachers in environmental education teach environmental education effectively in schools? How much environmental education skills, knowledge and competencies do they possess? The literature consulted in this study made it clear that in order to teach environmental education effectively in schools, teachers must be trained in the subject. Saxena (1996:54) states that the training of environmental education teachers has to be different from that of teachers of traditional subjects. Swaziland needs an environmental education policy to guide its teaching and learning in schools.

It has been stated in this study that secondary school subjects in Swaziland are largely compartmentalised. Therefore, the structure of the curriculum in secondary schools in Swaziland would have to be revamped to be in line with the conditions necessary for

effective environmental teaching. Furthermore, Swaziland should over the long term aim at adopting a cross-curricular multi-disciplinary/ interdisciplinary approach to environmental education, as recommended in the literature consulted in this study.

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