

EXPLORING LEARNERS' PARTICIPATION

IN

SCHOOL ENVIRONMENTAL CLUBS

By

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ABSTRACT

Exploring learners' participation in school environmental clubs

The United Nations declared 2005–2014 to be the Decade of Education for Sustainable Development. Environmental clubs (ECs) within an education system could play an important role in making positive change for sustainable environmental development in a society, by offering learners environmental knowledge and practical activities that they can participate in. This participation strategy is different from the learners receiving direct instructions on what to do from a teacher. The research questions that underpin this research are: Why do learners participate in environmental clubs and how do learners participate in environmental clubs? The theoretical framework that underpins this research is an adaption of the Contextual Model of Learning (CML) where learning is inextricably linked to participation. The CML is used to address the participation of learners which flows from the basic elements of personal, sociocultural and physical contexts, which overlap with one another. Insights from Agarwal's typology of participation (2001) also inform the design and analysis of this study. This qualitative study is located in an interpretivist paradigm. The research sites were two schools in KwaZulu-Natal which had established environmental clubs. Executive members from the environmental club from one school, and executive and non-executive club members from another school, were purposively selected to form the sample in this study. Data collection methods comprised semi-structured interviews and observations. Data was analysed using the constructs from the CML as well as Agarwal's (2001) typology of participation.

The findings of this study are presented using the frames of sociocultural, physical and personal contexts, as explicated in the CML. The findings provide insight into how learners as EC members, participate in non-sequential learning, based on their prior knowledge, interests, and experiences. Their societies' influence about what is valuable learning, within and outside of groups, as well as ways in which they navigate their learning environments physically and intellectually, offer insights into how and why learners participate in environmental clubs. Based on these findings, recommendations related learners' participation in ECs are made.

DECLARATION

I *URSULA COLLINGS* declare that

- (i) The research reported in this dissertation, except where otherwise indicated, is my original work.
- (ii) This dissertation has not been submitted for any degree or examination at any other university.
- (iii) This dissertation does not contain other persons' data, pictures, graphs or other information, unless specifically acknowledged as being sourced from other persons.
- (iv) This dissertation does not contain other persons' writing, unless specifically acknowledged as being sourced from other researchers. Where other written sources have been quoted, then:
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The candidate supervisor: I agree disagree to the submission of this dissertation.

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Date: _____

PREFACE

The work described in this thesis was carried out in the School of Science, Mathematics and Technology Education, University of KwaZulu- Natal, from February 2010 to December 2011 under the supervision of Dr. Ronicka Mudaly.

This study represents original work by the author and has not otherwise been submitted in any form for any degree or diploma to any tertiary institution. Where use has been made of the work of others, it is duly acknowledged in the text.

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DEDICATION

TO MY MOTHER LOUISE MARY RUSSON

for encouraging me to never give up and to persevere to complete this study.

TO MY HUSBAND KEITH AND CHILDREN, DALE, DANIEL, JESSICA AND DAVID
COLLINGS

for your love and patience in encouraging me to complete this dissertation.

ABBREVIATIONS:

AS	Assessment Standards
BEEP	Beyond Environmental Expectations Project
CAPS	Curriculum and Assessment Policy Statement
CML	Contextual Model of Learning
CROW	Centre for the rehabilitation of Wildlife
D'MOSS	Durban Metropolitan Open Space Systems
DESD	Decade of Education for Sustainable Development
DoE	Department of Education
ECs	Environmental clubs
EE	Environmental Education
EEPI	Environmental Education Policy Initiative
ESD	Education for Sustainable development
GSA	Green School Alliance
LO	Learning Outcomes
IUCN	International Union for the conservation of Nature
NCS	National Curriculum Statement
NGO	Non-government Organisation
NEMA	National Environmental Management Act
UNEP	United Nations Environmental Programme
UNESCO	United Nations Educational, Scientific and Cultural Organisation
WCED	World Commission on Environment and Development
WESSA	Wildlife and Environment Society of South Africa

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CHAPTER ONE

INTRODUCTION

1.1 INTRODUCTION

South Africa achieved democracy in 1994 and since then has undergone political transformation. This transformation was the fore-runner to change in other spheres - economic, social and environmental. The country has experienced environmental challenges pre- and post- 1994. These challenges include environmental degradation, unemployment, poverty, HIV/AIDS infections and food shortages among many citizens. Education is viewed as necessary for developing citizens for active participation in reducing the impacts of these challenges and developing solutions in response to them. This development is, in the case of learners, possible in the context of in-classroom and out-of-classroom learning. Out-of-classroom learning involves participation in visits to museums, zoos, environmental centers as well as in Environmental clubs. In this study the focus is on learners' participation in an Environmental club (EC), with particular reference to how and why they participate in the club. In this chapter I present the background of the research, which includes a discussion on the historical background of citizen participation in environmental action. I also present the focus of the study where I outline the research questions which this study seeks to answer, the rationale for the research, the meaning of terminology used, significance of the study and a plan for each of the subsequent chapters.

1.2 BACKGROUND TO THE RESEARCH

Globally, environmental awareness in the latter half of the 20th century has increased but participation in environmental initiatives is a major concern. Since the United Nations Conference on Environment and Development (UNCED) in Rio de Janeiro, Brazil, also referred to as the Rio Summit and the Earth Summit, in 2002, environmental action for sustainable development is globally accepted as a concept (Drexhage & Murphy, 2010). Although substantive progress has been made on how to measure environmental sustainable action the

implementation of it has been largely unsuccessful (Drexhage & Murphy, 2010). Some strides in addressing environmental issues have been made but have failed to increase active citizen participation in environmentally sustainable challenges (Drexhage & Murphy, 2010).

The participation of citizens in making positive impacts and creating solutions for environmental challenges still has to be realised. This call has been central to the United Nations since 2005, as evident from the United Nations declaration: 2005–2014 the "Decade of Education for Sustainable Development" (United Nations, 2005, p. 3). This declaration paved the way for education to be used as a vehicle for change. It is envisaged that throughout the decade (2005-2014), education for sustainable development will contribute to enabling citizens to face the challenges of present and future environmental challenges and for leaders to make relevant decisions for a sustainable world. The declaration designated the United Nations Education for Scientific and Cultural Organisation (UNESCO) as the lead agency for the promotion of the Decade of Sustainable Development, stating that all citizens should be involved in the change, given the immense negative impacts on the environments on this planet (UNESCO, 2001). The implication of this is that the development of environmentally literate citizens should be through education. This is clearly articulated as a goal laid out by UNESCO in the Decade of Education for Sustainable Development:

To promote an education in solidarity capable of generating responsible attitudes and commitments, and that prepares citizens to make well-founded decisions aimed at achieving culturally plural, socially just, and environmentally sustainable development (United Nations Education Program, 2005, p. 4).

The education and action of all citizens for sustainable development of a country, including South Africa, is a matter of urgency. The increasing economic growth, exploitation of resources, socio-economic inequalities and inadequate environmental planning is on the increase in many developing countries and to a minimal extent in developed countries (UNESCO, 2001). South Africa is a “global leader in biodiversity conservation and wildlife management and has in place a first-rate network of protected areas” (The World Bank Overview, 2013, p. 1). South African

learners should be developed to be active citizens in environmentally sustainable actions. For this to be achieved, learners' participation in environmentally based activities/actions in school or outside school settings is necessary. These activities/actions should focus on the nature and manner of the learner participation in environmental initiatives. In this sense, Jensen and Schnack (2006) describe the objective of Environmental Education (EE) as enabling learners to imagine alternative forms of development and to participate in actions in accordance with these objectives. This could take the form of learner participation in school ECs where the learners could acquire the courage, commitment, and desire to participate in environmental actions, ultimately learning to be active, environmentally literate citizens. A key aspect of ECs is the acquisition of knowledge and skills for alternative actions, in which the learners can choose whether or not to participate (Jensen & Schnack, 2000). Criteria for such action would be that first, the learners have to decide to do it, and second, that the act itself is targeted at resolving some environmental issue.

1.3 PURPOSE OF THE RESEARCH AND RESEARCH QUESTIONS

The purpose of the research is to explore learners' participation in their school ECs. This participation is concerned with how learners participate and why they participate in the ways that they do in an EC. In order for this purpose to be addressed, the phenomenon of participation is explored and used to give meaning to the types of participation exhibited by the ECs. In addition the Contextual Model of Learning (CML) proposed by Falk and Dierking (2000) is adapted and used to establish and analyse the elements which affect learner participation.

The research questions that drove this research are:

1. How do learners participate in Environmental clubs?
2. Why do learners participate in Environmental clubs in the way they do?

1.4 RATIONALE FOR THE STUDY

The rationale for this study stems from both my personal and professional experiences with the environment. I declare my interest in the study is based on these experiences where I have seen that that Environmental clubs' are beneficial. Although there are a number of benefits of Environmental clubs', as discussed further in this chapter, this is not the focus of the study. Guided by the research questions of the study, in this research I am only interested in how and why learners participate in Environmental clubs (ECs) and I do not intend to focus on learners who are not members of an EC.

I have reflected on my life and questioned when I first developed an interest in the environment. I recall myself as a five-year-old, trying to understand what the stars were and how I could get to them. When making mud cakes in my garden, I tried to guess how quickly they would dry. As I decorated the mud cakes with flowers, I wondered why the flowers were a specific colour and shape, and how I could help them to continue to grow. I assume that many children have had similar experiences and interests in the phenomena of the natural environment, although they may not have actively reflected on these.

My understanding of EE is that it is an attempt to understand our natural and unnatural world. It involves participating in trying to figure out the why, what, when and how of events, objects and phenomena around us through the three C's and the big D, namely; curiosity, creativity, critical thinking and discovery, which are linked to the nature of science education (Copperland, 1975).

My interest in the environment and science led me to becoming a Life Sciences teacher and co-ordinator of the EC at the school where I teach. Over the years I have observed that few learners show an interest in the EC and that they have varying degrees of participation. Learners who participated in ECs were keen to assist and work after school or on Saturdays on projects or programmes aimed at improving their local community. While participating, they integrated their prior knowledge with new knowledge, enjoyed the social construct and positively influenced the schools' role in environmental issues. I also observed their enthusiasm whilst participating in the EC activities and in the interrelatedness of these activities with their personal lives (hobbies) and

formal schooling lives (the classroom). The learners developed self-confidence and leadership skills as they interacted as a team to achieve a common goal.

My experience of the EC activities in my school revealed that the EC was a platform for learners to be the agents of their own transformation, and to influence social change through environmental upliftment. Through their participation in the EC activities, learners were exposed to possibilities for improvement of the school by engaging with the development of landscaped indigenous gardens. They were able to identify the different plants, learn about their medicinal properties and they learnt how to landscape and design the school gardens in the most water efficient way. An EC member, who came from a very impoverished local informal settlement, transformed his family home by planting plant cuttings around his home, thereby uplifting his home environment as well.

The EC members from my school also participated in the 50/50 television documentary, which documented the pristine area of Kosi Bay. The EC members from my school lived with the local Kosi Bay community for a week and developed an understanding of their cultural way of life, and their sustainable use of natural resources: local fish-traps, the pristine coastal forest vegetation and tracking the loggerhead turtles. Thus, I declare that although my study does not focus on the benefits of EC, my own professional experiences as an EC co-ordinator, motivated me to explore learner participation in ECs in other schools, in order to understand their experiences in a way which would advance the discourse on EE within the South African school landscape.

I believe that if education is to play a role in combating the environmental crises, then we as teachers need to consider teaching and encouraging our learners to develop knowledge about and an interest in natural systems. I propose that to allow our learners to live in the environment consciously, to sense and participate in and experience their environment, through participation in ECs, will give them a different perspective of the environment as compared to when they merely read or hear about it.

1.5. MEANING OF TERMINOLOGY

Terms used in this research are presented below, including their meanings.

1.5.1 Participation

Participation comes from entering into an encounter with the world in which there is “mutual recognition and confirmation” (Bethards, 1999, p. 128). Learners’ participation is a construct that may simply be defined as learner action in an activity. Participation has diverse meanings, which range from simple interaction to more complex aspects, such as social and political interactions (Lane, 1995). The diverse meanings of participation are illustrated below:

“Participation is...an active relationship and dialogue between people and the state. It is not only gathering evidence and opinions but is an educative, discursive and inclusive process that has value in itself in building fuller citizenship. It is seen as a means of strengthening representative democracy rather than being in opposition to it” (Scottish Parliament, 2004, p. 4)

“Participation enables communities to be directly involved in the decisions that matter to them rather than simply being canvassed for their opinion. It implies a shared responsibility for resolving problems” (Morris, 2006, p. 31)

“Participation is everything that enables people to influence the decisions and get involved in the actions that affect their lives... It includes but goes beyond public policy decisions by including initiatives from outside that arena, such as community-led initiatives. It includes action as well as political influence. It also encompasses the need for governance systems and organizational structures to change to allow for effective participation” (Involve, 2005, p. 1)

Participation may be conceptualized by examining whom it involves, what is expected to be achieved, and how is it brought about (Agarwal, 2001). It is imperative to clarify that a learner may participate and this may not lead to learning; however there can be no learning without participation (Brindley, 2009).

The definitions for participation abound and for this research, I mainly draw on Wenger's (1998) definition of participation. Wenger (1998, p. 80) refers to participation as "a process of taking part and also to the relations with others that reflect this process". It is a complex process that includes, for example, doing, talking, thinking, feeling and belonging. Participation involves action, for example, talking with someone, and connection, for example, feeling that one takes part. (Wenger, 1998).

1.5.2 Informal settings for learning through participation

Informal settings include a broad array of scenarios, such as participation in "family discussions at home, visits to museums, nature centers, or other designed settings and everyday activities like gardening, as well as recreational activities like hiking and fishing, and participation in clubs" (Bell, Lewenstein & Shouse, 2009, p. 1). Informal settings of Environmental clubs provide a conduit for bringing the learning and practices of the day to a group of learners who may share a common thread of interest. At the same time, learners may develop a sense of the environment through environmental initiatives and actions such as recycling.

EC activities are based on direct interaction with and participation in activities related to natural elements. These activities have the potential to facilitate learners' understanding of concepts such as diversity of living and non-living things in nature, the links between non-living settings and living things, energy flow, substances, transformations and disintegrations (Illinois Environmental Protection Agency, 2003). I concur with Ozdemir and Uzen, (2006, p. 375), who assert that "Educational settings that are freed from restrictions of the classrooms, they become experimental places where the student can observe and get to know nature just as it is". This study focuses on participation in informal settings, which can play a special role in stimulating and building on initial interest and supporting learners' participation over time as learners navigate informal environments in and out of school.

1.5.3 Environmental club

The term “Environmental club” has been conceptualized in the northern global context as being synonymous with informal learning, green learning activities and outdoor club activities (Neill, 2008). ECs not only bring opportunities for long-lasting and meaningful learning, but also offer rich educational experiences that consolidate the peace between humans and nature (Stroh & Sabel, 2005). In educational settings offered by the ECs, learners are provided with learning experiences that make it possible for them to directly observe nature, to discover by using different senses and to reach an understanding of their environments.

Participation in ECs plays an important role in bringing attention to environmental issues and combining teaching and learning strategies in a way that motivates learners. Ledger (2009, p. 1) asserts that :

In the 1940s there was no colour printing, no television, no wildlife documentaries, no internet, no Google. Today we have all these things, however it seems that in some parts of the developed world generations of children may be growing up with no interest in nature or the natural world, because they have no real hands-on experience of it and are surrounded by electronic cocoons that provide instantaneous gratification.

Ledger’s observations resonate with my personal views and experiences, which have motivated me to study young people’s interaction with the environment by focusing on their participation in Environmental clubs.

1.6 SIGNIFICANCE OF THIS STUDY

It is envisaged that the findings of this study will be significant to policy makers and other role players in education. Institutions which partner with communities may also gain insights into learners’ participation in environmental initiatives, and utilize this knowledge to shape partnerships. Co-ordinators of school ECs will be better informed about learners’ participation through this study.

Findings of this research will stimulate the specific interests of teachers and learners and support learning in the phase organizers. ECs as a way of stimulating learner participation informally, can contribute to gaining systematic and reliable knowledge about the environment. This research will inform teachers who have an interest in developing and managing ECs, institutions which train teachers and curriculum policy developers who address school environmental policy. Schools are invaluable areas to develop effective learner participation in ECs and programmes that integrate aspects of Natural Sciences and Life Sciences, to ensure that learners develop science knowledge, skills and an interest in and for the environment. Teacher training institutions will also be better informed about how learners can become active agents of knowledge construction through participation in Environmental clubs, and this can be incorporated into relevant modules.

Curriculum policy developers, who design curricula which include environmental studies, as well as school environmental policies, will be better informed by this study. Curriculum policy developers could consider how programmes, especially those promoted by Environmental clubs that occur during out-of-school time, afford a special opportunity to expand learner participation and learning experiences for many children. These programmes, many of which are based in schools, are increasingly combining disciplinary and subject content, through informal settings within the EC. Rather than focusing on discrete moments of formal learning, teachers can use the learner participation in ECs as a bridge to understanding learning across settings: exploring, for example, how learner participation in one setting prepares learners to participate in other settings. Through learner participation in the Environmental clubs, teachers and curriculum developers can focus on learning experiences as they occur in specific settings and cultural communities and on the continuity of a learner's experiences across science learning environments—from classrooms to community sites.

Knowledge about learner participation in Environmental clubs can further promote the aims of the National Curriculum Statement Grades R – 12 to equip learners with the skills to work effectively as individuals and with others as members of a team, to organize and manage

themselves and their activities responsibly and effectively. Policy makers can use the findings on the learner participation in the Environmental clubs to inform policy on the importance of critically showing responsibility towards the environment and the health of others.

Non-government organizations (NGO's) and contributors to the social and economic transformation of our country could use the finding of this research to develop initiatives that encourage learner participation in informal settings. This could be achieved by creating the opportunity for learners to be exposed to mobile museums, hiking trails and camps, as well as creating activities which can lead to learner empowerment.

Partnerships between science-rich and other institutions, as well as local communities, can use the findings of this study to structure inclusive learner participation across settings, beginning with setting goals, especially when partnerships are rooted in ongoing input from community partners that inform the entire process. Knowledge about learner participation in Environmental clubs can be used in business-local community collaboration, which can lead to community upliftment.

1.7 LOOKING AHEAD: A SYNOPSIS OF THE REMAINING CHAPTERS

Chapter Two focuses on the literature that is linked to the research questions.

This chapter presents the conceptual framework focusing on participation and it also describes the theoretical constructs embedded in the CML, which form the basis for designing and interpreting this study. Key concepts which are privileged in this chapter include: Environment, Education for Sustainable Development and ECs.

In Chapter Three the research methodology, including the design of the study, is presented. The qualitative approach that was adopted for this research project is argued for, and a brief description of the process of selection of participants at the schools, and the research sites, is presented. The choice, use and justification for the data collection methods to generate data are also discussed. Development of the research instruments is detailed: learner profile, face-to-face

and group interview schedules, recordings and transcribed notes, observation of an excursion to the Centre for Rehabilitation of Wildlife (CROW), field notes, together with a visual photograph. The chapter also furnishes the reader with information about the research sample selected in each of the research sites, and concludes with details of adherence to ethical requirements.

Chapter Four provides information about the data analysis process. It includes an interpretation of the findings at the research sites. EC members formed case study A for the first school, and case study B for the second school. The findings are analyzed according to Falk and Dierking's (2000) CML, using the following frames:

- Personal context
- Sociocultural context
- Physical context

Chapter Five focuses on the conclusions arrived at in this research project, through analysis of the case studies. The implications for this research are addressed, including recommendations for future research in this area.

CHAPTER TWO

LITERATURE REVIEW

2.1 INTRODUCTION

This study explores how and why learners participate in a school environmental club. The call for active participation of citizens to reduce the impacts of environmental challenges and develop solutions, could be linked to learners' development in the context of in-classroom and out-of-classroom learning. In this research the focus is on learners' participation in an environmental club (EC), which is linked to out-of-classroom learning. This chapter begins by underscoring the link between participation and learning. It goes on to describe environmental education policy in South Africa and environmental education internationally. The RNCS and its connectedness with environmental education is explored. The chapter ends with interrogating the concept of participation and examining elements which are adapted from the CML to form a theoretical basis for the study.

2.2 LEARNING AND PARTICIPATION

Learning is conceptualised more broadly as being the product of participation in social practice (Rogoff, 1995). Through learners' participation in the environmental club activities and access to its affordances, it may be possible to adopt a broader view of learners' experiences in it. In this study, learning and participation are linked because learning is viewed as the product of participation. This is the rationale for adapting Falk and Dierking's (2000) Contextual Model of Learning (CML) to study learners' participation in an EC. The CML is a model of learning in informal, out-of-school contexts and is adapted to understand these learners' participation in Environmental clubs.

The widening acceptance of learning as an inter-psychological process (i.e. between individuals and social sources of knowledge) now prompts a consideration of learning as participation with the social world, and not only through close personal interactions as Vygotsky (1978) and others propose (Rogoff, 1995). In this context, opportunities to participate in EC activities, the kinds of

tasks the learners are permitted to participate in, and the guidance provided, become key bases to understand and evaluate how and why individuals participate in the EC. How opportunities to participate are disseminated in the Environmental clubs become central to understanding participation through school Environmental clubs. These opportunities are also likely to shape how individuals elect to participate in goal-directed activities and secure direct (close or proximal) and more indirect (distal) kinds of guidance (e.g. opportunities to observe and listen) (Billett & Boud, 2001). Both kinds of participatory practices have consequences for the knowledge individuals construct, with the former being central to assist with learning that would be difficult without the support of a more knowledgeable partner. However, the use of intentional learning strategies in the workplace, such as guided learning, is also subject to contested participatory practices (Billett et al, 2001).

2.3 ENVIRONMENTAL EDUCATION

In this study, activities of Environmental clubs are positioned within the broad area of environmental education. According to the International Union for the Conservation of Nature (IUCN), environmental education (EE) is:

... the process of recognizing values and clarifying concepts in order to develop skills and attitudes necessary to understand and appreciate the interrelatedness among men, his culture and his biophysical surroundings. EE also entails practice in decision-making and self-formulation of a code of behaviour about issues concerning environmental quality.
International Union for the Conservation of Nature (IUCN, 1971, p. 2)

Environmental education is aimed at “producing a citizenry that is knowledgeable concerning the biophysical environment and its associated problems, aware of how to help solve these problems and motivated to work towards their solution” (Stapp, 1969, pp. 30 -31).

Within the South African context the concept of EE is used and in other countries the concept “Outdoor education” (Priest, 1986, p. 1) is used. This education is considered as a cultural phenomenon with personal and social development as the major purpose. The term “outdoor education” is used quite broadly to refer to a “range of organised activities which take place in

predominantly outdoor environments for a variety of purposes” (Niell, 2008, p. 5). Strict definitions of outdoor education are cautioned against because conceptualisations, interpretations, and practices of outdoor education vary according to culture, philosophy, and local conditions (Brookes, 2006; Lugg, 1999; Neill, 2008; O’Donoghue, 2000). Arguably synonymous terms include adventure education, outdoor learning, outdoor adventure education, and adventure programming. Historically and conceptually the term outdoor education has also been closely connected with Adventure education, EE, and experiential education (Priest, 1999). It is important to recognise that definitions and understandings of Outdoor education are at least somewhat relative to time and place. Taken too literally, universalistic or abstract definitions (without local contextualisation) may be inappropriate, misleading, or even dangerous (Brookes, 1991, 2004).

A review of global and local literature on research in EE and EC participation is presented with a view to indicating the gap that this research addresses. I locate learners’ participation in school Environmental clubs within the context of environmental education, and therefore unpack the development and relevance of environmental education in the literature review. I then link environmental education with education for sustainable development and its connectedness to environmental consciousness; the latter which I contend can be enhanced by participation in Environmental club. A brief description of environmental education in the school curriculum is discussed. This is followed by providing insight into the background of many South African learners and teachers, in order to underscore the value of school ECs, and challenges related to these ECs. Participation, as a phenomenon, is then explored. The interrelatedness between participation and learning is underscored. This is argued for by making reference to social learning theories. A scarcity of empirical studies about South African school Environmental clubs was found in the literature that was reviewed. This was one of the motivating factors for constructing scholarly work in this field.

2.4 HISTORICAL DEVELOPMENT OF EE.

When considering the history of EE and the environmental movement internationally, it is important to unpack what marked the beginning of environmental consciousness, and the

beginning of EE. According to Achterberg (1994) and Eckersley (1992) , the historical contexts of environmental consciousness was mainly during the 1970's amongst Western nations, where an increase in industrialisation, population growth and the use of resources impacted on the continued existence of a safe, healthy, clean and diverse environment.

Gough (2009, p. 187), asserts that, “the beginning of environmental consciousness, was an awareness of the environment” which was further entrenched by The Tragedy of the Commons. Gough further explains “Carson and Ehrlich, were all scientists in the 1960s who were concerned about the state of the environment: increasing levels of pollution - air pollution, water pollution; destruction of forests and wetlands; the effect of the use of DDT on the environment and its accumulation through food chains” (2009, p. 190). In the 1960's an awareness of the human impact on the natural environmental systems and the role that education could play in reversing such environmental destruction came to light (Le Grange & Reddy, 2007). Scientific and ecological problems such as land, air and water pollution and deforestation and desertification were increasing the need for intervention, particularly in the form of education.

Following the 1972 United Nations Conference on the Human Environment in Stockholm, UNESCO organized an International Workshop on EE in Belgrade in 1975. This was in response to the task given to the United Nations Environmental Programme (UNEP) to establish the term “EE”, as an international norm and conceptual framework within which further development could take place” (Irwin & Lotz-Sisitka, 2005, p. 40). Irwin and Lotz-Sisitka further state that in 1977 the first Intergovernmental Conference on EE was held in Tbilisi in the former Union of Soviet Socialist Republics. It was from these conferences and workshops that recommendations for the international application of EE were prepared. Braus (1995, p. 46) states the three major goals of EE that were developed by the delegates at the Tbilisi Conference:

- to foster a clear awareness of and concern about economic, social, political and ecological interdependence in urban and rural areas;
- to provide every person with opportunities to acquire the knowledge, values, attitudes, commitment and skills needed to protect and improve the environment ; and

- to create new patterns of behaviour of individual groups and society as a whole, towards the environment.

EE started as a movement because, as with most social challenges, education is seen as a suitable response (Braus, 1995, p. 6). The EE movement consisted of people who were concerned about the environment and wanted to respond to the negative human impacts on the environment. The thinking was that this response could be achieved through the integration of EE in schools.

Gough (2009, p. 190), states that the earliest definition of EE was that:

...humans are an inseparable part of the system, consisting of humans, culture and the bio-physical environment and, that humans have the ability to alter the inter-relationships of this system; an understanding that the bio- physical environment is both natural, Man-made in its role in contemporary society; and it is the responsibility of citizens and the government to solve environmental problems through changing attitudes and active participation.

The word “environment” was first associated with conservation practices and actions in nature reserves and related to plants and animals only; humans were primarily excluded. Loubser (1992, p. 92) asserts that the environment is sometimes seen as the people’s “personal sphere”. He states that humans do not consider themselves to be part of the environment but as superior to it, and in control of the other components of the earth. Dreyer and Loubser (2005, p. 144) also maintain that everything surrounding human beings is part of the environment, that is, both “natural and human made”, which also suggests that humans are excluded from the environment. This means that people, who look at the environment in this way, look around themselves to locate things which surround them, thus describing the environment and excluding themselves. Furthermore, environment was understood as “nature”, and environmental issues in South Africa have always been associated with social, biophysical, political and economic issues.

Loubser (2005) argues that even if human beings are considered the heart of the environment, the environment also includes other organisms and non-living structures and factors which affect

them. This view implies that humans are part of the environment just as other components of the environment are, because the environment is a space where all the living organisms live and interact with non-living factors. The environment therefore not only consists of the physical elements and those biological in nature but also of various aspects linked to human activities.

The environment is an inter-related connection between:

- Economy – involves jobs, money and the exploitation of resources;
- Political – is linked to issues of power, policy and decisions;
- Social – concerns the interaction between people in their communities and daily lives/
- Biophysical – refers to the natural environment including living organisms and non-living factors such as air, soil and water (Janse van Rensburg & Taylor, 1993).

The interaction between these dimensions and the negative consequences of the human-nature relationship is often seen as the cause of multiple environmental problems perceived as the environmental crisis (Janse Van Rensburg, 1994, p. 3).

Carruthers (2006, p. 5) outlines how debates began to focus on “brown rather than green issues: demands for clean water and less industrial pollution, worker safety and land for housing and subsistence farming.” This trend followed the global environmentalism which since the 1990’s had not been solely concerned with fauna, flora and air pollution, but also with campaigns against toxic waste dumping, consumer rights and other environmental issues. Findings in the Learning for Sustainability Project (Janse Van Rensburg, 2000, p. 5), indicate that perspectives of environmental issues were often characterised by “narrow interpretations of the issues, when causes of environmental issues were, for example, attributed to ignorance of individuals.” Educating for responsibility in the environment is concerned with education for sustainable development.

2.5 EDUCATION FOR SUSTAINABLE DEVELOPMENT

A discussion on education for sustainable development requires clarity of the meaning of the terms sustainability and education for sustainable development. Sustainability with reference to the environment may be defined as follows: “it is based on meeting the needs of the present,

without compromising the ability of future generations to meet their own needs; environmental sustainability is more related to the needs of society influenced by a financial constraint” (Department of Environmental Affairs and Tourism, 2006, p. 4). González-Gaudio (2007) identified education for sustainable development (ESD) as one of the emerging discourses in EE. Education for sustainable development (ESD) according to Fein (1993, p. 2) is a “pattern of development that meets the needs of future generations”. Chikunda (2007) views ESD from an international perspective and focuses on its enabling aspect for all people to understand the linkages among poverty, resources and environmental destruction. The meaning for ESD was also elaborated on by the United Nations environmental division. The United Nations UNESCO (2001, p. 6) states that:

Education for sustainable development is about learning to respect, value and preserve the achievements of the past; appreciate the wonders and the peoples of the Earth; live in a world where all people have sufficient food for a healthy and productive life; assess, care for and restore the state of our planet; create and enjoy a better safer more just world; be caring citizens who exercise their rights and responsibilities locally nationally and globally (United Nations UNESCO, 2001, p. 6).

UNESCO also acknowledges the importance of education in achieving a sustainable future:

Education is critical for promoting sustainable development and improving the capacity of the people to address environment and development issues...It is also critical for achieving environmental and ethical awareness, values and attitudes, skills and behaviour consistent with sustainable development, and for effective public participation in decision-making. (United Nations, 1993, Agenda 21, paragraph 36.3)

This education should lead children to environmental consciousness. The purpose of exploring the concepts of environmental consciousness within the context of ESD is to understand the difference between environmental consciousness and sustainability and ESD. It is also meant to clarify the various environmental concepts/ themes which will be explored in an attempt to

further understand the learners as participants in learning about environmental issues and solving environmental problems.

2.6 POLICY CONTENT OF EE IN THE CONTEXT OF SOUTH AFRICAN SCHOOLS

In South Africa, since 1992, after the Earth Summit social transformation focusing on post-Apartheid action was undertaken. “Since the Earth Summit in 1992, in Brazil, many African countries have signed a number of multi-lateral environmental agreements, including Agenda 21¹,” which according to Irwin and Lotz-Sisitka (2005, p. 42) encourages EE programmes for teachers and learners to promoting sustainable development. “Since 1992 the field of EE has been widely influenced by the notion of sustainable development, with teachers advocating that EE should in fact be focused on achieving the goals of sustainable development” (Irwin & Lotz-Sistka, 2005, pp. 42-43). EE has gained much legitimacy in the past few years in South Africa. In schools, studies of the environment have historically been seen as something that was not part of the curriculum and it was either not included or where it was included, it was peripheral to it as an addition to make it more exciting (Irwin & Lotz-Sisitka, 2005). Besides the South African Bill of Rights, in 1989 the White Paper on EE proposed the integration of EE into formal education in South Africa (Le Grange, 2010). Although the White Paper included some of the guidelines stipulated in the Tbilisi principles² (1977), according to Le Grange (2010) it did not address learner development in terms of critical skills and identification of environmental problems.

Teaching about EE was done by constructing a cross-curricular phase organizer in Curriculum 2005, which required all teachers in all learning areas to consider an environmental focus. However, with the development of a new curriculum, the National Curriculum Statement (NCS) for General Education and Training, EE became integrated in all learning areas in the formal curriculum, each with a particular environmental focus embedded within it. These are held

¹ Agenda 21 is an action plan of the United Nations (UN) related to sustainable development and was an outcome of the United Nations Conference on Environment and Development (UNCED) held in Rio de Janeiro, Brazil, in 1992. It is a comprehensive blueprint of action to be taken globally, nationally and locally by organizations of the UN, governments, and major groups in every area in which humans directly affect the environment.

² Tbilisi principles - guiding principles for effective environmental education, adopted at the 1977 Intergovernmental Conference on Environmental Education held in Tbilisi, a city of the former USSR, now in the country of Georgia.

together by the principle of the NCS that recognises the relationship between human rights, inclusivity, a healthy environment and social justice (Lotz-Sisitka & Raven, 2001).

The NCS policy document states that the context of lesson plans should be informed by learners and local needs. The Environmental clubs would be an avenue to be able to address the community needs regarding human rights, social justice, bringing attention to a healthy environment and sustainable use of resources.

Slingsby and Barker (2003) stress that the facts alone do not always seem to speak for themselves, since to educate is to engage with students at several levels. The constraints of time and space and often appropriate support, as well as the regularities of schooling, can present a challenge to ESD. The reasons for this are probably manifold but lie at least in teachers' prior training. Under the apartheid government there was a legacy of poor education provision and teachers were not adequately equipped to work professionally with a curriculum framework of this nature. To compound the problem, the introduction of the new Curriculum and Assessment Policy (CAPS, 2012), has also not been supported by good quality training (Slingsby & Barker, 2003). Teachers often do not have a good grasp of the curriculum they are required to teach, and may not even have access to key documents; they misinterpret or are misinformed about the underlying principles and how these should play out in practice. Teachers struggle to make effective use of available teaching and learning resources, and may use a text-book which is poorly designed and low on content. In a report on teacher professional development in EE, Schudel (2005) describes lessons that reflect a limited grasp of basic curriculum knowledge on the part of the teachers, an observation also made outside of the EE context.

The new curriculum enshrined in the Curriculum Assessment Policy Statement (CAPS) Department of Education (2012) requires teachers to teach towards attaining specific aims (rather than towards the memorisation of facts) by drawing on/in knowledge from a range of contexts (including text-books, other resource materials, what is known at home and in the community, (e.g. indigenous knowledge of elders), and learners' own enquiries. Furthermore CAPS (Department of Education, 2012) aims to produce learners that are able to:

- identify and solve problems and make decisions using critical and creative thinking;

- work effectively as individuals and with others as members of a team;
- organise and manage themselves and their activities responsibly and effectively;
- collect, analyse, organise and critically evaluate information;
- communicate effectively using visual, symbolic and/or language skills in various modes;
- use science and technology effectively and critically showing responsibility towards the environment and the health of others; and
- demonstrate an understanding of the world as a set of related systems by recognising that problem solving contexts do not exist in isolation.

The preceding skills outlined in CAPS, can have direct links with skills developed in out-of-classroom learning in ECs.

2.7 ENVIRONMENTAL CLUBS

This study aims to understand how learners in the Environmental clubs participate and also why they participate. “Environmental clubs are a mainstay in schools and colleges. They reflect the school's commitment to community and the students' eagerness to create positive change in the world. By establishing an Environmental club, students acquire skills to identify problems, investigate alternatives and propose solutions that will contribute to a better school environment and tread lighter on the earth” (Sierra Club, 2010, p. 2). In light of this, my research looks at the experiences of those learners who study Natural Sciences and Life Sciences at school and participate in the school EC. Environmental clubs offer learners a range of practical experiences, which Fardouly (1998) views as being important for learners to use to move them through to greater heights of learning. What is significant though is that the process of participation is of prime importance since, as Pujol (2003) argues, acquiring the capacity to act requires immersion in environments that practice what they preach. Jeronen, Jeronen and Raustia (2009, p. 8) are of the view that learners participating in outdoor (EC) activities should show initiative and work together in solving problems rather than receiving direct instructions on what to do from the teacher. They further state that the learner is thus working with an inspiring practical approach in which the entire educational community performs some task aimed at establishing the school's

overall environmental status. This is relevant to the South African context because it resonates with the skills (discussed on previous page) inherent in the aims of CAPS.

In this research I argue that school Environmental clubs can be a means of promoting the awareness and appreciation of the environment among learners. Environmental clubs could provide an avenue for learners to acquire knowledge and skills needed to identify, investigate, and experience the array of environmental issues and problems. Schools can play a vital stewardship role to unite people across socio-economic, geo-political and generational boundaries, create healthy, supportive learning environments, connect youth to nature, educate the greatest number to embrace a shared understanding about social, environmental, and economic interdependencies; and develop the values, long-term vision, and skills to live together sustainably.

The majority of Cape Town's residents, for example, live in the townships on the outskirts of the city. These areas generally experience high levels of unemployment, crime, HIV and AIDS and substance abuse. The physical environment of these townships is often badly degraded and polluted and there are limited recreational facilities. The day-to-day experience of children growing up in these townships can be highly stressful (Statistics South Africa, 2012)

Approximately 65 per cent of schools in these townships have no green spaces. This contributes to a lack of awareness on environmental issues, and a lack of respect for the environment.

What makes this even more tragic is that these schools are located within one of the world's most important sites for preserving biodiversity. The Cape Peninsula is home to more endangered plant species than any other region on the planet (Tour Cape Town, 2011).

In an aim to develop an awareness and sense of being part of the environment, South African schools embarked on establishing programmes to encourage children to participate in environmental activities. The Green School Alliance (GSA) is a global network of schools represented by Sustainable Coordinators – faculty, staff, students, administrators and others – working together to solve climate and conservation challenges. The GSA affirms, “by giving children in schools an opportunity to experience the natural beauty that surrounds them, through

the establishment of Environmental clubs it hopes to instill in them a culture of caring for the environment” (Green School Alliance, 2013, p. 1). Furthermore, GSA Member Schools share and implement sustainable best practices, and promote connections between schools, communities, and the environments that sustain them. GSA achieves this by creating Peer-to-Peer forums; exchanging resources; offering original programmes and curricula developed by Member Schools' goals, vision and experience; and connecting youth to nature. GSA schools set and meet goals, and quantify progress. They coordinate club activities, operations and curriculum to advance sustainability.

In the Cape a provincial environmental club known as the Beyond Expectation Environmental Project (BEEP), was established in 2006. BEEP asserts that “the participation of learners in Environmental clubs will not only lead to improving cleaner, healthier neighborhoods and schools for these children to live, learn and play in, but will also contribute to the effort to preserve the Cape’s biodiversity and natural beauty,” (BEEP, 2006, p. 1). BEEP projects are active in schools and in the community. The Environmental Club focuses to promote the participation of the learners through encouraging the learners to participate in:

- Recycling
- Food garden developments
- Conserve Water and monitor the use of water in the respective schools
- Clean up Campaigns (in the community)
- Hiking (on different mountains)

BEEP (2006), aimed to create environmental economic opportunity for the people in the community through recycling. “We plan to recycle all the recyclable materials like paper, plastic, cans and glass etc. We aim to have members across all the areas that we work on, like Phillipi, New Cross Road, Gugulethu, Nyanga, and Khayelitsha and we will recycle through the schools that we work with and through the Community” (BEEP, 2006, p. 2). Interested learners could then have access to EE beyond what is infused into the curriculum according to the Wildlife and Environment Society of South Africa (WESSA) (2010). The underpinning of the importance of

school Environmental clubs is highlighted by a quote from psychologist Rogers (1985, p. 136) who said:

How can I create a psychological climate in which that child will feel free to be curious, will feel free to make mistakes, and will feel free to learn from the environment, from fellow students, from me, for experience? How can I help him recapture the excitement of learning that was natural in infancy?

I concur with Rogers (1985) by highlighting the importance of Environmental clubs, which are researched through my critical questions which aim at firstly, understanding why learners participate, and secondly, how these learners participate. Learners have access to various environmentally focused groups, for example, the Eco-Schools programme, ECs etc.

In South Africa, there is the presence of the Eco-Schools programme. This is a global initiative, which was established to respond to the need to get children involved in environmental and sustainable development initiatives. Non-governmental organizations and state departments wanting to respond to the policy imperatives and to support EE in schools encouraged the joining of the Eco-Schools Programme as a conduit (WESSA, 2010). The Eco-Schools Programme is concerned with implementing EE and sustainable development in schools within South Africa and internationally and is designed to encourage whole-school action for the environment (WESSA, 2010). The programme employs a holistic, participatory approach, in which it combines learning and action and creates awareness of critical environmental issues and promotes behavioural change in young people and teachers as well as their families and local communities (WESSA, 2010). It is also a learning resource that raises awareness of environmental and sustainable development issues through activities linked to curricular areas, like helping schools to improve the school's environment by reducing waste, litter, energy and water use (WESSA, 2010).

The Eco-Schools Programme leads to the prestigious international environmental awarding of the Green Flag to schools that meet the criteria by completing five major segments which include

community service, sustainable living, recycling programmes and school audits to reduce water and energy use. Achievement in these areas shows that a school is committed to the highest standards in EE and management. The environmental management projects must be used towards formal learning and to receive the Green Flag in South Africa, and teachers must submit evidence of environmental lessons taught. The programme provides numerous opportunities to link the Eco-Schools process and activities to a wide range of curricular areas, as well as other initiatives such as the Enterprise and Health Promoting Schools (WESSA, 2010).

2.8 CHALLENGES IN TEACHING EE

Studies were undertaken in South Africa to evaluate the Eco-Schools project against the backdrop of the conditions of teaching and learning in South African schools and to analyze the quality of schools education and poor performance in contemporary South Africa. Lotz-Sisitka, et al (ibid.) reported that the Eco-Schools initiatives, when well supported, could enable learners to participate in active learning processes in the curriculum that help to teach the curriculum and that contribute to whole school improvement (e.g. schools develop an Environmental Policy), thus addressing both whole school development concerns, and academic concerns, as well as wider concerns for a sustainable development ethic in society. Further findings were that through participating in the Eco-Schools Programme, schools save resources, the school grounds are improved, information resources in the schools are improved, and many have improved food security for learners. All of these dimensions were said to contribute to the overall effectiveness of the school which could be used in whole school development and evaluation processes (ibid). Eco-Schools gives more emphasis to active and discovery learning and also teaching for action (NEEP-GET, 2005a) than is probably typical of most purely learner-centred education situations. The role of the community in the range of interactions with learners and the schools is given more prominence in Eco-Schools than is probably given to learner-centred education activities in schools (Department of Education, 2003).

In South Africa the issues that learners are confronted by, i.e. issues that challenge their learning are presented in this section. Poverty at home influences a child's ability to succeed at school in many ways (Ferguson, 2007). It is associated with insecurity, low self-esteem, violence,

aggression and stress, inadequate nutrition, overcrowding and inadequate facilities. International research has also shown that children from impoverished homes struggle to make sense of the academic, formal or principled knowledge they encounter at school, as opposed to their everyday experiential knowledge (Rumberger & Palardy, 2005; UNESCO, 2001). The Progress in International Reading Literacy Study conducted in South Africa in 2001, indicates that many South African children are also unable to read and write in their home language (Van Staden, 2006). Thus the significance for school support projects like Eco-Schools is Gustafsson's (2005) findings that the social- economic circumstances of the school community are not always the main or only variable that determines learning results in our schools. Several findings point to the fact that many teachers do not have the necessary knowledge of environmental concepts and issues to design coherent lessons which result in meaningful action projects (Hoabes, 2004; Lotz-Sisitka & Raven, 2001; Mvula-Jamela, 2006; Rosenberg, 2008). The dynamic which exists among learners, teachers and support structures related to EE are interpreted using frames from the CML and by interrogating the concept of participation.

2.9 CONCEPTUALIZING PARTICIPATION

Participation would take “different forms depending on its purpose and whether it is applied at the micro, meso or macro level. It may be used as a community planning tool to influence the project cycle or it may be an end in itself”, United Nations Economic and Social Commission for Asia and the Pacific (UNESCAP, 2009, p. 7). This surprisingly modern view already “contains many of the central themes that are still present in current approaches: self-help, the community as well as the individual, transformation and capacity building and, at least by implication, a limited form of empowerment” (UNESCAP, 2009, p. 9). It was in the 1970s when the other aspects of “modern participatory approaches were added: increasing the awareness of the poor ... creating or reinforcing networks of solidarity, gradually building up their confidence in their own knowledge and abilities, and consequently also a sense of entitlement” (UNESCAP, 2009, p. 10). Wenger (1998, p. 79) refers to participation as “a process of taking part and also to the relations with others that reflect this process”. It is not a simple process because it includes a multitude of senses, e.g. belonging, doing, thinking and feeling. Participation according to Agarwal (2001, p. 1624) could include “dynamic, interactive processes, and collective decision-

making; it is expected to be underpinned by collective action and cooperation”. Borrowing from Agarwal (2001, p. 1624), the following types of participation are described:

- Nominal participation: membership of a group.
- Passive participation: being informed of decisions ex post facto, or attending meetings and listening in on decision-making, without speaking up.
- Consultative participation: being asked an opinion in specific matters without the guarantee of influencing decisions.
- Activity-specific participation: being asked to or volunteering to undertake specific tasks.
- Active participation: expressing opinions, whether or not solicited, or taking initiatives of other sorts.
- Interactive (empowering) participation: having voice and influence in a group’s decision-making.

According to these descriptions, a greater level of involvement implies a greater degree of participation. Participation in environmental programmes is not necessarily a good feature, especially if issues of power are not explored and they remain unaddressed. Manipulators of variables which influence learners’ participation also need to be considered (Toili, 2007). Another key dimension of participation is internal dialogue, such as thinking and reflecting (Holmberg, 1989; Wenger, 1998). Participation can also be an individual or a group activity (Wenger, 1998). My study will try to delve into this “thinking and reflecting” of learners who participate in activities of school Environmental clubs.

2.10 PARTICIPATION AND LEARNING

“Participation is taking part and joining in a dialogue for engaged and active learning. Participation is more than the total number of learners in a discussion forum” (Vonderwell & Zachariah, 2005, p. 219). Learning may be viewed as a process where “learner participation is a process of learning by taking part and maintaining relations with others. It is a complex process comprising doing, communicating, thinking, feeling and belonging, which occurs both in-school and out of school” (Hrastinski, 2009, p. 80). Social learning theories view learning as inseparable from the day-today practices that people carry out in their studies and work (Hislop, 2006).

Learning as participation in the social world stresses that learning occurs in interaction with others and that learning is an aspect of all human activities (Säljö, 2000). According to Wenger (1998, p. 55) “learning and participation are not separate activities that can be turned on and off.” Thus, learners are not learners only while they are in the classroom, it would include out-of-classroom activities. It is widely acknowledged that learners learn and support one another both inside and outside the classroom (Brown & Duguid, 1996; Rovai, Wighting & Lucking, 2004). This inextricable link between learning and participation, and learning in informal settings, is crucial in my study.

Learner participation drives learning, which is also supported by cooperative and collaborative learning theories. The basis of collaborative learning is that learning is social rather than individual (Bonk & Cunningham, 1998). Littleton and Häkkinen (1999, p. 21) argue that “collaboration involves the construction of meaning with others and can be characterized by a joint commitment to a shared goal” and Dillenbourg (1999, p. 2) is of the view that it is “a situation in which two or more people learn or attempt to learn something together”. However, participation should not be regarded as equivalent to cooperation or collaboration, because “participation may involve all kinds of relations, conflictual as well as harmonious, intimate as well as political, competitive as well as cooperative (Wenger, 1998, p. 81). As mentioned above, Wenger refers to participation as a process that is complex. In short, participation involves everything we do and feel when being part of engaging experiences. Participation is supported in many other ways in other contexts that a learner is a part of, since participation and learning cannot be extinguished when the learner leaves the formal educational arena (e.g., during evenings and weekends). For example, Haythornthwaite and Kazmer (2002) showed that support from family and peers are essential for learning. Learner participation has been conceptualized in different ways for educational purposes (e.g., Davies & Graff, 2005).

2.11 PARTICIPATION AND COMMUNITY

Some researchers have described participation as belonging to a community (Jaldemark, 2006). Participating in and feeling attached to a group is a central aspect of a sense of community. People who have a strong attachment to a group are more likely to participate and help others.

Conversely, participating and helping others drive group attachment (Wellman & Gulia, 1999). Likewise, Palloff and Pratt (2005) have argued that collaboration and community are dual processes. Thus, when researching learner participation the importance of group attachment should not be forgotten. In a review that includes definitions of community, Rovai (2002, p. 80) identified the most essential elements of community: “mutual interdependence among members, sense of belonging, connectedness, spirit, trust, interactivity, common expectations, shared values and goals, and overlapping histories among members”. It is clear that participation and sense of community are related, although the similarities and differences between the concepts are not the focus of this research.

The term learning communities is also commonly used in the literature and has been defined as “a limited number of people who share common goals and a common culture” (Johnson & Johnson, 1999, p. 180). Palloff and Pratt (2005, p. 8) have described the relationship between community and collaboration as cyclical: “collaboration supports the creation of community and community supports the ability to collaborate”. Learning communities work together; learn from each other and from the surrounding culture and environment (Wilson, 1996). It is therefore accepted that participation occurs on both personal and social levels. Several theoretical constructs on which the concept of participation is based resonate with the Contextual Model of Learning (CML). The CML (Falk & Dierking, 2000), like theories about participation, draws from theories located in constructivist, cognitive and socio-cultural frameworks. This model is used to understand the learning situation that is relatively informal, when compared with formal schooling. By informal, Falk and Dierking (2000, p. 7) mean that learners have some element of “choice”, in what they do, the directions of learning they follow or the amount of time and effort spent. The model has been adapted for the purposes of this study where participation is viewed as a means to learning as shown in Figure. 2.1.

The CML has been adapted to show specific elements of the three overlapping contexts, which affect learner participation in Environmental clubs. In the personal context the learners’ participation flows from a set of emotional and motivational cues. In this way the learner operates in the affective domain. It is in this domain that often the learner will have the desire to

want to find out new things or increase the extent of participation and learning, to move beyond that which they have already encountered. This intrinsic motivation may arise due to prior knowledge, beliefs and interests. This experience can sometimes be life-changing and long-lasting. The physical context has a lot to do with providing emotional and motivational drive.

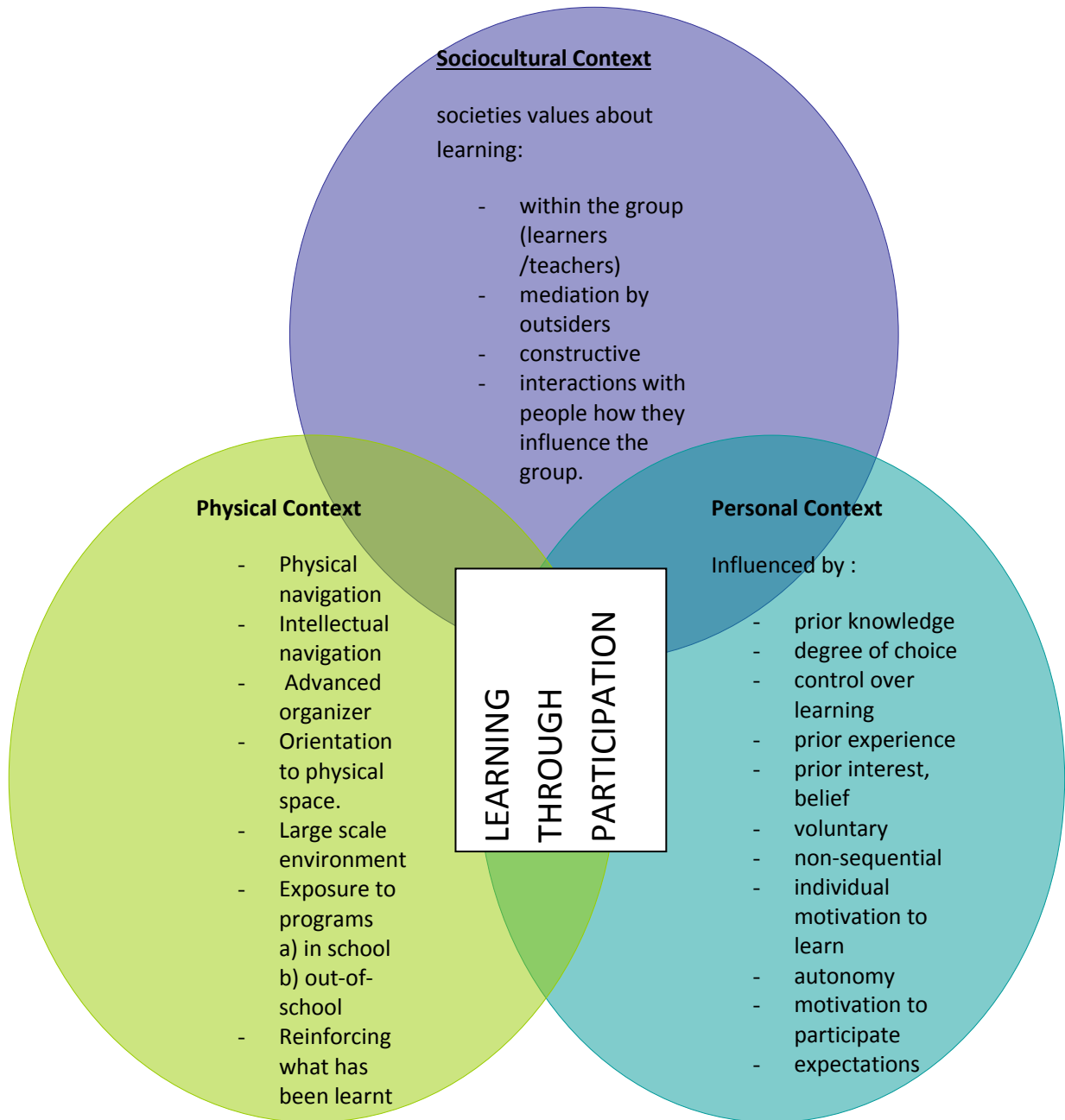


Figure2.1. Adapted CML in informal, out-of classroom contexts (based on Falk & Dierking, 2000, p. 7)

The school garden should be connected with every school where children can have the opportunity to leisurely gaze upon trees, flowers and herbs and are taught to appreciate them, “A garden is a perfect place to create learning through personal experiences, thus being a physical and intellectual navigation” (Braund & Riess, 2004, p. 19). EC programmes offered in and out-of-classroom also contribute to the physical context where the learner could together with a school community learn informally. Our culture and society and the ways in which we have been raised as children impose a set of social norms which set expectations and behaviours in different situations. Falk and Dierking (2000, p. 746) state that “in the sociocultural context, school groups working outside the classroom, act as a community of learners”. They further state that each community of learners has its own characteristic behaviour and actions. The membership operates according to previously established cultural and educational norms. The out-of-school informal context allows learners to express themselves in ways that the school does not (Braund & Riess, 2004). Sociocultural context involves participating with a group, where the group comprises teachers and/ or learners. It also indicates participating with people who are outside of the teacher- learner group.

The theoretical constructs of participation and the sociocultural, physical and personal contexts of the CML are selected to show how Environmental clubs in the context outside the classroom contributes to learning and provide a springboard for further participation and learning through enhanced motivation. Braund and Reiss (2004, p. 7) link participation to learning by asserting that “learning is a process of active engagement with experience”. It is what people do when they want to make sense of the world.” Participation in school Environmental clubs provides such a platform to effect change.

In conclusion, this literature review has shed light on the development of EE and ESD globally and locally. The achievement of principles which underpin the new South Africa Constitution, using education in general and EE in particular, was described. This chapter also focused briefly on ways in which EE is incorporated or represented in the South African school curriculum. Social and personal gains that learner participation in EC activities yields were alluded to. Crucially, the interrelatedness between participation and learning was underscored; and the

justification for using constructs from the CML was presented. The next chapter will focus on the research design and the research methodology.

CHAPTER THREE

RESEARCH DESIGN AND METHODOLOGY

3.1 INTRODUCTION

In conducting research it is important that the underlying philosophical ideas, which influence the inquiry, are made explicit (Creswell & Plano Clark, 2007). In my attempt to explore learners' participation in ECs my work was designed to respond to two research questions: How do learners participate in ECs and why do learners participate in ECs? In this chapter I present the research design and the methodology used to explore learners' participation in an EC. The selection of the research participants and sampling method, the paradigm, research strategy and approach are presented. Also, the data collection methods and instruments for data analysis, including the justifications for the choices made, are discussed. Finally the research rigour, ethical considerations and limitations are discussed.

3.2 RESEARCH DESIGN

A research design is a plan of how one intends conducting a research (Mouton, 2001). It is about the type of study that one will be conducting and whether it will provide the best answer for the question that has been formulated (Barbie & Mouton, 2006). In this research an interpretive paradigm, with a case study strategy and qualitative approach was used.

3.2.1 Interpretive paradigm

The purpose of this study was to explore learners' participation in school ECs. The interpretive research paradigm is most suited to this study, where the goal of the researcher is to understand reality (Cohen, Manion & Morrison, 2000, p. 181). Glaser and Strauss (cited in Cohen *et. al.*, 2000, p. 23) state that interpretive researchers "set out to understand the interpretations" of reality. Cohen *et. al.* (2000) also state that the interpretive research paradigm assumes that people's subjective experiences are real and that we understand them. Blaikie (2000, p. 56) states the following:

Interpretivists are concerned with understanding the social world people have produced and by which they reproduce through their continuing activities. This everyday reality consists of the meaning and interpretations given by social situations, natural and humanly created objects.

I decided to draw on an interpretive case study orientation, because I was interested in *exploring* and *understanding* the issues involved, as described above. In most cases interpretive case study will use a qualitative approach. Terre-Blanche and Kelly (2002) define interpretive research as a method that describes and interprets people's feelings and experiences in human terms rather than through quantification and measurement. Janse Van Rensburg (2001, p. 16) describes an interpretive researcher as being "interested in the meaning people make of the phenomena". Therefore, this research is aimed at obtaining insight into the how and why of learners' participation in school ECs. Applying an interpretive methodology in this study indicates that this research is based on contextual meaning making. I selected particular schools that have Environmental clubs and are involved in different ways to inform the study.

As indicated by Janse Van Rensburg (*ibid.*), interpretive research provides well-grounded and rich information in the context of a study. Terre-Blanche and Durrheim (1999) argue that interpretive research strives to make sense of feelings and subjective experiences and is sensitive to social situations by studying their natural settings. This orientation to research makes it possible to understand other people's experiences by interacting with them using qualitative research methods, and through being on the school grounds (*i.e.* in the natural setting) as well as listening to what they have to say that is based on their personal experience. Therefore, I recognised that their meanings are socially constructed and that meanings are always modified and interpreted according to one's specific context (Cohen et al., 2000) in order to suit the particular environment.

The interpretive case study orientation allowed me to purposefully sample the two schools namely case study A- Cliffside and case study B- Grasslands as they were involved in the

research. I therefore selected schools that had an EC executive and activities that were taking place at the time of the research. “Knowledge is constructed by descriptions of people’s intentions, beliefs, values and reasons, meaning making and self-understanding” (Henning, 2005, p. 20). In my study, learners’ motivation to participate in activities of the EC, and ways in which they participate, will be explored. In this study the interpretivist paradigm is used “to understand the subjective world of human experience. To retain the integrity of the phenomena being investigated, efforts are made to get inside the person, and to understand them from within” (Cohen, Manion & Morrison, 2007, p. 21). Based on the literature presented, this paradigm is suitable for exploring the learners’ participation in ECs.

An interpretive research framework recognizes that the researcher works directly with individuals and their interpretations of their practice so as to develop theory with them and from the perspectives and experiences they share (Cohen et al., 2000). Based on this, I analysed how and why learners participate in EC at school guided by how the conceptual model of learning (CML) of Falk and Dierking (2000) applies to the study, the typology of learner participation in the EC and conceptualising participation with the literature from the data in this study as reported in Chapter 4. This research design was oriented to generate insights into learners’ participation in school Environmental clubs that could be used to inform educational decisions, policy makers, co-ordinators of school ECs and environmental education. My intention was also to explore the learners’ participation in the physical, sociocultural and personal contexts, within the broad frame of their engagement in the school EC. I also recognised that personal preferences, background and interests and various social and contextual factors, which are not fixed in time, often influence interpretation (Janse Van Rensburg, 2001).

3.2.2 Case study

This study was designed using the approach of an interpretive case study as a method in order to understand and interpret a specific situation in its own context. The research is based on exploring the learners’ participation in informal in-school and out-of-school activities, and interactions within the environmental club. For this depth of understanding, I used a case study research design. According to Denscombe, (2003, p. 30) a case study “focuses on just one

instance of the thing that is to be investigated”. The case study strategy was used because it is the strategy in which “the research explores in depth a program, event, activity or one or more individuals” (Creswell, 2009, p. 13). The case study approach could be used to provide an understanding of why learners participated in ECs. Yin, (1984) cited in Masson (2002) states that the case study allows an investigation to retain the holistic and meaningful characteristics of real-life events. This is supported by Hitchcock and Hughes (1995, p. 323), who state that case studies can be used to “test existing practice in an everyday environment.” In this study participation of learners in EC was the existing practice.

Yin (2003) defines case study research as an empirical inquiry that investigates a contemporary phenomenon within its real life context, especially when the phenomenon and content are not clear. In the case of this research, based on the literature reviewed, there has been scant research on learners’ participation in school Environmental clubs. Patton (1990) supports the use of case studies particularly where one needs to understand a particular group of people, particular problems or unique situations in great depth. He further explains that a qualitative case study not only seeks to describe units in depth but also brings out the issue of context and history of the particular issue under investigation. Janse Van Rensburg (2001, p. 6) makes the following observation about case studies: A researcher can take a close look at individuals or small groups in naturalistic settings, using in-depth case studies, often involving just a single case.... [and] would look for rich, detailed information of a qualitative nature through in-depth interviews or interpretation of documents. In this study the learners’ participation in the school EC was undertaken in their physical, sociocultural and personal context.

3.2.3 Selection of schools, teachers and learners (participants)

This study was conducted at two secondary schools in KwaZulu-Natal which I refer to by pseudonyms. They are Cliffside (Case study A) and Grasslands (Case study B). Both Cliffside and Grasslands are ex-model C schools. Model C schools are those schools that were highly resourced and reserved for white learners under the apartheid government. The term is currently not officially used by the Department of Basic Education, but is commonly used to refer to

former whites-only schools. Both Cliffside and Grasslands schools had operating ECs and were therefore suitable for this study.

Purposive sampling was used to select these schools. Teddlie and Yu (2007) define purposive sampling as a type of sampling in which “particular settings, persons, or events are deliberately selected for the important information they can provide that cannot be gotten as well from other choices” (p. 87). I chose to engage in purposive sampling because I saw my selection of the two ECs as strategic choices for the nature of my research. The study had to be based at research sites that had ECs and it was essential that my sample related to my research focus viz. learner participation in ECs. Furthermore, the sampling was purposive, premised on the notion that the study does not intend to make statistical inferences based on population parameters, but rather it intended to make analytical generalisations based on emerging themes (Miles & Huberman, 1994). The EC learners, who participated in the club, in each of the schools namely Cliffside – case study A and Grasslands case study B, were asked to participate in the research.

3.2.4 Qualitative approach

As a qualitative researcher I was interested in looking at the processes of how the learners participated and the reasons for this participation. The questions related to what motivates learner participation and the role the learners played in the dynamic processes within the EC. Embedded in this is the idea that who a person is and where that person is located within a group is important, unlike other forms of research where people are viewed as essentially interchangeable (Cresswell, 2009). In this study the qualitative case study approach provided me with the opportunity to observe and understand situations (Cohen *et. al.* 2007). Qualitative methodology enabled me to adapt my research instruments, allowed me to immerse myself in the social setting of the EC to an extent, and to develop a relationship of trust and respect with the participants in the Environmental club. A qualitative research design was employed for the purpose of this study, because it is a valuable method in providing rich descriptions of the phenomenon under investigation. In keeping with this, the study provided “detailed narrative description, analysis, and interpretation of the phenomenon” under investigation (McMillan & Schumacher, 2001, p. 36).

3.3 RESEARCH METHODS

I used a multi-method approach to undertake this research. Some of the questions I had to consider when using the multi-method approach are suggested by Masson (2002, p. 59):

- What can different methods yield in relation to my research question?
- Which parts of the puzzle do they help me to address and in what ways?
- How do the different methods feed into each other?

These questions can be used to assist the researcher to address issues of the relevance and trustworthiness of the instruments in answering the research questions. Qualitative research uses multiple methods that are interactive and humanistic. My research was focused on exploring and understanding a phenomenon in depth, therefore I chose a case study design, using only selected schools based on convenience sampling. As a result, I worked only with two schools, because I was interested in in-depth insight, rather than wide coverage or predictions. Table 3.1 below outlines the summary of the schools involved in the study:

Table 3.1 Summary of schools involved in the study:

School	Code	Information on where the school is located
Cliffside	Case study A	Urban School
Grasslands	Case Study B	Urban School

Since I was based in the North Durban Region during the research period and the two schools selected had Environmental clubs which were active in different ways, it was convenient for me to follow the learners' participation in the EC in the schools. I was the co-ordinator of the environmental club at the school where I taught (the school where I taught was excluded from the sample). I was also fortunate to be able to attend some meetings at botanical gardens on Eco-schools and recycling programmes, the importance of Indigenous Knowledge Systems (IKS) at

Silverglen nursery and understanding the sustainable living of local communities in the Kosi Bay region. This gave me exposure to some of the environmental programmes that were being initiated and indigenous knowledge. All of these experiences have influenced the study, and have helped me to develop a deeper understanding of Environmental clubs at school.

3.4 DATA GENERATION

In order to obtain the required information to answer my research questions and to develop the case study, I used three sources of data generation:

- Individual semi-structured interviews,
- Group interviews and
- Observation.

I will discuss each of the techniques briefly, to provide insight into how the techniques were used to generate data in the context of this study

3.4.1 Semi-structured interviews

The main data generation technique that I used was the individual semi-structured interviews because I wanted to find out from the EC chairperson about the overall purpose, membership and activities of the EC at the school. I also used semi-structured interviews as a natural form to interact with people in the data generation process. I managed to interview key role players who were involved in the organization and planning of the EC. The questions that I posed were open-ended in order to enable questions to be re-ordered, expanded and used for further probing if necessary. My intention was to get more detailed information on the nature of the EC activities and learners participation. Cohen *et al.* (2000) argues that interviews in research allow for generating great depth of data. I used this method to ensure free and rich conversations during which participants could openly explore their thoughts without fear of being intimidated. Semi-structured interviews allowed for both responding to pre-determined questions and free responses. The aim of qualitative interviewing “is a fine textured understanding of beliefs, attitudes, values and motivations of people” (Gaskell, 2002, p. 39). Qualitative interviewing therefore tends to be seen as involving the construction or reconstruction of knowledge more than the excavation of it (Mason, 2002). With this in mind, I chose qualitative interviewing as a

data collection method. Qualitative interviewing is seen as a relatively informal style, for example, face-to-face interviewing takes the form of a conversation or discussion rather than formal questions and answers. Burgess' (1984, p. 102) term "conversation with a purpose" captures this rather suitable.

An interview guide (see Appendix 4) was drawn up and administered to establish a clear focus in relation to what I wanted to achieve. The interview questions were developed to see how learners participate in the EC in school. The interviews were also designed to assist me to investigate the perception, expectations, achievements, interactions, as well as, the challenges the EC members experience in the club. Willington (2000) argues that interviews allow a researcher to investigate and prompt things that we cannot observe and that through interviews we can probe an interviewee's thoughts, values, prejudices, views, feelings and perspectives.

At this point it is important to note that the number of interviewees varied between the two schools, namely case study A and case study B, due to the particular form of activities that were undertaken in each of these schools being very different at the time. Also the club structure and club dynamics made it difficult to interview the participants with the same interview structure and with regards to the number of participants available.

In order to get in-depth insight, I used a face-to-face interview approach with the EC chairperson from case study A and EC members (executive and non-executive) from case study B. I used a group interview with the EC executive members in case study A- Cliffside because they were involved in developing the school's environmental policy. In case study B- Grasslands, I used a group interview with the EC executive because I wanted to find out about the EC participation. I also used informal group interviews with executive committee and non-executive members in case study B after they had attended an EC field trip to CROW. This was done in order to establish their general understanding and views on their involvement in the activities. I developed different types of questions for all these three groups that basically all relate to the same outcome. All my questions were influenced by my research goals, which are based on learners' *participation* in school Environmental clubs.

The interviewees were purposefully selected in order to capture a wide range of views from learners who were members of the EC at the two schools and who had participated in the club activities in different ways. The respondents in the study were all involved in the EC activities: In case study A they were responsible for developing the schools environmental policy which was an in-school activity, in case study B they attended an out-of-school activity to CROW. Researching diverse EC activities enabled me to explore a greater breadth of learner participation

I was present at each of the research sites, and I familiarized myself with the interviewees. I ensured that the respondent was familiar and comfortable with the interview questions in general before I used them. I first asked permission from the respondent to record the conversation. In general the tape recorder was useful in the transcription of the interviews, because it enabled capturing of direct quotations and unique expressions (such as tone or laughter). All interviews were transcribed (see Appendix 5, 6, 7 and 8 for examples).

Table 3.2 outlines the participants and data collection methods used to gather data. Individual semi-structured interviews as well as group interviews with the participants enabled me to investigate the learners' participation in the EC.

Table 3.2: Participants and the data collection methods and instrument used to gather the data from case study A Cliffside and case study B - Grasslands

Case study A	Data collection	Participants	Codes	Purpose
	Individual semi-structured interview	Executive chairperson Valerie	5	To obtain an overview of the club structure. To understand how learners became club members. To understand why learners participate in the club. To identify the activities in which the EC members participate.
	Observation and recording of group discussion/ interview	Executive committee Valerie (chairperson) Pamela (deputy) Tammy (secretary) Gail (treasurer) Zelda, Stephanie, Bonnie (environmental officers)	6/7	To understand: <ul style="list-style-type: none"> • The role and duties of the executive in the EC • Activities undertaken by the EC • How members participate • Why the executive members participate • The membership participation
Case study B	Semi structured group interview	Executive committee Debbie (chairperson) Jacky (secretary) Thembi (treasurer) was absent	8	To obtain an overview of the club structure. To understand how learners became club members. To understand why learners participate in the club. To identify the activities the EC participate in.
	Individual semi-structured interviews	EC members: David,(Jean , John, Linda , Jared – appendix not include but extracts used)	9	To understand: <ul style="list-style-type: none"> • How they became members • Why they joined the club • What motivated their participation in the club
	Unstructured group interview	EC members	10	To understand: How was their participation in the out-of-school outing <ul style="list-style-type: none"> • Why the members participated in the outing to CROW • Their personal experience at CROW.

As indicated previously I was not able to always have individual or group interviews and the same number of participants in case study A and case study B. This was because the chairperson Valerie, in case study A, felt comfortable to be interviewed on her own, therefore I was able to undertake the individual semi-structured interview. In case study B, Debbie and Jacky were both available and were more comfortable being interviewed as a group (refer to Appendix 8). I decided to interview the executive members as a group instead of individually because learners are more at ease and more confident in a group (Gaskell, 2002). I thought that group interviews were less intimidating to the learners and I was able to obtain a myriad number of responses in a single setting.

In case study A, the EC executive were tasked to develop the schools environmental policy during the EC meetings, due to the members being involved in other school activities they were not able to meet outside of the set club time for the given task. I had to use this meeting time as an opportunity to undertake the group interview. In case study B, the learners were available to participate in the individual semi- structured interview, during the school programme. Thus by interacting with the members on an informal group interview and due to time constraints I was able to conduct a group interview at the out-of -school site at CROW.

I was not familiar with any of the learners prior to the research, and thus had to develop a level of trust and a relaxed atmosphere within myself as a researcher and with the learners. It is however debatable and somewhat questionable whether the interviewees can trust the interviewer. Gaskell (2002) believes that a relationship of trust can be achieved by putting the interviewees at ease and ensuring that they are relaxed. With this in mind, I set out to chat informally with the club members, allowing the participants to get to know me and joining them in their club meetings and excursions. Eder and Fingerson (2002) argue that the researcher's power can be reduced while making the interviewing context more natural.

3.4.2 Observations

The distinctive feature of observation as a research process is that it offers an investigator the opportunity to gather live data from natural occurring social situations. In this way a researcher can look directly at what is taking place in situ rather than relying on second-hand accounts (Cohen et al., 2007). The purpose of observation, according to Cantrell (1993, p. 93), is to give the researcher direct first hand experiences with the phenomena under study which she regards as similar to “walk in the shoes” so to say. According to Denscombe (2003, p. 192), observation “draws on the direct evidence of the eye to witness events first hand”. It is based on the premise that for certain purposes it is best to observe what actually happens. Because EC involves practical and hands on activities, I decided to record the discussion on the development of the schools environmental policy, in case study A, being undertaken by the EC executive. In case study B, I was fortunate to observe the out-of-school activity to CROW and the participation of the members in the physical, sociocultural and personal context. Participant observation is an approach that allowed for greater rapport, better access to informants and activities and enhanced understanding of the learners’ participation in the EC in the out-of-school activity (De Walt & De Walt, 2011, p. 110). As a participant observer, I had to be attentive to the types of questions that were being addressed, to the activities that the participants were undertaking at a given time. I developed an observation schedule for the specified research sites (see appendix 12 for case study A and appendix 13 for case study B). In case study A the recorded discussion with the EC executive was audio- recorded for accuracy and language structure and was transcribed. I recorded the gestures of the participants in my field notes and included these in the transcripts (see appendix 6).

In case study B, I recorded my observations using field notes and an observation schedule. The observation schedule took into account the venue and activities the learners participated in. I used block-coded symbols for the sites where the observations were made. Field notes were used to record the events as completely as possible including the questions or gestures that the learner’ undertook. It was not possible to watch all the participants simultaneously, because the physical free-choice setting of the area allowed for the learners to move freely, yet still within the parameters set by the field guide.

See Appendix 12 and 13 for an example of the observation schedule, I used different schedules for the observations that I undertook in case study A and case study B. Table 3.3 below indicate the observations, specific activity that took place in the EC at the time and the code.

Table 3.3 Observation schedule outlining the specific activity with code references used for the schools involved in the study.

Case study	Data collection	Participants	Code
A	Development of the schools environmental policy	Executive members of the environmental club	yellow/purple
B	Informal out-of –school outing to CROW	Members of the environmental club	pink/green

3.5 DATA ANALYSIS

According to Creswell (2003, p. 190), the process of data analysis involves making sense of text and data. Once the data collection was completed, the interviews were transcribed directly from the tape recorder in order to keep to the original words of the interviewees (verbatim), and the observation schedules and field notes were scribbled. I then coded the information from the interviews, considered my observations and related the interviews and the observations to the field notes through a process of triangulation. After comparing the data sets, I coded the interviews into the emerging categories using Agarwal’s (2001) typology of participation and adapted Falk and Dierking’s (2000) CML theoretical framework. Coding is described by Merriam (1998, p. 164) as “... nothing more than assigning some sort of short hand designation to various aspects of your data so that you can easily retrieve specific pieces of data”. Huberman and Miles (1994) express the importance of coding data from interview responses, partially as a way of reducing the volume of data. I used colour-coding to code the data into the following categories from Falk and Dierking’s CML (2000): the physical, sociocultural and personal

context. After a more refined process of analysing the data using colour-coding I was then able to conduct a deeper level of analysis using Agarwal’s (2001) typology of participation, to unpack the “why” and “how” of the learners’ participation. In order to determine the type of learner participation I used a used a system of simple symbols to give meaning to the type of participation exhibited by the members of the club. I then placed each of the three coded contexts of the theoretical framework, for the exploration of how and why the learners participate in the club this helped me to further categorise the data into sub-categories (see Table 3.4 below).

Table 3.4 Table showing the Context and the sub-categories

Context	Sub-categories
Physical Context	<ul style="list-style-type: none"> • Physical navigation • Advanced organizer • Intellectual navigation • Re-inforcing what has been learnt through participation
Sociocultural	<ul style="list-style-type: none"> • Values related to participation • Mediation by outsiders
Personal	<ul style="list-style-type: none"> • Members’ motivation (intrinsic and extrinsic) and degree of choice to participate • Expectations that the EC members had in participating • The degree of control that the EC members had over their participation

After presenting the data concerning participation and the analysis of this data using the conceptual framework, I used it to give meaning to the type of participation in Chapter 4. I then interpreted the data further in relation to my research question, and the focus on exploring learners’ participation in school Environmental clubs using the literature and contextual aspects

described in Chapter 2. I did this by using a set of analysis statements, which are used to structure chapter five.

The following data analysis statements which helped to guide my thinking and allowed for the flow of the categories to overlap the learners' participation in the EC at the school, were developed:

analysis statement A: how the CML of Falk and Dierking (2000) applied to the study

analysis statement B: the typology of participation

analysis statement C: relating literature about participation to findings.

3.6 RESEARCH ETHICS

It was important for me to inform the respondents about the aim, purpose, findings and potential consequences of participating in the research. Before I started with the interviews, I made sure that the respondents were clear about the reasons for the research. Written letters of consent to undertake the research were granted by the DoE and the principals of Grasslands and Cliffside schools. Letters of informed consent and assent were obtained from parents and participants. These letters detailed that learner participation was completely voluntary and they could withdraw from the study without any negative consequences at any time. Learners were informed about methods of data generation as well as the number of times that they would be engaged to generate data. Preliminary meetings were undertaken with the teacher assigned to me for me to be able to observe the activities of the EC at the school. The participants in this study were promised confidentiality and anonymity. Refer to Appendix 2 and 3 for a copy of the following documents: letters to the teachers requesting permission to conduct research at the school and letters to learners requesting consent for their participation.

The research process took account of three ethical values in social research: respect for persons, respect for truth and respect for democratic values (Bassegy, 1999). Through respect for democracy, the researcher has the freedom to ask questions, giving and receiving information and publishing the research findings if all ethical procedure has been adequately followed. Similarly the respondents also had a democratic right to participate and were not forced to share

their knowledge. Therefore, the researcher should have respect for the truth and the researcher is expected to be truthful in data collection, analysis and the reporting of findings. The researcher should have respect for the people who are providing information and recognize their ownership of the data. Terre-Blanche and Durrheim (1999) argue that in a research process, there should be freedom for research participants to withdraw from the research at any time. I also assured the participants that pseudonyms will be used to protect their identity in written reports.

3.7 RESEARCH RIGOR

Cohen et al. (2007) state that “Triangulation techniques in the Social Sciences attempt to map out and explain more fully the richness and complexity of human behaviour, by studying it from more than one standpoint and in so doing, by making use of qualitative data.” Yin (2003, p. 97), mentions that “a major strength of case study data collection is the opportunity to use different sources of evidence.” Yin elaborates further that the “rationale for using multiple sources of evidence” is triangulation. According to Hitchcock and Hughes (1995, p. 324) state that data should be collected “from more than one person,” as in this study. Methodological triangulation serves to increase the confidence of triangulation. For qualitative research, validity of an instrument refers to whether an instrument of data collection is relevant to the research question. Best and Khan (1996, p. 160) contend that “validity is that quality of data gathering instrument or procedure that enables it to measure what it is supposed to measure.” I used more than one method of data collection to ensure the validity of my research. Rigour in the research was achieved by the criteria suggested by Lincoln and Guba (1985, p. 233) which are: “Credibility, transferability, dependability and confirm-ability.” This research addressed these criteria as indicated in Table 3.5.

Table 3.5: How research rigour was maintained in this study

STRATEGY	CRITERIA	APPLICATION
Credibility	Lengthy time in the field	Individual and group interviews, recordings that are transcribed
Transferability	Depth in description	Verbatim quotes from interviews, field notes and observation schedule observation of the excursion to CROW
Confirm ability	Triangulation , Confirm ability audit	Group interviews, transcripts to be checked by participants for accuracy

3.8 LIMITATIONS OF THE STUDY

The sample in this study is small and does not allow for generalisation of the results to a wider population, which is unproblematic since this was not the main purpose of this study. My study sample was chosen through purposive sampling: the schools selected were schools that had EC; with an EC executive committee and non-executive committee members. Opie (2004, p. 74), states: “the issue of numbers for a case study is particularization, not generalization”. The study provides insight into particular activities of ECs. In different circumstances, different activities can be designed by ECs, and the “how” and “why” of learner participation can change.

3.9 CONCLUDING SUMMARY

In this chapter the qualitative research design and location of the study in the interpretive paradigm were argued for. Reasons for adopting the case study approach were discussed and the purposive sampling strategy explained. I presented an outline of the research design decisions

that informed the research process. I went on to describe how the data generation techniques were used and how these complemented each other in the process of data analysis in a quest to answer the research question. In the next chapter, chapter 4, I outlined and shared the findings from the data that I collected for the study. This chapter provided insight into the learners' participation in school EC.

CHAPTER FOUR

FINDINGS

4.1 INTRODUCTION

This chapter will focus on the analysis of the data collected through interviews (semi-structured group and individual) and an observation schedule to explore learners' participation in two school Environmental clubs. The two case studies presented have allowed me to capture rich insight into how and why learners participate in a school environmental club. The learners' participation in the environmental club was analysed using Agarwal's (2001) typology of participation, and an adapted version of Falk and Dierking's (2000) CML conceptual framework. Data was generated from semi-structured individual interviews, semi-structured group interviews, unstructured group interviews and observations of the EC members. The data is presented in two qualitative case studies: EC Cliffside which formed case study A and EC Grasslands which formed case study B. Each case study is presented according in the following way: context, biography of club members, type of participation (according to Agarwal's typology of participation) and the participation of learners according to the physical, socio-cultural and personal contexts. The three contexts of the CML are not mutually exclusive and overlap in the data. The data presentation is followed by the analysis of the two cases. The final discussion of this section provides the overall findings on the learners' participation in Environmental clubs and insight into the factors for this participation.

4.2 CASE STUDY A: CLIFFSIDE

The context, the school profile, the biography of the club members, type of participation and the participation of learners according to the physical, socio-cultural and personal contexts are described below.

4.2.1 Context

Cliffside School was a girls' only high school located in the North Durban district, in the province of KwaZulu-Natal. Prior to 1991, the school catered for predominantly White learners

and there was a small learner population comprising of the African, Indian and Coloured race groups. The school staff comprised only of the White race group. In 1991, the merged school became a Model C school and learners from different race groups were admitted. With the abandonment of the Group Areas Act in 1994, different race groups moved into the residential area surrounding the school and the area became a predominately Asian community. The racial composition of the learners within the school, as a result of the changing racial residential spectrum, comprised a mix of African, White, Coloured and Indian learners. Many learners were transported into the area from other residential areas, which were a distance of 10 to 25 kilometres away.

4.2.2 School profile

Cliffside was an English medium school, which catered for learners from Grades eight to 12. The school had a good infrastructure which was conducive to teaching and learning. The general appearance of the school was clean and neat. The school grounds were very well maintained and the grass is cut regularly. The perimeter of the school was lined with palisade fencing within which stood very old indigenous trees. The school had well maintained sports areas which included the pool, tennis courts, netball courts, sports field, and hockey field.

The entrance of the school had neat gardens with small flowering plants and large foliage areas, some of the plants; especially the trees had identity plates. The inner school zone which led to the classrooms had a central quad that was a “green garden area”. The area was very neat, well-structured and maintained. There was a peace garden close to the junior classes. The school had water features and a peaceful setting with benches in a seating area. The school grounds had bins at the entrance and the area was well maintained. Litter was however evident and problematic especially in the perimeter area of the grounds and on some staircase zones. The school was surrounded by a busy shopping mall, a hospital and traffic intersection. The entire area was surrounded by office buildings, flats and private apartments, well established road infrastructure, a government hospital, a post office and police station were all adjacent to the school.

4.2.3 Biography of club members and the setting for the EC

The EC comprised between 25 - 30 learners. The EC members were girls between the ages of 12 and 19 years old from Grades 8 to 12. The senior members of the EC were from Grades 11 and 12, and made up the executive committee. The EC was co-ordinated by the EC executive committee members comprising the following learners: Valerie as chairperson, Pamela as the vice-chairperson, Tammy was the secretary, Gail was the treasurer and there were and three Senior Environmental Officers: Zelda, Stephanie and Bonnie³. The EC executive committee members met once a month with the teacher to co-ordinate the club activities. The EC executive members were learners who participated in developing the EC activities and goals of the club. According to Wilson (2009), the participation of learners in a social group possibly benefits from a sense of personal control, increased confidence, and improved relationships with teachers and peers. Furthermore other benefits could include improved functioning of the school, and the promotion of democratic values (Mncube, 2007).

As an EC initiative to improve the litter problem within the school the three senior Environmental Officers namely Zelda, Stephanie and Bonnie, were assigned to particular grounds during the breaks (recess). They were responsible for maintaining the cleanliness on the grounds by getting the learners to pick up the litter. The EC members met in the Travel and Tourism class during the recess to conduct their meetings. The EC executive members wore badges to identify them as executive members and the remaining EC membership wore ID tags identifying them as environmental officers. The executive members were responsible for implementing the rules of membership attendance and participation. The EC members, who did not attend the EC meetings were approached directly, encouraged to attend and also asked questions by the members of the executive committee such as: “... *We have had a meeting, why were you not there, do you have a valid reason?*” Their participation in the club required the members to have a sense of commitment and to be accountable to the club by their regular attendance.

³ Pseudonyms have been used to maintain the anonymity of the EC members.

4.2.4 Participation of learners according to the physical, socio-cultural and personal contexts.

The main focus of the data organisation and analysis was according to the learners' participation in the EC, using an adapted Falk and Dierking's (2000) CML theoretical framework. The participation of learners using this framework has been presented according to the physical, socio-cultural and personal context. The data has been interpreted according to the CML theoretical framework, a description of the type of participation followed by the conceptual insights into participation.

4.3 PHYSICAL CONTEXT

The physical context refers to the outdoor/informal environment, the school grounds, the garden areas around the school etc. in which the learners participate. Some aspects of the physical context include both the large scale properties of space, as well as smaller scale aspects such as the picking up of litter on the school grounds. Through participation the EC members oriented within the space and confidently navigated within this physical context. Some aspects of the physical context were gathered through individual semi-structured interview with the EC chairperson (Appendix 5) and recorded discussion of the EC executive committee (Appendix 6) and group interview (Appendix 7). The following aspects were identified in the physical context and used for this research viz.

- Physical navigation
- Advanced organizer
- Intellectual navigation
- Re-inforcing what has been learnt through participation

4.3.1 Physical navigation

Physical navigation refers to the open space where the learners are able to walk, to move freely and to orientate themselves within the large and small scale spaces (Falk and Dierking, 2000). For the EC members the physical space in relation to the CML was their school grounds in which they were able to navigate and interact. As the EC members physically navigated through the school on a daily basis they became more aware of the increased litter problem that they saw throughout the school grounds and around the school boundary. Their physical navigation around the school grounds influenced the members to change the status quo by participating in the picking up of litter and hence contributing to keeping the school clean. The following excerpt from the focus group interview with the EC executive members reveals that the club had already started the first phase of cleaning up the litter (see appendix 7). This was undertaken by the EC adopting a spot around their school which they were responsible for; the learners explained how they undertook to have a litter free school grounds through the Adopt- A –Spot undertaking of the school grounds:

Tammy: *“as we walk around the school grounds we are able to see if the area around the school is clean and then if there is any dirt there we pick it up. Sometimes the girls also ask the school to have more recycling bins placed in the designated areas where we find the litter to be a real problem”*

Stephanie: *“It is effective to have the litter checks and to have the Adopt-A- spot because the school grounds and other areas around the school area are kept clean.”*

Gail : *“...we do also [cleaning of the grounds and around the school] at 7.30 in the morning before we go to school.*

The EC members engaged in the process of taking part (Wenger, 1998). As members they collectively picked up litter cleaning the school grounds was based on a collective decision making Adopt-A-Spot of the entire school grounds and committed to clean the school before the

beginning of the school day. I was taken aback by the level of commitment and participation. Falk and Dierking (2000) suggest that when learners participate in the physical context where the experience is of their free-choice setting, their participation will be generally voluntary, non-sequential and highly reactive. For the EC members the tasks were no longer simply tasks or activities but they embodied a true sense of appreciation and desire for the cleanliness of the school environment. Because the school environment had a litter problem, with traces of litter on the school ground being evident on a daily basis, this influenced the EC to participate in the cleaning of the school. This gave the club members a sense of well-being through collaborative cleaning and learning. Perhaps the environment itself triggered a set of sociocultural norms which dictated behaviour in places that the learners' physically navigated. The EC were actively participating in upgrading the school garden area. Their participation in this activity required the members to carry their own gardening equipment which they used to dig and till the soil in the physical space, which they were familiar with, outside the school kitchen area. The familiarity of the physical space motivated the EC members to move through the school ground spaces and to upgrade it. The learners' ability to confidently navigate within the school grounds was highly correlated with why they chose to create a litter free school. How they were able to ensure this was achieved was through the members picking up papers by adopting the school grounds and ensuring that there were sufficient recycling bins around the school. The navigation through the physical space can sometimes be life-changing and long-lasting. As seen in the following excerpt in the individual semi-structured interview with Valerie when asked whether it is embarrassing to dig up soil or to do something in front of other learners Valerie in individual interview responded by stating:

Valerie: *“they [the other learners] have to take a leaf out of my book...at the moment, there are more watchers, we are hoping to get more workers because the school grounds will be much cleaner if we all just play our part.”*

Wenger (1998) acknowledges that participation is a complex process that involves everything we do and feel when being part of an engaging experience. Valerie hoped that through the active participation of the EC members navigating through the physical space and creating gardens, and

picking up litter, it would cascade and have an influence on the “watchers” even have an influence on the non-EC members to join or to participate in the work party. Valerie’s reasoning was that the “watchers” would possibly learn from the example set by herself as the chairperson and other EC members to make the difference in the school. Valerie hoped that her activity-specific participation in picking up the litter, would encourage other learners’ to join and participate in the EC.

4.3.2 Advanced Organizer

“An advance organizer is information that is presented prior to learning and that can be used by the learner to organize and interpret new incoming information” (Mayer, 2003, p. 305)

According to Falk and Dierking (2000), an advanced organizer is anything that provides “intellectual navigation” for a subsequent learning experience. The advanced organizer in this study applies to the information that is presented to the club members and the school community by the EC senior environmental officers who were tasked with the duty of informing the learners about the litter concern, the plan to work with the Adopt – A – Spot of the school grounds project, to maintain the cleanliness on the grounds by getting the learners to pick up the litter and setting up poster displays encouraging a litter free school in conjunction with displaying information posters of the important calendar Environmental Days of the year, on the school notice boards. This task required the EC members to be motivated to participate in the activity themselves to keep the school clean and be committed to their advanced organization of informing learners of environmental issues and preparing poster displays. The senior environmental officers wore badges that awarded the wearer the responsibility to be led by example in picking up the litter as well as monitoring and encouraging the learners to pick up their litter and to keep the school environment clean. The badge worn by the environmental officer gave a degree of authority over the tasks and the superior position of hierarchy amongst their peers. A roster was established within the EC to accommodate the number of environmental officers and the five grounds that had to be monitored.

During the semi-structured individual interview, Valerie (see appendix 5) indicated that the learners responded “*mostly positively*” to example shown by the members of the EC who wore

the ID tags indicating their role as environmental officers, to pick up the litter. Tammy, who responded in the group interview, stated the EC were self-motivated to make a change to the school's environment and prior to the members setting an example of participating in the cleaning of the school grounds, litter was a problem evident by the following excerpt by Stephanie from the group recording with the EC executive committee:

“It wasn't so positive in the beginning...We never had a completely clean school ... learners with a don't care attitude ...minority drop tissues...apples cores.....lunch on the ground ...have no respect for the environment”.

However, after two years into the advanced organizer programme, the EC executive Gail witnessed the changes that learners had made and Gail asserted:

“... the majority of learners have changed their attitude towards cleanliness of their grounds....they are walking to the bins to throw away their dirtSome even stop to read the poster displays and that makes us proud.”

The members in the upper levels of hierarchy, as well as, the junior EC members used the different advanced organizing strategies to inform the school community of the litter and making them more aware of their local environment as well. By the EC members picking up the litter as well as encouraging the learners to pick up the litter it was hoped that the school body would follow the example set and instil a sense of pride for a cleaner school community. The positive role modelling by the environmental officers is an example of level six, interactive participation (Agarwal, 2001). This had an influence on the wider school learner population, to participate in aiming to have a cleaner school. The advanced organizers, the constant reminders, role modelling and monitoring by the environmental officers for the learners to pick up the litter which they dropped, eliminated the litter problem within the school community. The EC participation with their peers in on-going structured activities such as the litter monitoring became part of a continually dynamic structure of practice. Agarwal (2001) asserts that the activity-specific participation is one where the members are being asked to (or volunteer to)

undertake a specific task, which was demonstrated through the advanced organisers presented by the EC members. By using poster displays and constant reminders about the Adopt-A-Spot campaign, the wider school population was enabled to engage in activity-specific participation, which was essentially creating a litter-free school. This process is consistent with Tharp and Gallimore's (1988) description of the necessary collaborative arrangements between the EC environmental officers, their peers, teachers, and in school restructuring. 'Learner participation is a process of learning by taking part and maintaining relations with others. It is a complex process comprising doing, communicating, thinking, feeling and belonging, which occurs both in-school and out of school' (Hrastinski, 2009, p. 80). In the school community the learner, appeared to learn how to coordinate with, support and lead others, to become responsible and organized in the management of their physical environment. The advanced organizers presented by the EC encouraged the learners to learn to keep a clean school. Thus, "participation is not just a physical action; it involves both action as well as connection to a community" (Wenger, 1998, p. 55).

4.3.3 Intellectual navigation

New opportunities were established in the physical context and working in the out-of-school informal context allowed the learners to express themselves in ways that the formal school curriculum did not. The EC executive together with the co-ordinating teacher encouraged the club members as well as the non-club members to participate in and out-of-school National Essay Writing competition on any topic on the environment. Being able to confidently navigate within this topic was highly associated with what and how much the learners knew about the environment and thus there was a need for the participants to intellectually navigate and understand the topic they had selected to write on. The most appropriate essays were selected by members of staff at Cliffside and entered into the national competition. The intellectual navigation (thinking about how and what to write about the environment) which was supported by quality advanced organizers (executive members who organized the competition and encouraged learners to participate) affected the quality of the essays submitted by the learners. Valerie in the individual interview said the following about the competition: "*..... some of the girls who take part in the national competition will have to put in a great effort as the*

competition will require that we have an in-depth understanding on the topic regarding the environment .”

The learners whose work was entered into the competition were awarded a certificate for their participation as an incentive. However, there had to be an intrinsic motivation to convince the participants to research the topic and to maximise their understanding through intellectual navigation, which was evident in their work. Their extrinsic motivation for participating was to gain recognition for their achievement nationally, receive certificate awards and place their achievement on their curriculum vitae. Gail, the treasurer, stated the following in the group discussion, which was recorded and observed, with the Executive committee:

Gail: “ *.....to be able for example to do the essay competition we had to really read and get to know a lot about the environment and to talk to our family.”*

The learners participated in intellectual navigation by improving their writing skills and simultaneously enhanced their understanding of the environment.

Intellectual navigation as it applies to this study is evident in the assertion by Agarwal (2001) that achieving effective participation involves a shift from the lower to the higher levels, with levels being defined not by how a group initiates but by the extent of people’s activeness. The physical context of the school grounds encouraged the EC to participate in club initiated activities, for example, by picking up litter and naming some of the trees on the school grounds. This shows how, through physical navigation (moving through the school grounds), intellectual navigation (naming trees in the school ground) was facilitated. The following excerpt from the individual interview (Appendix 5) provides insight into another activity:

Valerie: “ *... we participate by learning to identify the trees. With the help of a book and Simon the horticulturalist shows us the plants and leaves, the pictures with the names of the trees and ...how we participate by identifying the plants and trees on the school grounds”*

The tree labelling initiative of the EC members was activity- specific and empowered the members in being able to identify criteria necessary to name trees. The activities of the EC required the learners to work together towards a common goal. This common goal overlaps with the interactions with peers and adults, which were framed by the sociocultural context.

Thus, from the physical context, one should anticipate new types of participation to amount to the realities of the learners' motivation and expectations, which in the case of the EC involved the orientation of being able to name and label the trees around the school grounds. This was achieved through mediation by an outsider who was a retired horticulturalist. Through the social interaction with the learners he was able to encourage them to intellectually navigate through tree identification books and to identify and label the trees. The tree identification advanced the learner's knowledge about the environment and increased their scientific knowledge of trees in their natural setting. This further extended their understanding of the influence of physiographic aspects on plants. The EC members empowered themselves by learning how to identify trees. This knowledge afforded them the opportunity to have a voice and influence the decision making of the group; this is an example of Agarwal's (2001) sixth level of interactive (empowering) participation.

4.3.4 Reinforcing what has been learnt through participation

Reinforcing what had been learnt refers to the EC members' prior knowledge which they had gained either through the class discussions, media, and family or through their general interaction in the environment. In addition the EC members' prior knowledge was knowledge they brought into the club which was further reinforced through their participation. During the individual semi-structured interview with Valerie, she discussed how the physical context influenced the EC participation in the naming of the trees and helped to reinforce what was learnt in class.

Valerie: *“ about the process of naming trees, instead of sitting and learning in the classroom we [EC members], went outside physically naming the trees. It was so much better and we learnt a lot and it was more interesting. We remember a lot more as well.”*

The EC members' active participation, which is the fifth level in Agarwals (2001) typology , by physically going out to identify and name the trees, thereby undertaking a specific task, was a tangible activity that was concrete and reinforced their prior interest and knowledge. Although the EC members had been actively participating as a group it was also participation in an individual way, reinforcing what had been learnt for each individual member. The participation through reflection resonates in the group observation with the EC executive as mentioned by Tammy, the EC secretary, who recalled the EC participating in selecting plants for the schools peace garden.

Tammy : “ ... *I remember when we needed to do the peace garden, we had to read up and choose the best plants for that area and if they would be able to grow in that shaded place.... Yah it was really cool and I learnt a lot on how certain plants grow.*”

The physical context influenced active participation by the EC members and empowered the EC members through learning about the tree identification, to select plants for the peace garden; this stimulated the interest of the EC members. The EC members were able to influence decision-making about which plants to choose for the peace garden. Central to participation is the inclusiveness, in decision making, however, the inclusion also requires the effective involvement of the members not just as individuals but as a collectivity (Agarwal, 2001). EC member participation was also socioculturally situated.

4.4 SOCIOCULTURAL CONTEXT

The sociocultural contexts pertain to society's values about participation that may occur within the social group such as members of the EC, the teacher or through mediation by outsiders. In the CML the sociocultural context influences participation, the interactions of the EC members and collaborations they have with individuals within their social group (Crowley & Callanan, 1998; Ellenbogen, 2002). The sociocultural context is often mediated through our gestures and

conversations with others. Research has shown that the quality of interactions with others outside the EC social group can make a profound difference in participation

Two elements of the sociocultural context are relevant in this study viz.:

- Values related to participation, and
- Mediation by outsiders.

4.4.1 Values related to participation

Values in participation means the valuing of the activity in which the EC is engaged, as well as valuing of members as efficient co-workers. To value peers is to consider someone to be important, to have an appreciation, respect, high regard and to cherish the person. Values are our standards and principles for judging worth (Halstead, 1996). This notion is echoed by Shaver and Strong (1976) who reiterate that values are the criteria by which we judge things. Values gained through participation involved the idea of empowering the EC members to have an opportunity to actively participate in the process of decision making. Values gained through conversation with peers in the sociocultural context can also be seen as a foundation to motivate the learners extrinsically, and this is emphasised by I asked the chairperson of the EC “What type of learner do you think is attracted to this type of club?” and her response in the individual interview was as follows:

Valerie:” *I think it’s the people who are most aware [of environmental issues]... Yeah sometimes when you talk about it People who actually listen to you will find afterwards that they are the ones who want to get involved.”*

There was a sense of common expectations; shared values which are intrinsic to participation (Rovai, 2002). The learners who join may join because there is an increasing emphasis on community participation through the formation of groups who talk about the EC. When Valerie

was asked: “What brought you to the club?” [Her reason for joining and participating in the EC], she indicated in the individual interview (Appendix 5):

Valerie: *“I was interested in the environment and so the projects many people were talking about it.....I was interested in being involved [participating] in that..... I wanted to do something for the environment and at school they seemed to all be so involved in the club”*

Valerie’s participation in the club was not only because she valued the environment but also because she valued the interactions that she witnessed amongst the members of the EC; she valued what seemed to be active participation in the club activities, the influence of others and the anticipated benefits of working together in a group.

Furthermore, participants in the group interview (Appendix 7), explained their reasons for participating as follows:

Gail: *“we get to listen to other peoples different points of views of what the situation is or should be.....no one shouts you down and everyone has a chance to contribute”*

Valerie: *“ I think also but it is easier here...you don’t actually have to put your hand up, stand up and say something and the whole class is looking at you, its cool...its easier here.”*

Zelda: *“ maybe because we just work with each other.”*

Stephanie: *“We work with each other not against each other.”*

The EC members valued their participation in the EC because they experienced collegiality within the group. They felt that their contributions as members were valued through the respect they experienced from their peers listening to them. Agarwal, (2001) asserts that by listening to “different people’s points of view”, the value of mutually interactive participation is underscored. The interactions within the EC, were empowering and enabled the members to participate since they valued the calm and relaxed atmosphere among the members because they

were given an opportunity to voice their opinions. Strengthening participation through spontaneous interaction with friends, family and teachers, was valued by EC members. Valerie was influenced to participate through the conversations among peers and perhaps these conversations influenced other EC members. Furthermore, the learners became EC members because they shared a common awareness, a connectedness (Jaldemark et al., 2006; Rovai (2002) amongst participants, and a common interest Palloff and Pratt (2005) in the environment. In the EC executive discussion which was observed and recorded, Bonnie indicated the following:

Bonnie: *“ I am a very quiet person In the club you don't have to watch what or how you say things everyone gets a chance and my friends always will encourage me to participate they make me feel part of the group.... ”*

Initially, Bonnie engaged in passive participation but later, through encouragement, advanced to participate more actively. The data above indicated why the learners became EC members: they appreciated the relaxed atmosphere where they were valued irrespective of whether they participated passively or as active members.

During my subsequent meetings with the executive members of the EC they were developing Cliffside's environmental school policy. Valerie's statement strengthens the notion that when learners are aware of environmental issues they would become EC members and active participants, as was the case of the club members, whose awareness was enhanced through interacting with people. As the EC members became environmentally aware while debating about the policy document, they became more confident and conversant on issues related to what the school community valued in the environment. The sociocultural context influenced the EC members to value their participation through the interaction and collaboration they had with individuals within their social group. The level of commitment and interaction among the executive members to develop the policy was through an in-depth analysis of the general environmental policy document, which was adapted to suit the needs of Cliffside School. Agarwal (2001) asserts to the importance of consultative participation and this was evident in the discussion on developing a policy. The conversation between the club members was relaxed and

they worked autonomously towards developing the policy. The participatory role of the EC in this process particularly at the sociocultural level is worth noting.

Individuals and groups behave differently according to a mixture of influences and how the learners participate in the EC. What seems quite chaotic may just be part of a natural social adjustment to a new environment in which the EC members participate, are relaxed and “free” (Falk and Dierking, 2000). The social value of interactively participating in the debate regarding the formulation of the schools policy similarly enabled the core members to value the personal autonomy which they experienced throughout the establishment of the schools environmental policy. The teacher gave the group the responsibility of processing and formulating the policy. Valerie explained:

Valerie: *Our school does not have an environmental policy and we have the first opportunity to start to establish and to work on one.”*

The EC members valued participating in establishing the policy as it was a foundation on which the school would focus its future environmental issues. Furthermore they valued the interactions in the debate that was exciting, interactive and they valued one another’s opinions during the conversation with their peers. Agarwal (2001) asserts that in many ways informal participation efforts are extensions of peoples’ everyday forms of cooperation and social networking. The conversation between the EC members was co-operative and motivating as they began to read through the policy which outlined the norms and expectations of the school with regard to the environment. The conversations of the members of the executive committee were a vital part of the culture of learning and a key contribution to the outcomes as to why they participate. The core members found value in participating in the formulation of the policy, and they felt important because their contributions were being valued and recognised not only by their peers but also by the school community. The active participation of the learners enabled the EC members to all express their opinions and not waiting to be asked for their opinion, and signals their engagement in active participation (Agarwal, 2001). Why the learners participate is evident in the EC executive members’ were being empowered and given opportunity to voice

themselves. They valued a level of hierarchy within the EC which allowed them to be enlisted for the policy development. The formulation of the policy was achieved through interactive participation with their peers as collaborators and who valued the points shared. They valued the commitment in participating towards the establishment of the schools norms which was influenced by the decisions made in the group. Agarwal (2001), states that interactive (empowering) participation within a group allows the members to have a voice and thus influences their collaboration in the participation process. Interactive participation is evident in the following excerpt which was extracted from a transcript based from an observation and recording of the EC executive discussion:

Valerie: “... that we can make the policy since we are the learners and we are in the school and club members we can think about anything that *WE* [participant’s emphasis] want in the policy compile something that is useful and *NOT* just a piece of paper and hand it to whoever is in charge at the top and they can see it....”

The preceding quote further explains why the core members found value in participating in the policy formulation- it allowed them to work autonomously, on what they considered to be crucial to the school environment. Valerie wanted practical tangible change which went beyond mere talk about change, because she valued the practical application of the EC policy, and not simply a policy which can be read. The core members participated in policy formulation because they valued a working policy which could be practically implemented. In the executive group discussion, members indicated the following:

Gail: “ ...let’s make more people aware of the environment personally....if they are buying cans, instead of throwing the cans away, leave it in the class...”

Pamela: “ or have a specific place for those cans....in a box...in a special bin...”

Here, Gail revealed her engagement in activity-specific participation (collecting cans and recycling) when she attempted to connect the interests of the EC (personal context) with that of the broader school community. The EC meeting provided an interactive space for activity-specific participation, which aimed to engage other learners (sociocultural context). The value in

the EC executive members' participation was the insight they gained in unpacking the policy document and learning new terms evident in the questioning of the issues on the policy document. The following excerpt was from observations and recordings of the EC executive group discussion:

Gail: “ ... Okay where [did] we stop? We did adventure and cultural activities. What adventure and cultural activities are taking place in our school...How has local knowledge been brought into learning programmes....”

Valerie: .. “uhmm.... Firstly I think ...Local knowledge is ...basically looking at the local community....from our culture...?”

The value in participating in the reading of the policy requirements, by the EC executive members, enabled an active relationship and dialogue to develop between them and the school management. It was not only gathering evidence and opinions but was an educational discursive and inclusive process that had value in itself in building their general knowledge. Our culture and society and the ways in which we have been raised has imposed a set of social norms setting expectations and rules. The school's EC are what Falk and Dierking (2000, p. 7) call a “community of learners.” At Cliffside the sociocultural norms and expectations were to undertake a school environmental audit, which would require the EC to research the implications of the audit for the school. In the analysis of the policy document the learners incorporated the entire school in the school's environmental audit. The following excerpts from the executive members on the group discussion (Appendix 6) signals this:

Gail : ‘... Aren't they like asking each person in the class if they are buying cans, instead of throwing the cans away, leave it in the class and they can count from each class and maybe at the end of the week they put it together...We will make money “.’”

Valerie: “ ... We could do a simple waste audit of how waste is collected in each classroom and the school as a whole. Mainly how much paper that is wasted each week and how many aluminium cans are thrown away in a week or a month...In the end it will be better for the

school, cos' we will be able to collect more cans for recycling...And the school earns and the grounds will be cleaner."

In their discussion the learners begin to associate the can collection and waste paper audit process as an activity that could bring much needed funds into the school. The learners debated the issue of collecting the waste and cans. The learners began to show genuine excitement and were motivated by the realisation that the waste could have value to improve the aesthetics of the school. Thus how the learners valued their membership was through engaging in activity specific participation namely the waste audit, the recycling program, and the litter campaign. Why they participated was they valued the input they had in improving the school and to comply with the school expectation. The recycling programme encouraged the learners to become fully engaged in the improvement of their large scale school environment, and the physical context of the CML was engaged with in this way. The degree of transformation that the learners could bring about was an inspiration for them to encourage the school community to participate.

However, some students did not value the environment, and did not share the vision for the EC like other members. Instead, their reason for participation was to gain recognition. There were consequences to members having a, "*don't care attitude*", as explained by Valerie during individual semi-structured interview.

Valerie: *"If they [the members] show a don't care attitude, because a lot of them also come in just to wear a badge and at the end of the day put in their C.V, you know..., I belong to this club... they won't get a certificate"*

The data collected indicated that some members did not value the activities of the EC and participated for their personal gain. Why they participated was possibly to gain a badge and how they obtained the badge was through their nominal participation as club members. Agarwal (2001) asserts that nominal participation means that some learners would attend when they wanted to and on few occasions. In some instances the learner may be affiliated to other groups within the school that may clash with the EC meeting times. The values and expectations of the

EC were that the members would have a genuine interest in the club and participate in social interactions that took place between the learners and the teacher.

4.4.2 Mediation by outsiders

The social interactions of the club members can be divided into firstly, interactions amongst members of one's own social group and secondly, the external social interaction, interactions with teachers, learners and others outside of one's own social group. The desire of the EC members to participate in consultation with either family members or outsiders such as the horticulturalist, in order to learn and to share the experience with the other club members resulted in significant activity-specific participation and interactive participation. EC members were given a voice and had an influence over the group's decision, with reference to aspects of the sociocultural context as conceptualised in the CML. During the semi-structured individual interview Valerie mentioned that often it was through the family members' interest in the environment that their interest as children was sparked, as is evident in the following individual semi-structured interview:

Valerie: “ *as a family we would sometimes go out on a picnic or on hiking trails*” .

Why the learners participated was influenced by their family interactions, which was a form of mediation within the sociocultural context. The EC members' personal interest and out-of-school opportunities in the family unit as a social structure could have been the contributing factors which influenced their active participation in the EC. It was interesting to note that the EC members' awareness of the environment came from their family background and filtered into the school as well. The learners sometimes shared resources brought from home such as garden equipment for an EC activity or project. Wenger (1998) asserts that participation involves action, a connection with other and sharing. The act of working together and sharing was a significant step in members' participation in EC activities. Through the mediation of outsiders EC members' knowledge was constructed on a foundation of prior experience. Mediation by the horticulturalist enabled EC members to undertake activity-specific participation in the tree labelling process, for

example, from observation notes in the field. Bonnie, in the executive group discussion, indicated:

Bonnie: *“We read up the types of plants in the areas.....important facts about them ...their biological names....”*

According to the social perspectives on learning, participation is not something learners can turn on and off (Wenger, 1998). Thus, learners were participating not only during times when they were, for example, writing or reading but also when they are out in the field .The learners were able to become novice trainers (in tree identification) through the research.

Wenger’s (1998) definition of participation partly overlaps with what is referred to as sense of community. Jaldemark et al. (2006) described participation as belonging to a community. Participating in and feeling attached to a group is a central aspect of sense of community. People who have a strong attachment to a group are more likely to participate and help others. The learners’ participation in the EC was greatly influenced by their sense of community and personal interconnectedness within the group.

4.5 PERSONAL CONTEXT

The personal context influences the participation that is based on the personal history that the EC member carries, the influence of prior knowledge and experience, the prior interest, the motivation for being an EC member, degree of choice over participation, desire to select and control participation, and expectations of the EC member .

Within the personal context the following sub-categories are relevant to this study:

- The club members’ motivation (intrinsic and extrinsic) and degree of choice to participate.
- The degree of control EC members had over their participation.

These categories have been selected based on the coded data collected from the semi structured individual interview with the EC chairperson Valerie (Appendix 5), the discussion of the EC executive committee (Appendix 6) and the group interview with the EC executive committee (Appendix 7).

4.5.1 Motivation (intrinsic and extrinsic) and degree of choice to participate

Intrinsic motivation emanates from the EC members pleasure in participating in accomplishment of the task itself or from the sense of satisfaction in completing or even working on a task that the EC may be participating. The EC members' participation was also intrinsically motivated by their personal desire to make a difference and stemmed from their personal interest in the environment, as seen in the responses made during the observation and recording of the group discussion by the members of the EC executive committee to the question about why they joined the EC:

Bonnie: “ *ahhh....because I enjoy the environment.* ”

Tammy: “ *Yah ... I wanted to learn more about the environment and to make a difference.* ”

Gail: “ *... I joined because there were so many different clubs that the school offered and sometimes... like in some clubs there are too many people and you never get a chance you are always second best... in a team for example and the coach only picks the best, but here we are all equal* ”

The degree of choice in participation in the EC is dependent on the individual choice about whether they want to be passive or active participants. Agarwal (2001, p. 1626) asserts that “without being members an individual usually hear little of what transpires at meeting that is, they are not even passive participants”. The motivation to participate is the intrinsic satisfaction of having a choice and being valued for one's individual strength; this partly answers the question: “Why do learners participate in the EC?” The learners valued the collaboration and friendship, through consultative participation, which is level three of participation according to Agarwal (2001).

Intrinsic motivation does not mean, however, that an EC member will not seek rewards. It just means that external rewards are not enough to keep a person motivated. An intrinsically motivated EC member may want to participate because their participation may benefit her in school and in possible career choices, as Zelda and Stephanie explained in the statement made during the group interview (Appendix 7) with the EC executive:

Zelda: *“at the end it’s gonna be benefitting me, because you are working you’ve gonna get something out of it like learn something, may help me in my future.”*

Stephanie: *“we have to do work to get the badge and excursions; you have to do something to get a reward from it.”*

The EC members had a choice to participate in activity- specific areas such as the attending the excursions or working on the club projects such as litter clean ups within the EC (Agarwal , 2001) with the potential benefit of attaining personal reward and recognition. The discussion that follows was taken from the observation of the EC executive meeting on the need to provide incentives to participate in EC activities. Stephanie engaged in passive participation (Agarwal, 2001) by being informed and listening in on the decision making without speaking up.

Valerie: *....how will we enhance.....focus on environment?*

Gail: *Make more people aware about the environment personally.*

Valerie: *Yes but how do you enhance there are programmes in here. How do we enhance them?
[Repeats the questionhow do we enhance.....?]*

Pamela: *Attract people or something like that.*

Tammy: *Maybe set a week aside or something like that for certain things.*

Pamela: *A special day.*

Tammy: *A fun fair for the school.*

Pamela: *Like a Friday school finishes at 4.30pm.*

Valerie: *But you only have to offer some kind of ...They won’t do it for anything... Because they are going to win something. We must give them something that they want.*

Bonnie: *Like a half day off.*

If extrinsic motivations become the primary incentives to participate, the learners will develop poor habits and miss out on the self-satisfaction that comes from hard work through participation

according to Falk and Dierking (2000). However, Wenger (1998) asserted that participation is an internal dialogue such as thinking and reflecting. Through their conversations and reflection, the EC executive were attempting to make sense, to debate and to possibly understand the driving motivation that would encourage the whole school participation in the proposed EC activities. The reason why the EC members participated was to get the whole school involved in their proposed activities. They did this by engaging in “active participation”, by “expressing opinions” and “taking initiatives” (Agarwal, 2001, p. 1624), when they discussed what would encourage learners to engage in EC activities.

4.5.2 The degree of control that the EC members had over their participation.

The degree of control over participation refers to the power the members had over their participation and reveals how and why the learners participate in the EC.

Participation involves action, e.g., talking with someone, and connection, e.g., feeling that one takes part (Wenger, 1998, p. 79). This is evident in the questioning of why they find it easier to participate in the EC. The executive committee members were clear in their conversation (Appendix 6) about their reasons for participating in the EC, as is evident in the following excerpt:

Tammy: “... What EC has to offer for me is to have had hands- on experience away from school and I enjoy the wildlife environments. [I]feel free and [I]like the outdoors. The feeling that I can choose to do certain things and sometimes I prefer to just stand and to watch the others and its okay...I have learnt so much”

Control over activities in which they participated, as well as the degree of their participation, were features which attracted club members to the EC. The EC members had a degree of control and decided when they were going to do the work and where they were going to.

Valerie: “.... the reason that the EC members were not always attending the meetings was due to something more interesting taking place at the school. The EC member would choose to go there rather than attend the EC.

The girls were encouraged to participate in more than one school club. Passive participation is evident by those learners who attended meetings when they were available.

Furthermore Wenger (1998) refers to participation as “a process of taking part and also to the relations with others that reflect this process” (p 79). In response to this statement on the team work as experienced within the EC, Stephanie reiterated the importance of her interaction and degree of control that she was able to have within the group and motivation to participate:

Stephanie: *We work together and I am able to decide which activity I want to be fully involved in....We work with each other NOT against each other.*

The assertion made by Stephanie is significant because learners’ free choice about which activity to participate in encouraged them to engage in activities of the EC.g, There was a sense of valuing and sharing ideas and encouraging mutual respect for each member. Zelda and Stephanie both indicated the following:

“participation in the EC required the membership to work together towards a [common goal]”.

This common goal overlaps with the interactions with peers and adults, which were framed by the sociocultural context.

Thus, from the personal context it is the motivation of the EC members themselves that is needed to achieve the outcomes of the EC in the EC this involved their own personal commitment to change and seek to make a difference as an individual. Their orientation of being able to name and label the trees around the school grounds was achieved through mediation by an outsider who was a retired horticulturalist. Through the social interaction with the learners he was able to encourage them to intellectually navigate through tree identification books and to identify and label the trees. The tree identification advanced learner’s knowledge about the environment and increased their scientific knowledge of trees in their natural setting. This further extended their understanding of the physiographic aspects of plant requirements through activity- specific participation, which culminated in the establishment of a peace garden.

4.6 TYPE OF PARTICIPATION: CLIFFSIDE

The types of learner participation in the EC has been categorised according to Agarwal's (2001, p. 1624), typology of participation. The EC member participation was described within the physical, sociocultural, personal context. The EC membership participation was at times nominal participation where the learner had a sense membership just by being a member within the EC group. Stephanie was an example of such a learner. The sense of membership to a group relates to the sociocultural context. One of the key dimensions of participation is internal dialogue, such as thinking and reflecting (Holmberg, 1989; Wenger, 1998) and thus this allows the member have a degree of passive participation. Through passive participation the EC member were be informed of decisions ex post facto, or attended meetings and listened in on decision-making, without speaking up. The EC member could choose not to engage in the discussion of the group; this was evident in learner participation being a process of taking part, maintaining relationships with others through the personal context of the CML. The EC members were familiar with the space at the school therefore they focused on activity-specific participation, by participating in or volunteering to undertake specific tasks through their navigation of the physical space which they engaged in on the school grounds. The specific tasks which enabled activity specific participation included naming of trees, establishing of a peace garden, organizing participation in a national essay competition and establishing a peace garden. Through active participation EC members expressed their opinions, whether or not solicited, or taking initiatives of other sorts, such as planning the recycling project and planning a waste audit of the school. The participation of the EC members may arise due to the sense of community it is a process of taking part (Wenger, 1998). Finally, interactive (empowering) participation gives the leaner the opportunity to have a voice and influence in group's decision-making. This was evident in EC members' selection of plants to establish the peace garden, as well as their plans related to attracting participation in the EC activities by the broader learner body. The different types of participation outlined by Agarwal (2001, p. 1624) are furthermore developed in the CML of participation as adapted from Falk and Dierking in the physical, sociocultural and personal context of Case Study A and Case study B.

4.7 CASE STUDY B: GRASSLANDS

The context, the school profile, the biography of the club members, type of participation and the participation of learners according to the physical, socio-cultural and personal contexts are described below.

4.7.1 Context

Grasslands was located in the North Durban district. Pre-1991, the school catered for White learners only and had a White staff compliment. In 1991, the school became a Model C school and learners from different race groups started to attend. With the abandonment of the Group Areas Act in 1994, many different race groups moved into the residential area surrounding the school and began to attend the school.

4.7.2 School Profile

Grasslands was a co-educational Further Education and Training school in KwaZulu Natal, which catered for learners from grade 8 -12. The medium of instruction at the school was English. The entrance of the school was well sign posted with a long driveway leading to a well-marked car park. Along the entrance of the car park there were small gardens that were well maintained.

The school perimeter was fenced with palisade concrete fencing with barbed wire facing inwards on top of the fence. The general appearance of the school was clean and neat. However, graffiti was very evident and visible in the corridors leading to the classrooms and near the hall area (open gathering area) close to the school tuck-shop.

The school grounds were well maintained and the grass was cut regularly. The perimeter of the school was lined with a combination of indigenous trees and alien vegetation. The school grounds had bins at the entrance and main areas; however, litter was evident and problematic especially in the perimeter areas of the school.

The school was surrounded by a Durban Metropolitan Open Space Systems (D'MOSS) area with a canal on the one side. At the entrance of the school there was a large public park area and a wetland zone. The entire area was surrounded by lush trees and grass which was maintained by

the local municipality. On the canal side of the school was a highway with a very high traffic volume throughout the day. Across the highway there was a large shopping centre and an industrial area. At the perimeter of the school there was a very high concentration of security fencing along the school perimeter as well as at the entrance and stairway zones of the school.

4.7.3 Biography of club members

The EC members participating in the EC club numbered between 25 -30 learners, however according to the EC executive only nine to 12 members were active participants. Being a co-educational school the club members included girls and boys between the ages of 12 and years. The senior members who were in Grade 11 and 12 made up the executive committee which comprised only of girls. The EC members were co-ordinated by the EC executive committee members comprising of: Debbie was the chairperson; Jacky was the secretary and Thembi who was the treasurer. The EC executive committee members met once a month with the teacher to co-ordinate the club activities. Pseudonyms have been used to maintain the anonymity of the EC members. Individual semi-structured interviews were undertaken with the EC members. The executive committee comprising the chairperson Debbie and secretary Jacky responded to the focused group interview. Group observation of the EC excursion to the Centre for the Rehabilitation of Wildlife (CROW) was undertaken, followed by an unstructured group interview. Data was analysed using the adapted Falk and Dierking (2000) CML. The data was placed into pre-defined categories based on the physical, sociocultural and personal contexts. The EC executives were learners who participated in developing the EC activities and goals of the club.

4.7.4 Participation of learners according to the physical, socio-cultural and personal contexts.

The participation of learners using the CML (Falk and Dierking, 2000) has been presented according to the physical, socio-cultural and personal contexts.

4.8 PHYSICAL CONTEXT

The physical context refers to the outdoor/informal environment. The physical environment in the case of this study was the environment in which the EC members participated i.e. the EC outing to CROW. Ten EC members attended the excursion. The EC members were able to orient within the physical space and navigate around the grounds at CROW. Data in the form of observation notes, as well as transcripts from semi-structured interviews, were used to interpret findings of Grassland's EC.

The following four elements were identified in the physical context and used for this research viz.

- Physical navigation
- Advanced organizer
- Intellectual navigation
- Reinforcing what has been learnt through participation

4.8.1 Physical navigation

The site of the excursion was the out-of -school setting at CROW. This large open area was a registered wildlife rehabilitation centre dedicated to the rescue, rehabilitation and release of all indigenous wildlife found in KwaZulu-Natal. The unfamiliarity with the environment at CROW had a significant impact on the learners' navigation and orientation to their physical space and this influenced the different levels of participation by the EC members. The learners' lack of familiarity of the environment at CROW influenced their physical navigation.

On arrival at CROW the EC members were greeted by the field guide and orientated to the area of CROW. The EC members gathered around the field guide, engaging in passive participation by listening to the introduction of the area, without speaking up, except when being asked their opinion on what they knew about CROW. The following excerpts are learners' responses about their knowledge of CROW:

Linda: *“Well aah ... I heard that it is a place where birds are kept if they are found....”*

Mazola: *“Yah it is where we can come and see different birds and learn about the birds (looks around and with surprise) but I can see other animals- how come they here too?”*

Agarwal (2001, p. 1628), states “in passive participation mentions that in the meeting having a voice is important since this is the site for discussions on many central aspects”, the EC members were encouraged to participate by the prompting of the field guide. Due to the learners being led around the cages at CROW and as they navigated through the area, they asked questions curious about the cages and the animals in them. The physical navigation between the cages and around the spaces at CROW, encouraged the learners to participate in consultation with each other and actively participate in stopping to look at the animal and then proceeding to the next cage.

Within the group there was active and interactive participation as the members made comments to each other and reflected on the statements. Wenger (1998) refers to participation as “a process of taking part and also to the relations with others that reflect this process”. It is a complex process that includes, for example, doing, talking, and thinking, feeling and CROW provided a physical space in which the variety of birds and mammals and even reptiles were visible and tangible to the EC members. The hands-on space and relaxed atmosphere at CROW encouraged learners to become immersed in the environment. One EC member, Daniel, carried some of the animals- this “immersion in (the) environment” (Pujol , 2003, p. 542) is of prime importance in developing EC members’ capacity to participate.

In the CML of Falk and Dierking (2000, p. 746), “learning always occurs within the physical environment, in fact it is always a dialogue with the physical environment”. Daniel although apprehensive, began to gesture towards the bird which was in close proximity, slowly gaining confidence because the bird did not seem perturbed by his intrusion into its space. Daniel’s focus on the bird was however not warmly welcomed by Gloria, who was less eager to actively participate in picking up the animals as she stepped back away from the crowd and exclaimed her concern that the animals may bite. Gloria’s reaction was followed by chatter and laughter from the EC members. For many learners participation comes alive when they experience phenomena, animals and specimens in natural setting. At times though, such participation

according to Wenger (1998) can spark initially negative response and a degree of conflict, evident in Gloria's reaction towards Daniel and the bird walking around the group. Thus it was the environment at CROW that began to initiate the EC members' active participation as described by Agarwal's (2001, p. 1624) typology.

4.8.2 Advanced organizer

Research has shown that a visit that has a proper purpose and is planned has a very positive influence on the opinions of learners (Key, 1998). A successful visit requires effort at from the planning to the execution stage. To justify this effort CROW had given the EC members a worksheet to work through and to fill in as they walked through the area. This encouraged the EC members to actively participate in gathering the information and interacting with the field guide, volunteer and interact with each other. The presence of animals also served as an advanced organizer- a stimulus to learn. The unstructured group interview that took place after the excursion, highlighted one EC member's view on the visit:

Debbie: *"... I enjoyed the interesting things that we were told about the animals and I found it very sad that people are the main reason why these animals are here ... I think that we should come and also volunteer to help where we can."*

When asked why she felt the need to be a volunteer at CROW, she responded by saying:

Debbie: *" Well I really like animals and ahh if I can make a difference in the life of these poor harmless animals and help in whatever way I can... then that is I think important."*

Wenger (1998) stipulates that participation as "a process of taking part allowing one to reflect this process". It is a complex process that includes, for example, doing, talking, thinking, feeling and belonging. In short, for Debbie her participation at CROW involved everything she did and felt as she was drawn into being part of engaging experiences in the lives of the animals that moved her into wanting to be actively involved in the lives of the animals.

“One can define at least two forms of participation in learning environments such as the out – of school excursion to CROW: writing notes and reading notes” (Lipponen , 2003, p. 492). Wenger (1998) maintains that learners participate not only during times when they are, for example, writing or reading messages. As the group moved between the different cages Daniel excitedly hopped ahead of the group with great energy and anticipation paying no attention to filling in the worksheet, whilst Mazola lagged behind and at times when the group stopped to listen to the field guide or observe the animal in the cage, he was ‘outside’ of the main group. He passively participated in the group, without speaking and appeared to be listening to the field guide as he would give attention to the cage she was referring to. Even though he appeared disconnected Mazola was still participating in the physical context of CROW because he filled in the questionnaire. The EC members, namely, Anele, Gloria and Thembi, were studious and actively participated in compiling comprehensive answers as they meandered between the cages. Thembi in particular was keen to ask questions and express her view on the topic discussed by the field guide. Thembi made the following assertion, recorded during the observation of the visit to CROW, as the group gathered around the tortoise enclosure:

Thembi: “ ... *is it true that a tortoise can feel from its shell cause I saw on National Geographic ... That thinggie about the fact that a tortoise has a lot of sensation on its shell?*”

The presence of the animals in general and in this case, the tortoise in particular, served as the advanced organizer because it provided the opportunity for intellectual navigation. Thembi participated passively while the guide explained certain concepts. She listened attentively and recorded copious notes. Thus it is evident that learner participation drives learning and learning does not occur without participation. As the learners were guided through CROW, the accompanying worksheet was used as a tool that they could choose to utilise to help them in the interaction with the field or not. Thus the learners were able to navigate through the open spaces and choose to respond by engaging in various typologies of participation, for example, through answering questions that were directed by the field guide and worksheet, or passively participate in the excursion by observing their surroundings. During the unstructured group interview, I

asked the EC members about their experience at CROW and some of the responses are presented:

Linda: *“Wow I was not aware that there were so many different types of animals that were looked after at CROW, ... I really learnt so much about the tortoise and have a lot of respect for them now.”*

Anele : *‘Eish ma ’m I don ’t know something I don ’t like is the ... of the one place we walked through (looks at the other EC members) ahh.. There were there was one that wanted to bite ahh that rock rabbit- aish very scary.*

John: *“Nah it was really cool, better than being at school, I liked watching the monkey enclosure they are ...cool.”*

The knowledge the EC members acquired supported and enriched their appreciation for the physical environment that they were navigated through at CROW. The presence of animals as the advanced organizer affected different learners differently. Some EC members (as in the cases of Mazola and Gloria) found it hard to participate in the excursion, as is evident in the following excerpt related to money spent for the upkeep of animals:

Mazola: *why should we look after the animals and not just be kind to them by allowing them to die naturally or humanely kill them... (..some chatter and disagreement....amongst the members..) no.. really guys it is just a question I mean it will save so much money , the lady didn ’t she say that CROW needs lots of money that is given to support these animals?”*

The ways in which we participate in and react to different situations is a product of our culture (Falk and Dierking, 2000). Falk and Dierking (2000) further state that the possible answer to how the EC member participates lies perhaps within our culture and the society and the ways in which we have been raised. Our culture and society can sometimes impose a set of social norms

with set expectations and give rise to certain rules about how we behave and reason in certain situations.

4.8.3 Intellectual navigation

Intellectual navigation as supported by the quality advance organizer provided by the field guide and the worksheet tool, had an effect on the EC members' learning from their visit at CROW. At CROW the EC members were presented with a short demonstration and explanation about raptors. Figure 4.1 shows a photograph of how the physical context influences the interactive participation that unfolded with the field guide and the EC members.



Figure 4.1: Photograph of out-of-school activity to CROW

The EC members are seen listening intently to an explanation of the importance of CROW as a rehabilitation centre for birds and smaller mammals. The EC members were curiously observing the large eagle perched on the instructor's hand. As the bird began to move around the learners began to get agitated and their curiosity as to what was troubling the bird began to heighten as is revealed by the following question from David:

David: *“So why do you have to wear the thick glove and why is the eagle appearing to be trying to spread its wings, is it getting hurt?”*

The field guide explained that the bird's wings had been clipped because the one wing had been completely damaged when it was found.

John looked rather curiously at the bird, and wanted to know more about the bird.

John: *"What does it feed on?"*

Mazola, was curious as to how the CROW centre managed to obtain live mammals to feed to the carnivorous birds: *"where do you get the food from to feed it?"*

During the interactive discussion that took place between the three EC members namely David, John and Mazola, and the field guide, the other EC members passively looked on with curiosity and wonder as they listened to the interactive discussion. The introduction of the advanced organizer (e.g., the display of the animals as in the case of the raptor) had made it possible for the EC members to communicate more frequently with peers, teachers and the field guide, which in turn enabled the EC members and field guide to share more experiences and information, and engage in collaborative work. In this way they engaged in intellectual navigation.

The physical context of CROW influenced the EC members to question, learn and participate through active participation: they were free to engage in questioning and listening as the field guide navigated and demonstrated the feeding habits of the eagle. I asked the group why they chose to come to CROW as an out-of-school EC activity, and the following response was offered:

Linda: *"...You get to know more people when you go on excursions [pointing around her], to help us with you know, to understand the environment and coming to CROW is an opportunity to be with the EC members and to get to know each other more "*

The physical context, large scale environment at CROW was a hands-on encounter allowing the members to gain friendships and learn through their participation. The excursion gave the EC

members greater insight and contributed to their level of confidence in having their power of awareness increased. Furthermore their participation influenced their learning as they had limited prior knowledge of the rehabilitation centre and expressed that their understanding of what it takes to rehabilitate wildlife and helped to reinforce what they had learnt.

4.8.4 Reinforcing what has been learnt through participation

The physical context at CROW influenced participation of the EC members and reinforced what had been learnt through the EC members' participation. EC members believed that this out-of-school physical context at CROW gave the EC the opportunity to participate and facilitated greater understanding of what they discussed in school. This is evident in the comment made by Thembi during the group interview:

Thembi: *"I knew about the importance of birds and all that but I especially understand a lot more now about how they feed, the beaks and different colours and how the importance of the habitat of birds are to them surviving. We are responsible to look after nature."*

When classes consist of an outdoor component, learners begin to feel comfortable outdoors, seeing wildlife or signs of wildlife prompts their interest (Smith – Sebasto and Heidi, 2004). Kruse and Card (2004), state that repeated and reinforced positive conservation programmes are needed to have an effect on future conservation attitudes and behaviour concerning conservation. Emmons (1997), states that participation in environmental management demands that students should not only be equipped with personal knowledge of the environment, but also to physically participate in real environmental activities. The visit to CROW influenced the EC members to begin to reflect on their own personal journey within their family and to possibly stir a sense of awareness and a need to move from low levels of nominal participation to higher levels of active participation. Daniel, in the unstructured interview, stated the following about interaction with animals at his home:

Daniel: *“at home we have an aviary and we have racing pigeons. Ever since I was young we always had dogs, cats and I have a hamster which I have to care for. I love animals and I care for nature.”*

It is possible that Daniel’s familiarity with animals at his home enabled him to participate more actively during the excursion to CROW, and paved the way for intellectual navigation.

According to Hungerford and Volk (1990, p. 8), environmental sensitivity is “a function of an individual’s contact with the outdoors” either with close personal friends or with family members over a relatively long period of time. Daniel’s interactions with the animals stemmed from his family interest and concern for animals, which motivated his desire to improve the world around him. Participation depends to a large extent on how much people are stimulated to participate in the first place, is what Falk and Dierking (2000) call the sociocultural context. Säljö (2000) asserts that learning occurs in interaction with others and that learning is an aspect of all human activities. Thus, the EC members were not learners just while they were in the classroom- their prior knowledge of scientific terminology and the nature of animals was reinforced by their visit to CROW.

4.9 SOCIOCULTURAL CONTEXT

Santrock (1986, p. 45) stipulates that during middle childhood years, the child is often “drawn into the social culture of peers and evaluates accomplishments by comparing him/herself to others. The sociocultural context influences EC participation and is often mediated through our gestures and conversations with others and the personal recognition that the individual desires. The categories of the sociocultural context as expressed by the adapted CML of Falk and Dierking (2000) overlap and this is clearly evident from the data analysed.

Two elements of the sociocultural context are relevant in this study viz.:

- Values related to participation
- Mediation by outsiders

Furthermore Falk and Dierking (2000) mention that the sociocultural contexts pertain to society's values about participation that may occur within the social group between the EC members and the teacher or through mediation by outsiders.

4.9.1 Values related to participation

Learning and participation are not separate activities (Wenger, 1998). Thus, it is widely acknowledged that students learn and support each other both inside and outside the classroom (Brown & Duguid, 1996; Rovai, Wighting, & Lucking, 2004). The value of the collective capacity of a strong EC to influence and shape change the school through in-school activities cannot be overlooked. The EC members' level of enthusiasm and desire to participate in activity-specific participation in the in-school club activities was guided by the teacher co-ordinator of the EC; this was evident in the group interview in which Debbie participated (Appendix 8):

Debbie: *"...the EC members are always eager to know what activity we have planned."*

The teacher played a valuable role in assisting the EC executive to plan and set direction for activities within the club. Agarwal (2000, p. 1628) explains that consultative participation enables a group to work towards a common goal and put all their energies into achieving that goal. The EC members engaged in consultative participation when they met with the teacher who co-ordinated EC activities. The enabling factors that encouraged the growth of the EC according to Debbie were reinforced by the support of the school management. During the semi-structured group interview, Debbie echoed the sentiments of shared with the teacher co-ordinator, regarding the possible reason for the growth and success of the EC.

Debbie: *"Mrs Norton often says that the support from our school principal was one of the reasons why the EC club was one of the most successful clubs that existed in the school."*

The EC members valued support from the school management. EC members actively participated because they were encouraged, motivated, supported by management and exposed to in and out-of-school programmes. Through the interaction with their peers and the hierarchy of

the school they were empowered and desired to succeed. Studies by Boulton and Eddershaw (1996) have indicated that ECs especially in partnership with other organisations (as in this case study, with the management and entire school body) can be powerful allies in contributing to the environmental activities and change. Actively participating in learning values about the environment as stated by Debbie during the semi-structured group interview with the EC executive:

Debbie: *“We learn interesting things about the environment, how we can help, like things I never knew,I do want to help with the environment and I am learning the different associations and where to go to help.”*

Debbie valued the learning that she was afforded as a part of the EC because this enabled her to look for opportunities to do environmental work through different organizations. Creating environmentally active citizens provides individuals and social groups with an opportunity to be actively involved at all levels working towards the resolution of environmental problems (UNESCO, 2001). Within the sociocultural context the EC activities aimed at influencing and developing the EC members to become active citizens and deal responsibly with environmental issues.

There was a genuine concern and value for the environment and the destruction of trees worldwide. The learners acknowledged that people had to take a personal responsibility for causing the environmental destruction of trees and plants in general. This was highlighted by John during the individual semi-structured (individual learner interview) who expressed a strong respect for all forms of life:

John: *“ It means like that trees have a life, we mustn't like injure them or damage them and like plants all these other things like flowers we shouldn't like cut them down they also have a life like us.”*

The current view as posited by Hart (1997), is that Environmental clubs have the potential of positively involving the students in the process of conservation and awareness, which is underpinned by valuing the environment. Agarwal (2001) affirms that participation requires that the individual needs to be able to give input, to be engaged in the discussion and thus Jacky, during the semi-structured group interview, suggested that the conserving of trees could bring in more money if we all learnt to be sustainable:

Jacky: “ *Some countries cut a lot of trees down for paper and for our recycling competition we learn to conserve those trees....*”

Jacky indirectly also expressed the need to conserve nature. There was a hope for the future which could have been influenced by her personal background. The social interaction and the discussions on the value of the environment could have influenced Jacky's' experiences and personal optimism in saving the trees. These influences was a present motivation and empower the other learners to participate in the school activity, namely, the recycling competition as explained by Jacky during the EC executive semi structured interview.

Jacky: “ ... *When you think about it we are collecting papers to conserve the trees and if other countries can do it they will also conserve the trees and money..... so it links up...If a lot of countries can do this [recycle the paper], they can conserve masses and masses of paper.*”

Agarwal (2001) asserts that active participation of members possibly could influence their belief that their contribution as an individual could have a cascading influence on those around her and a wave effect on the global society. The recycling project was a program within the sociocultural context that influenced their participation; however the EC members needed to be first motivated to participate themselves.

4.9.2 Mediation by outsiders

The term "mediation" broadly refers to any instance in which a third party helps others reach agreement. In this study mediation took place between the EC executive and the teacher, who facilitated the EC activities. The teacher mediated with the school principal and the management on behalf of the EC. During the executive semi-structured group interview, with Debbie, she explained the influence the executive had on the school:

Debbie: ... *“The principal is always praising us, he is always giving permission for that and this activity.....He never stops us in any wayHe only encourages us and that is very motivating.”*

The encouragement received from the office of the principal, who served as a mediator of EC activities, motivated EC members to undertake activities. The mediation by the principal influenced the EC's effective operation, through his positive affirmation and financial assistance when the EC required funding for the club activities. The interactions of the outside mediators formed a sociocultural network team comprising the principal, the management, teaching staff and cleaning staff, together the team facilitated the paper recycling process and achieve the common goal, namely, to recycle paper.

The support of the social network at the school influenced the activity-specific participation (Agarwal, 2001) of the EC members in the recycling program. Hart (1997), states that Environmental clubs have the potential to positively involve more students in the process of conserving their local environments than the regular school program. The sociocultural context influenced the EC participation and by the mediation, support and encouragement given by the principal, teachers and school as a community. The self- motivation of the EC members encouraged active participation in the entire school participating towards a common goal, to encourage paper recycling. The recycling is connected to the personal motivation of the EC members or what Falk and Dierking (2000) call the personal context.

4.10 PERSONAL CONTEXT

The personal context refers to the emotional and motivational cues (Falk and Dierking, 2000) which influence EC members' participation. Within this context the data has been discussed under selected sub-categories: viz.

- Motivation (intrinsic and extrinsic) and degree of choice to participate.
- Expectations that the EC members had in participating
- The degree of control EC members had over their participation.

These categories have been selected based on the coded data collected from the group interview with the EC executive, individual semi structured interviews with the EC members, the unstructured group interview with the EC members.

4.10.1 The club members' motivation (intrinsic and extrinsic)

Intrinsic motivation is related to enjoyment and immersion in an activity. Intrinsic motivator has a profoundly greater effect on participation, and perhaps it's through intrinsic interests that people achieve great things. During the semi-structured individual learner interview, I asked the question: "Why do you participate in the EC?" David (see appendix 9), Linda and Jared explained:

David: *"The enviro club is like ...it's not like those clubs where you go and you say; gosh I am going to this club in exchange I am going to do this and I am going to do that, what am I going to do, it's all about fun and learning."*

Linda: *" You get to know new people and you get to go out [on excursion], to help us with you know, to understand the environment."*

Jared: *"lots of things... we do fun things like go to the park, we go on trips to like CROW, we learn a lot...it's not boring."*

The preceding excerpts reveal that learners were intrinsically and extrinsically motivated to participate in EC activities. The EC members' enjoyment of the fun, open learning environments appealed to them and motivated them to participate in the EC activities. The intrinsic motivation as described by David provided the members with choices among activities and encouraged members' to explore and pursue their interests as they found the learning to be fun. The EC members' intrinsic motivation as explained by Linda was enhanced and became relevant when social relationships were sustained, and when environments were physically safe. For Jared his motivation stemmed from the variety of activities that he was exposed to within the EC community. For Debbie the motivation that she felt competent in the EC activities as expressed in the semi-structured group interview:

Debbie : *“It’s like ... actually like I’m needed here you know, like I know what am doing, it’s like easy, like I know what to do... and when things”*

The members' motivation to participate was possibly because they found the activities encouraging, they collaborated with one another, incorporating fantasy in activities, providing feedback that was informative and frequent, and reducing rewards that were controlling (Lepper & Henderlong, 2000).

The EC members' extrinsic motivation was possibly influenced by their future career choices and possibly the motivation why they participate in the EC as elucidated by Jean, in the individual semi-structured learner interview:

Jean: *“we learn interesting things about the environment, how we can help it like things I never knew.... I am very interested in the environment and my career, I want to go into that field , go into the environment and do life sciences. So one way to get involved or to get going with my career is to be part of the environmental club.”*

Stemming from the statement made by Jean, perhaps the personal context influenced the extrinsic motivation for the EC members to use their participation as a platform for their future plans and gave them a sense of focus in possible career.

The personal motivation that Jean expressed highlighted the nature of her optimistic expectations about the future career plans. Her feelings of connectedness to the EC became more relevant because she had a personal investment in the activities that were presented.

4.10.2 Expectations that the EC members had in participating in the club

The EC members' expectations were shaped over time by their interactions. EC members participated primarily to bolster their personal success, future plans and appreciation about their life career choices. Debbie's expression of hope and expectations for her future were evident in the following excerpt from the group interview transcript:

Debbie: *“Like according to jobs, you must have maths or science if you want to be a doctor... I was interested even in primary... I used to go to the Enviro. Club. I like the Enviro. Club because you get to know more things than the others...”*

Debbie, like Jean, expected that her participation in the EC could be linked with career prospects. According to Erickson in Santrock, this expectation which is linked to an acknowledged occupational role in society gives a sense of ‘purposefulness’ (Santrock 1986, p. 46, 379).

Wenger (1998) acknowledged that participation in a community can at times cause conflict which may affect the level of participation for the learner. David during the individual semi-structured interview voiced his disappointment regarding the personal cost the activities incurred on his mother. David highlighted that his expectations of the club were not always achieved and some activities were costly to attend as parents often complained about this, as is revealed in the following excerpt see appendix 9:

David : *“ Well, the money, sometimes I hate paying so much for the excursions cause ... everyone knows ...I know...I come from a family that is very unrich my mom is always battling with money. And she thinks that, my mom knows that I like animals and stuff like that and she told me that David you are in the enviro club... every time there was an excursion or anything my mom had to pay. I don't think the price has risen up from R25, but my mom it's like bothering her.....”*

The financial burden the member may times experience could be a limitation to their level of participation. This could have the potential of moving his level of participation from interactive to nominal or passive (Agarwal, 2001). David had expressed his interest in the environment yet the cost associated with some of the activities could deprive him of actively participation in certain activities. Wenger (1998, p. 81) remarked that “Participation occurs on both personal and social levels”, thus for some members as in David’s case his personal family background could present a challenge to him interacting within the group and developing relationships that motivate the group to participate.

4.10.3 The degree of control EC members had over their participation.

The CML according to Falk and Dierking (2000) indicates that learning and participation are influenced by the individuals’ desire to both select and to control his or her own learning and thus level of participation. The informal context of the EC outings or discussions affects learning and participation evident in the individual semi-structures interview. David who participated in this interview see appendix 9 explained why he participates in the EC:

David: *“well like all other members, the excursions and plus you learn about the environment and it’s an advantagebecause you know more about the environment, when you go to the science class and the teacher teaches about the environment, you know a bit more than themThis year we went to Botanical gardens, a few weeks after that a man taught us about plants and I knew the plants he was talking about and the properties of the plant.”*

David: *“I feel free here”*

The manner in which David responded to and showed his appreciation of and enthusiasm for the environment indicated his desire to want to participate, to want to find out more about new things or go deeper into the topic he may have already encountered (Falk and Dierking, 2000). David’s response was one that alluded that his participation enhanced his understanding of the learning that took place within the classroom and was even life-enhancing motivating. I asked the learners how being in the EC made them feel and they expressed three common sentiments – knowledge gained freedom with peers, and enjoyment [not boring] in the activities. Enjoyment was the most common with the learners saying that they felt that excursions were exciting. There was a sense of being valued and peer concern for each other as members of the group as explained by Thembi during the unstructured group interview:

Thembi: *“Everyone’s friendly, I get on with everybody at first I did not know everybody in the Environmental club. I mixed easily with everybody.”*

The profound sense of being acknowledged and accepted is entrenched in the close bonds of friendship, which were drawn together through a common denominator namely the environment and participation of the club members. The free-choice learning, knowledge construction and non-sequential learning, all tenets of the personal context of learning, contributed to the learning not being boring and motivated the learners to participate because the activities were enjoyable and have no set boundaries that are regulated by tests, structure and uniforms.

The freedom that influenced the EC members’ participation emanated from the notion that they had the choice to be in a group that they had a sense of freedom with peers, enjoyment in the activities of the EC and the sense of being valued by their peers. The EC members did also acknowledge that at times not all the activities were interesting and perhaps even boring at times and they had the freedom of choice to just be nominal participants being given the choice to have a passive participation in the decision- making or activities of the club. The personal context influenced the EC sense of freedom to choose activity-specific tasks that they were interested in.

4.11 TYPE OF PARTICIPATION: GRASSLANDS

The level of the EC participation was explained borrowing from the typology of participation according to Agarwal's (2001, p. 1624). These typologies of participation are described within the physical, sociocultural, personal context. In view of the data collected the total membership was said to range 25 to 30 nominal participating learners, who claimed to have membership within the group, but did not attend the EC meetings or club activities. Debbie the EC chairperson during the semi-structured focused group interview explained:

Debbie: “ *Some people just come and go here in the club, they attend one meeting maybe and they might come sometimes or you never see them again here or they have a clash with other school extra curricula activities..*”

Within the EC the learners who did not attend regularly according to the typology of Agarwal (2001) were deemed to be passive participants within the group preferring possibly to being informed of decisions ex post facto, or attending meetings when they felt the need to attend and listen in on decision-making, without voicing their opinions. The EC executive met with the teacher who co-ordinated the club once a month. Through consultative participation the EC executive consulted with the teacher on matters pertaining to the EC. The teacher liaised with the school management regarding the EC in-school and out-of-school activities. The decisions made by the management within the school were then communicated by the EC executive to the club membership. Wenger (1998) explains that participation does occur at different levels and this was evident by the decision making process of the club activities being filtered through from the management to the teacher to the EC executive and finally, to the remaining EC members. Agarwal (2001) asserts that in activity-specific participation is when the individual or group may participate in a specific task or being asked to volunteering to participate. Some learners did participate actively in activity-specific participation.

4.12 OVERALL FINDINGS

The overall findings that emerged from the case study A- Cliffside and case study B- Grasslands, is discussed in relation to the CML of Falk and Dierking (2000) according to the physical, sociocultural and personal contexts that influenced the learner participation in the EC. This is in response to the following critical questions:

1. How do learners participate in an environmental club?
2. Why do learners participate in an environmental club the way they do?

Two different case studies were used to show how learners participated in very different contexts. In Case study A, in-school activities formed the focus of discussion.

Physical context

It was evident that familiarity with the physical space enabled activity-specific participation, active participation and interactive participation (Agarwal, 2001). In Case study B, the lack of familiarity with the physical space caused some learners to engage in passive or nominal participation. In both case studies, the ability to physically navigate the physical spaces had implications for intellectual navigation. Learners who navigated the physical spaces more easily were able to engage in more activities which required intellectual navigation. In Case study A, learners engaged in several activities, which included tree labelling, planting a peace garden, recycling aluminium cans, essay writing, creating a litter-free school, through activity-specific participation and interactive participation. In Case study B, those learners who navigated the physical spaces more easily were able to use the excursion to reinforce existing concepts about the environment.

Sociocultural context

In both case studies, the valuing of collegiality and the relaxed atmosphere of the EC stimulated learner participation. In case study B, the valuing of support from upper school management was crucial in enabling participation, for example, activity-specific participation such as recycling paper. Mediation by out-of-group individuals was critical in enabling participation. In Case study A, mediation by the horticulturalist enabled learners to learn about plant identification (activity-

specific participation). This empowered them to make decisions about selection of plants for the peace garden (interactive participation). In Case study B, mediation by teaching staff, cleaning staff, the principal and the EC co-ordinator enabled them to go on excursions and to work on in-school programmes, such as recycling.

Personal context

In Case study A and Case study B, learners were intrinsically and extrinsically motivated to participate in activities of the EC. Those who were extrinsically motivated to obtain a badge, or create an impressive CV, appeared to be involved in lower levels of participation, namely, nominal or passive participation. In Case study B, learner expectations were that participation in EC activities would generate the capacity for them to pursue careers in environmental studies, and this motivated them to engage in active participation. Learners' free choice about their level of participation, and the activities in which they could participate, motivated them to engage in EC activities in both case studies.

Key findings related to the two research questions:

How learners participate

Learners participate actively when they have greater autonomy. When learners formulate school environmental policy, they engage in empowering participation. Their decisions influence the whole-school activities related to the environment. Learners engage in activity-specific participation when they design the activity. They engage in active participation because they value the environment, and the safe space of the EC, where they can offer suggestions without fear of ridicule. Some learners choose to participate passively because they are motivated to engage in activities in order to acquire a certificate. Others engage in nominal or passive participation when they work in unfamiliar physical spaces.

Why learners participate

Learners participate because they are stimulated by advanced organizers, for example, posters for creating a litter-free school, or establishing a peace garden in Case study A, and being exposed to animals in Case study B. Their participation is also influenced by intrinsically motivating factors,

such as valuing the environment and wanting to make a positive difference. Some learners participate in order to build their capacity to work in environment-related career field. Other are extrinsically motivated to participate. Examples of factors related to extrinsic motivation are the attainment of certificates, and the opportunity of going on excursions. Learning through enjoyable, fun-filled activities also stimulated learner participation. Influence by mediators, such as the school principal in Case study B, enabled learner participation in EC activities.

Two very different sets of activities were analyzed in Case study A and B, and this influenced the how and why of learner participation. This study revealed that most of the members of ECs value the environment. When EC members are supported by significant other, they are enabled to participate more actively. Learner participation in ECs is closely related to the fun element of the activity.

4.13 CONCLUDING SUMMARY

This chapter has provided a detailed overview of the learners' participation in the environmental club at school, how and why they participate. It has also reported on the individual semi-structured interviews, group interviews and the observations that were included in this study. It also reported on how the learners participate in the environmental club, and why they participate in the EC and the supported by parents, other organizations and principals, as well as teachers. The chapter also raised issues associated with the typology of participation integrating into the EC activities. A key finding reported on in this chapter is the EC emphasis on the relationships within the EC community and relevant environmental issues that need to be co-defined through participatory decision making and action. The data reported on in this chapter also showed that in all of the schools Cliffside and Grasslands that were involved in the study, are primarily teacher directed and teacher supported, although various opportunities are created for active learner participation, but few activities are *learner initiated*.

The findings reveal that one cannot expect a uniform modus of operandi within Environmental clubs because it is essentially a voluntary project within the school set up, and the interest and issues that are identified vary in the schools. This was also partly due to the different

relationships that were shaped within the EC. The findings also show that there are many factors associated with the environmental club and its framework that either positively or negatively influence possibilities for learner participation. These are discussed in the next chapter in greater depth.

CHAPTER 5

DISCUSSION OF FINDINGS, RECOMMENDATIONS AND SUMMARY OF THE STUDY

*Tell me and I'll forget; show me and I may remember; involve me and I'll understand.
Chinese proverb*

5.1 INTRODUCTION

The chapter draws on the data reported in Chapter 4 and the contextual and theoretical perspectives presented in Chapter 2, to discuss the findings in Chapter 4 in greater depth. This chapter is guided by the research questions: “How do learners participate in the Environmental clubs?” and “Why do learners participate in Environmental clubs in the way they do?”

To address these questions, I reflect on the CML in which the environmental activities took place in the club and the types of learner participation in the club. In Chapter 3, I reported on the CML using the constructs related to the physical, sociocultural and personal context of participation. The analysis and discussion of this chapter are guided by these, each of which is discussed in detail with supporting evidence from the data, and reference to other research and theoretical perspectives, to deepen the discussion. The analytical statements therefore also present key findings of the study, which build on and interpret the findings presented in Chapter 4. They are used to guide the framing of this chapter:

Analysis statement A: How the CML of Falk and Dierking (2000) applied to the study

Analysis statement B: The typology of participation according to Agarwal (2001, p. 1624).

Analysis statement C: Conceptualising participation literature (see chapter 2)

I now discuss the findings in more depth using these analytical statements. I propose key recommendations emerging from this study. The discussion is followed by a brief summary of

the study, and reflections on the research and its limitations, together with recommendations for further research, thus concluding the study.

5.2 DISCUSSION OF THE ANALYSIS AND KEY RECOMMENDATIONS:

5.2.1 THE PHYSICAL CONTEXT

According to the CML of Falk and Dierking, (2000), the physical context refers to the outdoor /informal environment, the school grounds, the garden areas around the school and even the places that the learners visited such as CROW. It is within these outdoor/informal spaces that the learners participated, where the learners were able to physically navigate, and to gain insight through intellectual navigation of the physical space. This reinforced what they had learnt through their participation in the EC.

We need to consider the context in which the two clubs Cliffside – case study A and Grasslands – case study B exist if we want to understand the many and diverse reasons related to how and why learners participate in the club. The schools where the Environmental clubs were located were in urban areas with good facilities. The school communities were supported by recycling programmes, resources, school competitions, garden facilities and out-of school facilities that could be visited because of the close proximity and the availability of transport. One club member suggested that the litter problem within the school as well as the outside areas of the school influenced her to participate in keeping the school clean by picking up the litter. She suggested that the litter problem was not due to the lack of bins at the school but rather the lack of role models to motivate the learners to take pride in their school environment. According to her the EC provided an opportunity for her to play a constructive role at school. One learner mentioned that through the active participation of the EC members in creating peace gardens, they hoped their action would cascade and have an influence on the ‘watchers’ either within the EC or the larger school community. The notion that it takes one person to make a difference is an important one to encourage environmental participation to bring about positive change. For some of the learners, the outings that the EC members attended motivated them to become members of

the club. The physical spaces and the attraction to participate in a school activity that was outside the confines of the classroom further encouraged membership in the EC. The beauty of the open spaces and the learning that the members gained enabled them to explore their own interests and to choose their levels of participation.

The comments from interviewees suggest that if an environmental activity is associated with fun, recreation or something interesting to do, it should be maximized to the full. The EC was a place where the learners could explore their own area of interest or concern namely art, flora or fauna and at the same time have fun. The level of participation of the club members allowed for local school problems and current issues to be addressed such as the need to recycle and maintain a clean school environment in conjunction with the large scale environment, through Adopt-a-spot beach clean-ups and visiting environmental centres. The significance of this to learner-centred education is noted by Van Harmelen (1998), who argues that the interaction that takes place between the community and the learners shapes the physical and the socio-cultural environment through which learners internalize their experience and actively construct knowledge and understanding, thereby changing the community and the environment .

Key recommendation: Based on the evidence presented in this study, and this discussion, I make the following key recommendation:

The physical space needs to be conducive to the learner activities and they should be allowed to explore this space freely.

Several advanced organizers, generated by executive members of the EC, stimulated and sustained learner interest in the ECs. Well organized activities, under the leadership of the EC and/or teacher co-ordinator, such as school excursions, litter-free schools, recycling programmes and establishing peace gardens, served as advanced organizers. According to the EC members opportunities for participation could be extended if the members, non-members and school community were made to understand how they could make a difference together. The use of advanced organizers can enable the EC to draw on natural resources and provide a local context

for learning through participation. Vandebosch (n.d., p. 2) explained that “natural resource management practices which can be used as media for contextualization, enable learners to cope more effectively with general subject matter while contributing to the skills formation process at the same time”. His work therefore underscores the value of contextualizing participation for the learning process as discussed in chapter 2.

Key recommendation: Based on the evidence presented in this study, and this discussion, I make the following key recommendation:

EC must have a structure which should include a chairperson, treasurer and secretary, with the aim of effectively planning and guiding the club activities to ensure that there is a programme in place that will enable the members to plan in advance and to become active participants in the planning and execution of the club activities. The members should be given free choice to design and implement EC activities which are locally relevant.

The learners’ participation related to activities such as the formulation of the school’s environmental policy, which can be classified at level four of participation (Agarwal, 2001), and setting goals for the EC and the wider school community. Learners participated in scientific activities and learning practices, developing their advanced organizers related to the identification of trees and establishment of the peace garden, with the assistance of adults, who were knowledgeable in their field of interest. The club members were able to use their own knowledge to contribute positively to the environment. The hands-on experiences gained by participating in the EC activities enabled the learners to recall and to reinforce what was learnt in the class.

The value of the EC learners’ participating in learning more about the environment was evident in the enthusiasm with which some club members shared their understanding of environmental issues and their participation in the clubs throughout the study. I support the claim of Clacherty (1992, p. 27) that environmental awareness is "not dependent on formal knowledge but enhanced by it". I wish to emphasize that learning factual information about the environment

is important and necessary, but is problematic from a socially constructivist orientation if it is not open to critical reflection and discussion within the relevant context, particularly if this understanding is not oriented towards action. The action of ECs enabled intellectual navigation and the knowledge gained by learners empowered them to make decisions, thereby engaging in interactive participation (Agarwal, 2001). The participation of learners within the EC was informal and developed around their prior knowledge in relation to their lived experiences. The learners participated in actively constructing their understanding of the environment by trying to connect new information with their prior knowledge, which was evident in observation of the development of the schools environmental policy, tree labelling, essay writing and their excursion to CROW. As young people develop into adolescence, they tend to express a desire to pursue activities independently as adults (Falk & Dierking, 2000). One of the major concerns of the learners was about the degradation of the school environment and this prompted them to develop activities that would improve the local school area. Their participation in activities aimed at improving the environment was voluntary and based on their past knowledge, experience and interest; in this way they were able to engage in intellectual navigation .They engaged in EC activities which they perceived as being fun-filled; this stimulated their participation.

Chapter 4 also indicates that the EC encouraged learners to take responsibility for the environmental management of the school through the development of the school's environmental policy. Such opportunities empower learners in decision- making processes, and regard them as responsible partners in fulfilling the objectives that they made during the drafting of the school policy. Ownership of the policy makes them feel duty-bound to implement it. This is an indication that they can develop an increased sense of responsibility and awareness for their surroundings. Evidence provided shows that the EC executive were given leading roles in the club and encouraged to take ownership for the upkeep and improvement of the physical surroundings in the school. The responsibility that learners take in such situations encourages them to be active members of the EC. Such activities are congruent with learner-centered education which promotes participation in the learning process. Learning is conceptualized more broadly as being the product of participation in social practice (Rogoff, 1995).

Key recommendation: Based on the evidence presented in this study, and this discussion, I make the following key recommendation:

I recommend support systems be developed, to strengthen understandings of EC learners' participation, and the practical integration of the physical space which the learners participate in, as an opportunity for the integration of learner-centered activities into the school curriculum. The peace garden, for example, can become an area to study biomes or classifications or even in subjects like Economics or Mathematics to integrate costing of paper usage /wastage etc. in the schools recycling programmes. The club must have a balance of activities through the Environmental Schools Policy that are structured to the needs of the learners, teachers and the school.

5.2.2 SOCIOCULTURAL CONTEXT

The sociocultural context relates to people's values about participation in EC activities. This sociocultural context influences the participation of the learners and their participation influences their learning. Young children grow up and experience life through interactions with the environment and through learning life skills and as a result they become experienced and able to cope with different aspects of life. Rogoff (1995) and other situated learning theorists, such as Daniels (2001), working in a post-Vygotskian tradition explain how learners learn through participation in practices. This builds on earlier Piagetian and Vygotskian theories which proposed that activities were the basis of children's learning and the development of thinking. As shown in chapter 4, participation in the EC activities support learning in context through a range of activities such as gardening, waste management, etc. This allows for diverse forms of participation and involves learning interactions between learners and learners; learners, teachers and the environment; learners and the environment, and learners, teachers, the environment and communities. The value that learners attribute to their participation in the EC is fundamental to their participation in the club activities.

As discussed in Chapter 4 one of the results of being an EC member is the development of positive values, and an ethos of care and participation in the school. The interviewees suggested that a sense of belonging and recognition, and of being part of a group that was seen as performing a positive role in the school, was amongst the key factors for participation in ECs. The participation of each learner, within the EC, developed through involvement in the sociocultural context of the club which is characterised by strong affiliations to their peers, through which they assess and voice their own ideas, values and practices.

Environmental clubs create an opportunity for the members to work together, to change, share views and interact, and they provide something that joins young people together in a common goal. Some research participants indicated that these were significant reasons for their participation in the club. The fun and benefit of doing something in a group was also related to their development of a social identity. In some instances the interviewees mentioned that they became involved through a personal contact and then enjoyed it or became interested. Another dimension of the influence of others was the motivation by role models like teachers, environmental officers and friends, and for some this was even the sole reason for becoming a club member. The research indicates that the value and influence of friends and other peers is particularly important for the learner. According to Hart (1997, p. 33), these relationships are important because of the relative equality in status, compared with their relationships with adults.

The interaction of the teacher and the EC executive members enabled the learners to participate in consultation with the teacher. There was genuine participation that emanated from the group although the environmental project was designed by the teacher in one case. The learners were encouraged to understand the process, were consulted and their opinions treated seriously. Consultative and active participation (Agarwal, 2001) in the decision making process of the club, gave the learners a sense of leadership and drive. These learners, through consultation, developed dynamic qualities that drove them to participate in the environmental action; exercising initiative and independence of thought; showing concern; realizing their individual responsibility and showing an interest and commitment with regard to the improvement of the environment. According to Posch (1991), learner participation can only be promoted where they are needed

and where opportunities exist for the learners to become active. Posch (1991), further argues that where environmental strategies are not used, learners will not develop the habit of positively acting on the environment on their own; they can only be told to do or coerced into undertaking only what needs to be undertaken.

The teacher helped to co-ordinate the club activities within the context of the school as well as the broader environmental activities in which the club participated. The teacher facilitated the activities to connect with the learner's own interest, and provided an interactive space for club members to participate and learn. The added support from upper management motivated the teachers and learners to participate. The teacher was a conduit between the management, the in and out-of- school programmes, and the learners. The teacher facilitated in establishing and sustaining the EC activities. Without dedicated teachers it is unlikely that the learners would be able to establish and sustain such a club. The omission of the teachers' role into the data sets was justified because they were not the focus of my study, however, they do connect the participation of learners according to the three elements, namely sociocultural, physical and personal contexts of participation. The teachers were able to interact and negotiate with people outside the school group to enable the sociocultural context to influence participation. The teacher planned together with the EC executive, the in and out-of-school programmes to encourage the physical and intellectual navigation of the learners. In the physical context of participation although the teachers were not the unit of analysis, their influence in the establishment and sustaining of the club was vital. The teachers' enthusiasm was infectious and positively motivated the learners to participate. The teachers ensured that the physical space for meetings and club activities were available in their classrooms.

Key recommendation: Based on the evidence presented in this study, and this discussion, I make the following key recommendation:

I recommend that the positive role modelling and relationships amongst the peers be further encouraged. Teachers and other facilitators, and mentors play a critical role in the participation that takes place in the EC. The means they use to do this could range from simple, discrete acts

of assistance to long-term, sustained relationships, collaborations, and apprenticeships. Furthermore I recommend the development of positive values, skills and an ethic of care; democracy through participation; and that participation continue to be promoted through the EC activities. I also recommend that more opportunities be sought for learners to initiate activities, and that the benefits of these learning opportunities, through their participation be extended to others in the school through wider curriculum integration and integration into the whole- school activities.

In Chapter 4, it was found that participation in the EC requires various kinds of support. In particular, it was noted that it is important to have outside mediation such as mediation by the principal, since the principal's support and influence plays an important role in motivating and moving the EC project forward. In order to co-ordinate the EC club activities which the learners want to participate in, the efforts and support of the school management team is required. Mediators can assist with providing plants, gardening tools and motivational words of encouragement. Out-of-school teachers, such as horticulturalists, can also mediate learning through participation. The important point here is that recognition of their club activities gave club members a sense of personal achievement and pride, and may have contributed to the development of personal self-esteem and 'purposefulness'.

Through these kinds of social interactions and participation, the potential exists for the EC in the school to become a place where positive changes can take place and where learners make a difference as they become actively involved in participation and learning. Apart from the school management, mediation by outsiders such as the expert in tree labelling, or the facilitators at CROW, who, through consultative participation, were also involved in the activities of the EC. Research has shown that the link of environmental concerns to the school has increased the level of pupil involvement in class participation during lessons (WESSA, Eco-Schools, 2007). Janse van Rensburg and Lotz-Sisitka (2000) argue that all learning involves active participation in the process of meaning making. Such active participation is supported by the EC structure and can occur when learners are motivated, involved, and where dialogue among learners and between learners and educators and the community takes place as the EC members address and raise issues that need to be addressed through educational exploration.

While EC's in the school has the potential to enhance learner participation, this benefit may not always be widely shared across the school, but be confined to the club, and to the classrooms of the enthusiastic teacher. However the enthusiasm and interest can be spread by the support of the school management. The benefits and effects of communicating and recognizing success stories are emphasized by Wals (1992, p. 53-54) when he questions environmental education that leaves learners feeling overwhelmed and burdened with global and national disasters. In his view the focus should be on providing learners with opportunities and mechanisms to deal with "manageable local issues" that can be addressed with cooperation from community resources and will provide learners with the successes needed to counteract "feelings of hopelessness or helplessness" (Wals, 1992, p. 55).

Being a member of the EC can create different opportunities for learners to participate with communities, and not all activities and projects need to be initiated by the clubs, EC members can collaborate with and support other initiatives and projects in their communities such as the Adopt-a-spot programme. I would argue that there are many opportunities for participation of EC members to collaborate with other organizations. Other people who are external to the school can be involved in environmental activities as resource persons (Greenall Gough & Robottom 1993, p. 312). Through the sociocultural interaction between EC members, teachers and outside mediators, new relationships can be established or existing ones strengthened; this collaboration and support is essential for keeping the clubs active and sustainable.

Key recommendation: Based on the evidence presented in this study, and this discussion I propose the following key recommendation from this study:

I recommend that learners' participation in activities that emerge in response to their local and global challenges be encouraged in schools in ways that integrate the potential for contextualizing learning, so that greater links are made between the school, home and community learning environments. I also recommend that this potential benefit of integration through outside mediation, be extended to others in the school, not only the members of the EC's

and the teachers. Furthermore the school encouragement of the learners is a vital element to motivate participation and must be an on-going process.

5.2.3 PERSONAL CONTEXT

In an attempt to better understand how and why learners' participate in the EC at school, I had to also consider the personal context of the learners according to the CML of Falk and Dierking (2000), with regards to their personal intrinsic and extrinsic motivation and the degree of choice. Members were extrinsically or intrinsically motivated to participate in the club activities. Club members valued the opportunity to get involved in 'doing things', especially where they had some choice about the club activity. All the research participants commented on the importance of their learning through participation and involving others (see chapter 4). These opinions are supported by O'Donoghue (2000), who views meaningful learning as an action that has a focus and can bring about change.

The school was viewed as a major source of reliable environmental information with subjects that they were able to relate to environmental issues including Life Sciences and Geography. The learners believed that major changes in the environment had to do with a personal desire to change the status quo- this reflected their intrinsic motivation to effect positive change in the environment. They also expressed the importance of changing people's attitudes. The positive attitudes of the non-club members, according to the EC, could be enhanced through establishment of a School Environmental Policy, aimed at encouraging active participation of learners through rewards and incentives. The EC members were of the strong belief that their fellow classmates would participate if they led by example.

Findings in chapter 4 reveal that the group dynamic and the feeling of being part of a group is the major driving force that encourages the participation of the members. Participation in learning takes place through engagement in sociocultural settings, which are context based in the form of language, culture, history and environment (Janse Van Rensburg & Lotz-Sisitka, 2000). The new experiences helped to motivate the members to continue to participate in the club. Also the members indicated that they were very interested in the environment and loved the outdoors

as a contributing factor for their participation. The members enjoyed the idea of being able to wear a badge, or receive certificates as motivating factors, that appeared to give them a sense of status and perhaps authority over the environmental aspect of the general school. Club leaders and members often expected to get such things and also related them to the establishment of an identity for the environmental club. The EC executive and club members who were interviewed regarded certificates and Environmental Officer badges as being important for encouragement, motivation and participation. The possibility of a future career in environmental studies was also envisaged by the club members as a reason why they participated in the EC. The members saw an opportunity to gain experience through their involvement with the club. The learners' participation was voluntary, non-sequential and emanated from the personal context. Learners indicated that one of the reasons why they participated in the EC was because they viewed the club participation as an important step towards their career path, in careers relating to the environment. These expectations were rooted in the personal context of participation.

Key recommendation: Based on the evidence presented in this study, and this discussion I propose the following key recommendation from this study:

I recommend that the members continue to be offered incentives and rewards, in the form of a badge to identify their leadership role in the club or a certificate of recognition for the achievements that they have made, either for their long term active participation or for their contribution to the improvement of the school environment. I recommend that the EC be used to guide and influence learners to make informed decisions regarding their future careers and therefore the club must use every opportunity to develop and expose the learners through their participation in a variety of fields of study.

How the club members participate and why they participate also strongly influenced the degree of choice they have within the club. As young people move into adolescence, they tend to express a desire to pursue activities independently of adults (Falk and Dierking, 2002). Activities are often designed to serve those seen to be in need of support, because they want to make a difference, they love the environment, for career options, they enjoy the fun and social interactions, or for economically advantaged and disadvantaged children to participate.

Like designed spaces, individuals most often participate in these activities either by their own choice or the choice of a parent or teacher. The members attend EC activities that align with their interests or needs. Experiences in these environments are typically guided and monitored by the teacher and assisted by the EC executive members and include opportunities for hands-on, collaborative experiences. Learners can choose to participate in sustained, long-term programmes with in-depth participation, or in brief, targeted, short-term programmes, that are of interest to the individual at the time. The learners connected with their own interests, and the EC provided an interactive space for their participation and allowed the members a degree of choice, in terms of the degree of their participation, and the activities in which they engaged.

Key recommendation: Based on the evidence presented in this study, and this discussion I propose the following key recommendation from this study:

I recommend that the importance of communication and active participation through discussions with all the members is vital to determine what the learners deem as important, and to allow them to choose the design EC activities accordingly.

The financial pressure experienced by the members especially when an excursion was planned had a negative influence on the members' participation in the club and perhaps limited participation. The connections between the expectations of the club members, the types of activities that were planned together with the financial strain the members experienced are detailed in chapter 4. The findings of the study indicated that the financial burden is a real factor which can limit learners' participation in the out-of - school activities.

Key recommendation: Based on the evidence presented in this study, and this discussion I propose the following key recommendation from this study:

I recommend that schools raise funds to support out-of-school EC activities, and maximize the number of learners who attend, as well as their degree of participation. Furthermore, I recommend that partnerships between science-rich institutions and local communities should be established to enable inclusive learner participation in the EC across settings, especially when

partnerships are rooted in on-going input from community partners that inform the entire process, beginning with setting goals.

5.3 SUMMARY OF THE STUDY

This study set out to explore the learners' participation in school Environmental clubs. As indicated in chapter 1 and 2 learners' participation in the ECs is linked to out- of -school and/or out-of-classroom learning. Chapter two underscored the link between participation and learning and went on to describe environmental education, the interrogation of the concept of participation and the elements of the CML as a theoretical basis through the physical, sociocultural and personal context and the different types of learner participation in the EC.

Learners' participation in the EC, in the context of the CML at Case study A – Cliffside and Case study B – Grasslands was explored using interviews and observations, and this was detailed in the research methodology and data analysis chapters. This offered insight into how and why learners participate in the EC with their peers, teachers, learners, schools and their communities. I was also able to establish how the types of participation occur in the schools. Key recommendations were that the EC included the following:

- The need for a physical space which learners can explore freely
- An EC structure which includes members elected to the positions of chairperson, secretary and treasurer
- Creating the opportunity for learner-centred activities in the EC to be linked with school curriculum
- Encouraging participation through mediation by teachers, the principal and out-of-school experts
- Guiding selection of EC activities which are related to local and global environmental challenges
- Incentivising learner participation in the EC
- Establishing partnerships with science-rich institutions to sustain and maximize learner participation in ECs.

I contend that these measures, which are articulated as recommendations, will enable more activity-specific, active and interactive participation, instead of mere nominal or passive participation in the EC. The study confirms that the ECs were typically learner motivated with the teacher's guidance, guided by their interests, and were characterized by participation which was voluntary, personal, on-going, and contextually relevant (Griffin, 1998; Falk & Dierking, 2000). Participation in the EC activities was believed to have led to further inquiry, enjoyment and a sense that participating in the EC can be personally relevant and rewarding. Participants in the EC were diverse and included learners of all ages, grades, cultural and socioeconomic backgrounds and abilities. The study also found, however, that the potential of learners' participation in the EC's was not being maximized due to poor integration of the activities into the interests of all the members and the school and due to an emphasis on assigning EC activities to the executive committee and the teacher.

Thus, in the final analysis, a key recommendation of this study is that it is important for ECs to develop a distinctive environment for learner participation within the school and that its benefits extend beyond quality in-school participation and learning by teachers and students, but also enhances and reinforces participation and interest across subjects, and in the community, building the linkages across learners different types of participations, as explained by Agarwal (2001). While this potential exists, there appears to be much room for maximizing and extending this potential within the school.

5.4 REFLECTIONS ON THE STUDY AND RECOMMENDATIONS FOR FURTHER RESEARCH

5.4.1 Lessons learned

As a teacher and co-ordinator of an environmental club in the school where I am teaching, it is imperative that I assist the club in the areas that the members find challenging. From my readings and through the interviews and the observations relevant to this study, I have learnt that the dynamics that exist within an EC are imperative to the success or failure of the club. I have also learnt that as a teacher the voice of the members needs to be heard and that they must be encouraged and motivated to undertake tasks that are manageable and allow for the flexibility

and space to change to suit the pace and interest of the majority. I have become more aware of the importance of the relationships that emanate from the learners' participation and to nurture these positive interactions through re-enforcing their prior knowledge and experiences. We as a club together with outside mediation can be a formidable force to positively change the face of the school environment. Readers of this thesis, who also serve as co-ordinators of ECs in their schools, could benefit from the insights generated by this study.

5.4.2 The potential value of the study

Exploring the learners' participation in the school environmental club can inform and improve the participation within an EC at different schools and even other associated clubs. Teachers can guide learners to move beyond nominal and passive participation, and to engage in activity-specific, active and interactive participation. Schools have a most important role to play in encouraging and supporting the establishment of ECs as an out-of- classroom activity. Management of the EC should enable the following:

- (a) develop the capacity to envision alternative futures;
- (b) engage learners in participating and thinking about the environment critically;
- (c) plan and evaluate alternative courses of participation; and
- (d) translate their attitudes of concern into motivation, willingness and an ability to actively participate for the environment (WESSA, 2010). Further research could be undertaken to investigate whether participation in ECs can influence learners' career paths over a given time-frame or possibly to research the influence that the EC participation has on the learners' attitude towards the environment.

5.4.3 Limitations of the study

The limitations of the study lie in the small number of Environmental clubs at the schools that I was able to work with. The study cannot therefore claim to be representative of the broader learners' participation in school Environmental clubs, or of the practices of the many other learners participating in the EC within their school. The study was, however, not intended to provide comparative data, or predictive data, or generalizable results, but rather insights into how and why learners' participate in school Environmental clubs in the way they do. Recommendations made from the study are therefore limited to the 2 schools where the research

took place, but may have wider value through a process of ‘fuzzy generalisation’ that Bassey (1999) referred to, which means that the recommendations can be tentatively viewed and considered in other contexts, with due regard to the context and the types of participation. The results and data from these two schools has value and provides important insights about the how and why of learner participation in ECs.

5.4.4 Recommendations for further research

From the data gathered and the interpretations generated in this study, I recommend the following as aspects for further research:

- Undertaking similar research with a wider sample of schools.
- The findings in Chapter 4 indicate that schools are not making use of the EC participation fully and are therefore not fully oriented to the full potential of the club. It would therefore be interesting to investigate how teachers and executive EC members can strengthen the participation of the EC members and how this will further influence participation.
- Challenges and opportunities related to learning through participation in out-of-school spaces as CROW and Waste Water Management can be researched.
- Research into schools which have well organized, sustainable Environmental clubs can yield insight into what works in ECs.

5.5 CONCLUDING SUMMARY

This chapter provided a more in-depth interpretation of the data presented in Chapter 4 using some of the theoretical and contextual perspectives presented in Chapter 2. The chapter also made key recommendations, based on the analytical statements, associated evidence and discussions, but also noted that these recommendations can only be seen to be relevant to the ECs at the two schools that were involved in the study, due to contextual differences between schools, and because the study did not intend to be predictive or to offer broad-based generalizable results due to its interpretive, case study design. The chapter then included a reflection on the study, outlining lessons learned, the value and limitations of the study, and some recommendations for further research. As mentioned before this study was aimed to

explore how and why learners participate in school EC's. It was not an evaluative study, and therefore merely sought in-depth insight into the questions. The insights yielded from this study can serve as a springboard for other studies related to learner participation in school ECs.

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APPENDIX 1

ETHICAL CLEARANCE FROM THE DEPARTMENT

2002 7:45

KZN NDR EXAMS 031 3321126

NO.344 P.2/2



PROVINCE OF KWAZULU-NATAL
ISIFUNDAZWE SAKWAZULU-NATAL
PROVINSIE KWAZULU-NATAL



DEPARTMENT OF EDUCATION AND CULTURE
UMNYANGO WEMIFUNDO NAMASIKO
DEPARTEMENT VAN ONDERWYS EN KULTUUR

NORTH DURBAN REGION		ISIFUNDAZWE SENYAKATHO NETHEKU		NOORD DURBAN STREEK	
Address:	Truro House	Private Bag:	Private Bag X54323	Telephone:	(031) 360-6265
Ikheli:	17 Victoria Embankment	Isikhwama Seposi:	Durban	Uelngo:	(Exams Help Desk)
Adres:	Esplanade	Privaatsak:	4000	Telefoon:	
				Fax:	(031) 332-1126
Enquiries:	Dr D W M Edley	Reference:	2/12/03	Date:	07 March 2002
Imibuzo:	360-6247	Inkomba:		Usuku:	
Navrae:		Verwysing:		Datum:	

Ms Ursula Collings
School of Education
University of Durban-Westville

Fax: 204-4003

Dear Ms Collings,

PERMISSION TO CONDUCT RESEARCH : NORTH DURBAN REGION

1. Dr Samuel's letter on your behalf dated 7 March 2002 refers.
2. You are hereby granted permission to conduct research in Schools in the North Durban Region, as set out in your letter of application. The permission is subject to the following conditions:
 - a. No school/person may be forced to participate in the study;
 - b. Access to the schools you wish to utilise is to be negotiated with the principals concerned by yourself;
 - c. The normal teaching and learning programme of the schools is not to be disrupted;
 - d. The confidentiality of the participants is respected; and
 - e. A copy of your research findings must be lodged with the Regional Chief Director, upon completion of your studies.
 - f. If you are a serving educator in the employ of the KZNDEC, you accept that such research cannot be undertaken during school time.
3. This letter may be used to gain access to the schools concerned.
4. May I take this opportunity to wish you every success in your research.

Yours faithfully,

Dr D W M Edley
Regional Co-ordinator: Research
For REGIONAL CHIEF DIRECTOR

APPENDIX 2

Letter to teachers

Teacher Ethical Consent Forms

Date: _____

Dear _____

I Ursula Colette Collings, a Masters Student studying at the University of KwaZulu-Natal. In fulfillment of my degree I am required to conduct a research project in my field of interest. I have chosen the following topic for my field of research:

Exploring Learner's Participation in School Environmental Clubs

Using learners and teachers as participants, this research aims to answer the following questions:

1. How do learners participate in Environmental clubs?
2. Why do learners participate in Environmental clubs?

The findings of this research will be useful to teachers who have an interest in developing and managing Environmental clubs. Schools are invaluable areas to develop effective Environmental clubs and programmes that integrate the aspect of Natural Sciences and Life Sciences, to ensure that learners develop science knowledge, skills and an interest in and for the environment. These findings will be of benefit to inform curriculum policy makers in generating new policies with regard to incorporating Environmental clubs as an important vehicle to drive the environmental schools' policy. It will also assist in encouraging parents, local communities and businesses to participate by contributing to their children's club activities, and in helping with the upliftment of their environment.

Research Ethics:

- (1) There will be no risks to the participants (harm).
- (2) The principle of voluntary participation will be adhered to.

- (3) The respondents will be offered confidentiality and anonymity by signing a confidentiality contract. Each respondent will be given a pseudonym. The respondents will not be aware of the pseudonym and the code for the various respondents.
- (4) The respondents will receive feedback on the research process. They will also be asked to respond to transcripts of interviews to verify and confirm the responses given during the interview.
- (5) The research data will be used for the purposes of this research only.

Research Expectations of Respondents:

- (1)The teacher participation will be for the duration of +/- 16 weeks to enable the researcher to observe the club activities.
- (2)Each teacher will be expected to participate in interview(s) and observation of the club activity.

Thank you for your assistance. If you have any questions you may contact:

Researcher: Ursula Collings

Supervisor: Dr. Ronicka Mudaly

Yours sincerely

U.C.Collings

CONSENT FORM FOR TEACHER

I have read the above and agree with the terms. I understand that my real name will not be used in any aspect of the write-up of the study and that the information will only be used for the purposes of this research project. I am also aware that I am not obliged to answer all the questions and may feel free to withdraw from the study at any point.

I have given consent to my participation in this research.

Name: _____

Signature: _____

Date: _____

APPENDIX 3

Letter to learners

Learner Ethical Consent Forms

Date: _____

Dear _____

I Ursula Colette Collings, a Masters Student studying at the University of KwaZulu-Natal. In fulfillment of my degree I am required to conduct a research project in my field of interest. I have chosen the following topic for my field of research:

Exploring Learner's Participation in School Environmental clubs

Using learners as participants, this research aims to answer the following questions:

1. How do learners participate in Environmental clubs?
2. Why do learners participate in Environmental clubs in the way they do?

The findings of this research will be useful to teachers who have an interest in developing and managing Environmental clubs. Schools are invaluable areas to develop effective Environmental clubs and programmes that integrate the aspect of Natural Sciences and Life Sciences, to ensure that learners develop science knowledge, skills and an interest in and for the environment. These findings will be of benefit to inform curriculum policy makers in generating new policies with regard to incorporating Environmental clubs as an important vehicle to drive the environmental schools' policy. It will also assist in encouraging parents, local communities and businesses to participate by contributing to their children's club activities, and in helping with the upliftment of their environment.

Research Ethics:

- (1) There will be no risks to you the participant (harm).
- (2) The principle of voluntary participation will be adhered to.
- (3) The respondents will be offered confidentiality and anonymity by signing a confidentiality contract. Each respondent will be given a pseudonym. The respondents will not be aware of the pseudonym and the code for the various respondents.

(4) The respondents will receive feedback on the research process. They will also be asked to respond to transcripts of interviews to verify and confirm the responses given during the interview.

(5) The research data will be used for the purposes of this research only.

Research Expectations of Respondents:

(1) The learner participation will be for the duration of +/- 16 weeks which includes the observation of the club meetings and or activities.

(2) Each learner will be expected to participate in the interview(s)

Thank you for your assistance. If you have any questions you may contact:

Researcher: Ursula Collings

Supervisor: Dr. Ronicka Mudaly

Yours sincerely

U.C.Collings

CONSENT FORM FOR LEARNER

I have read the above and agree with the terms. I understand that my real name will not be used in any aspect of the write-up of the study and that the information will only be used for the purposes of this research project. I am also aware that I am not obliged to answer all the questions and may feel free to withdraw from the study at any point.

I have given consent to my participation in this research.

Name: _____

Signature: _____

Date: _____

APPENDIX 4

Learner Profile Questionnaire

QUESTIONNAIRE

LEARNER PROFILE

The purpose of this questionnaire is to gather information on the learners personal particulars, phase and grade, subject choices, participation in the environmental club. **The questionnaire is to be completed by all members of the environmental club.**

A. PERSONAL PARTICULARS:

1. Name of School: _____

2. Learner's Name: _____

3. Gender (please tick)

Male:

Female:

4. Age of learner _____

B. SCHOOL EXPERIENCE:

1. Grade presently in :

2.

8	9	10	11	12
---	---	----	----	----

Present phase of the learner: (please tick)

Senior Phase (grade 8 & 9)

FET Phase (grade 10 , 11, & 12)

3. Subjects presently doing:

SUBJECT		SUBJECT	

C. PARTICIPATION IN THE ENVIRONMENTAL CLUB.

1. How long have you been a member of the environmental club? _____

2. Why did you join the environmental club?

3. What is the purpose / aim of the environmental club?

4. Do you participate in the environmental club activities (please rate your level of participation):

ACTIVITY	NEVER	SELDOM	OFTEN	ALWAYS
Club meetings				
In school activities (garden/recycling/ awareness programmes)				
Out of school activities (excursions/ conferences/ etc)				
Environmental club competitions				
OTHER (please specify)				

5. Specify the club activities that you participate in:

EXAMPLE OF CLUB ACTIVITY	HOW OFTEN

6. Why do you participate in the club activities?

7. What do you enjoy about being in the environmental club?

THANK YOU

APPENDIX 5

Individual Semi-structured Interview Chairperson at Cliffside- interview transcript

Researcher: Good afternoon, it is now 1.50pm and I am here at my study area which is Cliffside School and I am meeting presently with the chairperson of the club Valerie. Maybe you could introduce yourself and you can carry on.

Valerie: Hi! I am Valerie and I am the chairperson at Cliffside and I run the conservation club at the school.

Researcher: Hi, Valerie could you just give us a breakdown as to what the club is all about and what you are presently doing.

Valerie: We are a fairly new club. We are basically concentrating on conservation. We are working with Keep Durban Beautiful and then we are working with the Adopt a Spot Campaign, we have adopted a spot around our school naming the trees in the school working with a horticulturalist, a retired horticulturalist.

Researcher: Valerie...how do you go about naming the trees? Do you all participate or are duties given?

Valerie: We participate by learning to identify the trees. With the help of a book and Simon the horticulturalist shows us the plants and leaves, the pictures with the names of the trees and that we look at all the arrangement that's how we participate by identifying the plants and trees on the school grounds

Researcher: Do you find that.... Is there..... Running the actual club is there a financial aspect attached to it for you the children?

Valerie: We do have a treasurer. We don't have money in yet.

Researcher: And when it comes to any of the activities who actually decides and initiates the activities within the club.

Valerie: Well, we work as a group. We have a recycling project at school and we have now just entered a competition with paper recycling. We've got 'collect a can' that doesn't work with just the environmental club the school. The money we have received from the recycling we use that for petrol in our school bus.

Researcher: Valerie, I see that you are the chairperson. Congratulations on your move. Maybe I could ask you this as well. Is there any documentation that the club has, like a club policy?

Valerie: The members of the executive committee are in the process of developing one. We have to have a school policy and our school doesn't have an environmental policy and we are in the process of developing that since we have the first opportunity to start to establish and work on one

Researcher: Can I ask you how far you are now or have you just started?

Valerie: We have just started. We are just talking about sitting down and working out a policy.

Researcher: So that's the environmental school's policy. I see! And a club constitution and a club name?

Valerie: We have a club name, it is the TTC, which actually stands for Travel Tourism and Conservation.

Researcher: So in terms of your club rules etc?

Valerie: We are developing that now and more as well.

Researcher: Ok, it's always good to have a fresh start somewhere. And what is the approximate number of learners within the club Valerie?

Valerie: It's about 30.....25

Researcher: Does this fluctuate or is it a standard amount?

Valerie: That there I don't know because we've had a quite a couple of meetings I'm not really sure who wants to stay involved yet..

Researcher: So what brought you on to this club?

Valerie: Um.. In the environment... I was interested in the environment and so the project many people were talking about it before the club got started; I was interested in being involved in that. I wanted to do something for the environment and at school they seemed to be so involved in the club. And we also have tour trips so I wanted to make a difference and the trips that was a big motivation as to why I wanted to join.

Researcher: Oh! So you say most of you! Is that a lot of the members that are in the club are they from the Tourism class?

Valerie: Yes.

Researcher: And are there any others outside the tourism class?

Valerie: Yes, there are.

Researcher: Ok, at some point I would like to meet with the entire group and just to get feedback as to what the ...is the whole situation. So from here on how often do you meet?

Valerie: Once every week.

Researcher: And where do you meet?

Valerie: Sorry?

Researcher: Where?

Valerie: In the class.

Researcher: I see. You were mentioning about the different attractions that, children have to the different activities within the school. Can you just carry on with that?

Valerie: Ja, you know the thing is, we have club meetings during the breaks, that's the only time because after school some girls have problems with transport. We are having our deb's ball modelling competitions. So on our list of learners for the club we have 30 but we only got about 10 coming to meetings because the other 20 are either involved with the competition itself or are going down there as spectators.

Researcher: What kind of learner do you think is attracted to this type of club?

Valerie: I think it's the people who are most aware.

Researcher: So, you are saying that other people aren't?

Valerie: Yeah, sometimes when you are listening to people talk about something you just shut off and people who actually listen to you will find afterwards that they are the ones who want to get involved.

Researcher: So generally it's a.....when I say what type of the learner; will it be one that is actively involved in other activities? That is what I need to also find out from you, are you involved in any other?

Valerie: Yes, I am.

Researcher: Can you give us examples?

Valerie: Do you mean environmental activities?

Researcher: No, not environmental, club activities or extracurricular activities within the school.

Valerie: Elemental, I also belong to “*Cliff View*”, the school newspaper. I had to drop some of my activities because there are too many and it takes up all the breaks, right now that’s all I am working with.

Researcher: And as a chairperson you should have a small understanding of the other children do they have other activities they are involved in as well?

Valerie: Yes.

Researcher: So generally most of the children have..... is this a compulsory situation at the school?

Valerie: Well aah even although they would like to be at the conservation meeting they are involved in another meeting where perhaps they are on the executive committee there so they cannot to miss that meeting so they will have a clash with the activity or the reason for them not attending the meeting was due to something more interesting taking place at school. The members would choose to go there rather than attend the club

Researcher: So how do you monitor attendance or do you just let it... is it flexible attendance?

Valerie: No, it's not really flexible, because the projects that we are doing its on-going, The attendance we are looking at the meetings right now and going to them individually to say to them we have had a meeting why were you not there, do you have a valid reason for not attending?

Researcher: And what happens?

Valerie: If they just show a ‘don't care attitude’ because a lot of them also come in just to wear a badge and at the end of the day put onto their CV, you know, ‘I belonged to this club’. If they don’t come then they won't get it, a certificate.

Researcher: So Valerie, is it your duty to go behind the learners and say ‘why haven't you attended’?

Valerie: Yes.

Researcher: How do you find this as part of chairpersonship?

Valerie: It's okay because we are just starting and I still have to find out whether people can make it or not.

Researcher: But if you have to speak to the other children in the club what is their attitude towards you as chairperson when you ask them “why haven’t you attended”?

Valerie: They get irritated

Researcher: Is it? Generally do you see them coming back or they just...

Valerie: They do come back, but if there is something else on they will go for that.

Researcher: Oh, I see, it's a matter of priorities all the time. I have asked quite a number of questions within the thing... and I see you have answered them already. I just want to see which one that... You say the teachers and the learners both decide on club activities. Is there at any point where something that you really want to do you are able to now go ahead on your own initiative or does the teacher keep on going on reminding the club?

Valerie: No. We had a voting of the executive committee and we are responsible. Also we have environmental officers in the club. We have got a sort of adopt a spot in the school.

Researcher: Valerie who are environmental officers?

Valerie: well all the different grades are separated? And uuuuhm.... the environmental officers are assigned to particular grounds during the breaks and they are responsible for the cleanliness there, for getting all the learners on that grounds to clean-up.

Researcher: Okay, so they basically monitor.

Valerie: They adopt that spot for that week.....

Researcher: Do they pick up or do they encourage the other children to a...

Valerie: They encourage the others. All they are there for is to monitor that if someone drops a paper they ask them to pick it up.

Researcher: What is the response of the pupils from their point of view, that is the learners? What is the response if you are asked to pick up a paper?

Valerie: A lot of them do it.

Researcher: Is it! So generally is the response in the school itself, is it positive or negative?

Valerie: Mostly positive.

Researcher: So these monitors are they on the environmental group?

Valerie: Yes.

Valerie: They are... there were some new girls who want to be environmental officers.

Researcher: Do you have a badge to say that you are an officer?

Valerie: Yes.

Researcher: I am actually very interested in the way you work. It is fascinating, you say the children are put into group order work, work groups, then you meet with the teacher?.

Valerie: Once a month.

Researcher: What is the incentive? I am going to ask the other groups but do the children get incentives? It's fascinating to find that children go out to the pond area the kitchen area and cleaning up.

Valerie: we are doing it because we want to do it.

Researcher: Valerie, just as a matter of curiosity is there any member of your family who are involved in environmental?

Valerie: No.

Researcher: Do you go hiking as a family or outdoors?

Valerie: Yes, sometimes as a family we go out on a picnic or hiking trail.

Researcher: So you are in terms of your family life, do you have that link of what's happening outside?

Valerie: Yes we do we do a stuff that I can relate to.

Researcher: Oh you do. It's interesting to know that it comes from the family background and that it filters into the school as well. When it comes to upgrading the school you mentioned that the kitchen area, the area that needs to be upgraded, where do you get your equipment from, are these a problem within the school?

Valerie: We have all the equipment. if we don't have it we bring it from home.

Researcher: Is it an embarrassment for you to go dig up or do something?

Valerie: No.

Researcher: Everybody else is staring and watching you so what is your feeling as a learner?

Valerie: You've got to take a leaf out of my book.

Researcher: That's a good one. Because in the end you find that there are those that watch and those that work, what is the situation in this school more workers or more watchers?

Valerie: At the moment, more watchers. We are hoping to get more workers, because the school grounds will be much cleaner if we all just played our part.

Researcher: So generally all the learners are..... [inaudible background noise]

Valerie: We are involved in the competition to write an essay of 700 words on any topic on the environment.

Researcher: You got this from *The Mercury* you say? Ten children from South Africa will be chosen to represent the country and you say any topic on the environment! Are you going to open this competition to only the enviro clubs members?

Researcher: And when is the closing date?

Valerie: The 24th May, I think it is....but some of the girls who take part in the national competition will have to put in a lot of effort in as the competition will require that we have an in-depth understanding on the topic regarding the environment”

Researcher: This is the second time you have mentioned certification. Do you find that the children want it or need it as an inspiration?

Researcher: Valerie as a matter of interest what career choice are you going into?

Valerie: Something in travel and tourism or graphic art. Art or tourism....

Researcher: Coming back to the tree identification, Did you find that when he .. uhm Simon, showed you how to identify the trees using the key system that it tended to bring back memories of the science where you were learning the alternate type of leaves?

Valerie: Not that much. It's really interesting

Researcher: Didn't link up at all. So have you got books? Did he give you a key?

Valerie: No, he did not give it to us.

Researcher: So he just has his own book! How did you go about the identification?

Valerie: we needed to get the names ,facts, such as the scientific names and we will make plaques, like the botanical gardens and place them on the trees.

Researcher: And the funding for that?

Valerie: at our own expense.

Researcher: Own personal expense?

Valerie: No, we have access to the computer rooms for printing and use the laminator.

Researcher: Well, I will get the details from you. Valerie what do you think about the naming of the trees?

Valerie: About the naming the trees, instead of sitting and learning in the classroom we went outside physically naming the trees. It was so much better and we learned a lot and it was more interesting. We remembered a lot more as well. [Abbreviated]

Researcher: So in terms of classroom work is that boring for you?

Valerie: It is boring, especially if you can go outside physically and do it! Especially if it's a tree right outside the classroom that you are talking about not on a piece of paper, it's better to go directly to the tree and it's more interesting for the tree!

Researcher: And you'll remember it from that, thanks for that Valerie. I am going to pick up on that and

Researcher: Whose initiative was it to start the club, learners, the teacher or the principal?

Valerie: the teacher

APPENDIX 6

Observation and recording of environmental club meeting at Cliffside - transcript

Researcher: It is April 30th and I am visiting Cliffside, the topic today is Environmental Schools Policy.

Valerie: Okay, we were on adventure and culture... Do learners take part in adventure activities like hiking, canoeing, abseiling do we say like all learners? Shall we give it say... Is it okay or is it all then say quite good?

Pamela: It's quite good.

Bonnie: We don't do it often though.

Valerie: Yeah, how often?

Bonnie: We take a trip once...we read up the types of plants in the areas ..important facts about them and also their biological name

Gail: Jah your' right but...We can't do that every month now. [Consensus ; quite good]

Valerie: Are supervising staff or parents competent in safety procedures and first aid?

Bonnie: Come again?

Valerie: The staff, are they competent in safety procedures and first aid?

Girls: Yes!

Gail: Well during the hiking no before the hiking the....

Valerie: Adventure and cultural that's under the heading of that, so I think it's...

Gail: Cos before you go on a trip they ask you for your parent's signature allowing you to go there and like to give a contact number if anything does happen.

Valerie: Do any parents go with them?

Tammy: Sometimes!

Pamela: Only when they went overseas.

Tammy: No but...When we went to Mpumalanga, miss asked us if our parents wanted to come and they also had to pay.

Gail: Maybe they would come if they are picked.

Tammy: If the children told them.

Valerie: But the teachers are..

Tammy: There.

Valerie: They are...themselves...

Tammy: Because they always...

Valerie: So I will give that a strength, a 5. [laughter] I will give it a 2! [Laughter]

Valerie: Action projects. Are any of our school activities action projects? Like recycling or tree planting.

Gail: Tree planting?

Pamela: Recycling, yes, the paper collection.

Gail: It's both!

Bonnie: The can collection at the tuck shop.

Gail: And the tree planting on the Grade 8.

[Laughter, giggling, consensus]

Valerie: So... That's a strength. That's a 5.

Valerie: Resource use. Are water, waste and electricity audits part of school management and learning programmes?

Tammy: No.

Valerie: What does that mean? [Repeats] Are water, waste and electricity audits part of school management and learning programmes?

Tammy: Of school management but not us learners.... [Indistinct]

Gail: We are all taught that, so it must be.

Valerie: There are a whole lot of articles and I am not sure how to read them.

[Continues after a pause with girls talking in the background] I have looked over them and I don't see how or I am supposed to help with the policy. It's too hard to read should make it easier for us to.... Here is something here. [Reads] The resource pack has been designed so that each key policy analyst... on a reversible card ...guidelines one side in blue and the other side in black... as the process develops. This approach minimises administrative work and enables the environmental coordinator to maintain a living policy with action plans that reflect the needs and priorities of the community.

Bonnie: That's something that we have...

Valerie: This is something they have given us but now talking about blue and black there's blue here...

Gail: It must be these ones!

Valerie: These are cards... this is an exact copy of that... So what do we work with?

Gail: Let's just look through it and see if maybe those things...

Valerie: Yes, this is maybe [Reads]... Six steps policy

Gail: Sorry! Is that an exact copy?

Valerie: I think so.

Gail: Where are you now?

[The girls examine the document and make short comments on viewing and decide that the documents that they are examining are not exact copies]

Bonnie: It's not the same thing.

Valerie: We'll look at that afterwards... our school does not have an environmental policy and we have the first opportunity to start to establish and to work on one. We'll have to come here on a Friday as well didn't we make a date for that?

Bonnie: We did.

Gail: No we didn't 'cause one was doing....

Tammy: We were gonna make it on Friday and then some of them said that we had Toastmasters and all that we just made it today [Short discussion about Friday]

Valerie: Let's look at this. A six-step policy development process. No 1. Appoint a coordinator. No 2. Convene a working group. No 3. School audit process. What's an audit?

They should make this an easier format so that we can work with it. An official examination of financial... if they are correct. A section says here... audit all accounts.

Bonnie: What accounts?

Valerie: Let's just look at this other one. Appointment of environmental education coordinator. Ideally an enthusiastic teacher should be tasked with the policy development process... Policy development is not a one off task but a continuing process which will shape a schools environmental programme ahead, education and community elements. The coordinator should know exactly what school programme expects and should do the job with speed... consultation and efficiency. This pack has been designed to make the management and development of school environmental policy as simple as possible.

The girls: Which it is not!

Valerie: Please adapt to your local needs.

Tammy: Maybe after we read that we need to move...

Valerie: Then it's got the environmental policy committee working with the class and then it's got all these little pieces, auditing, auditing auditing

Tammy: Maybe we need a treasurer because the treasurer does all the accounts.

Bonnie: What accounts?

Tammy: Handles the money.

Gail: All I know is that we need a teacher before us and maybe if we do, our work will be much easier in the understanding.

Valerie: What is the policy?

Gail: Is that the question there or are you asking us?

Valerie: Here is something here! A school management policy is a statement of intentions and principles for improving the schools environment and performance. The policy development process requires the schools to audit existing activities and systems and to evaluate the environmental and education goals and action ... And stimulate activities. I think they are trying to say that our policy is not just to take care of the environment but to use it for our benefit with activities and things. Audit I am completely lost with that.

Bonnie: So maybe we're supposed to work out how we can use the environment.

Valerie: There's a policy and action plan how will we enhance learning programmes when we focus on the environment?

Bonnie: Input.

Valerie: [Repeats the above statement]... how will we enhance...focus on environment?

Bonnie: Is it like biology?

Tammy: Maybe like in classroom and things focus about the environment.

Gail: Make more people aware about the environment personally.

Tammy: No, 'cos..

Valerie: But how do you enhance there are programmes in here. How do you enhance them?
[Repeats the question]

Pamela: Attract people or something like that.

Tammy: Maybe set a week aside or something like that for certain things.... I remember when we needed to do the peace garden, we had to read up and choose the best plants for that area and if they would be able to grow in that shaded place.... Yah it was really cool and I learnt a lot on how certain plants grow.”

Pamela: A special day.

Valerie: There is a calendar somewhere over here.

Tammy: A fun fair for the school. [Interjections]

Pamela: Like on a Friday school finishes at 4.30 pm.

Valerie: But you only have to offer some kind of... They won't do it for anything.

Pamela: Ja, they can dress up whatever.

Valerie: When? A weekend.

Gail: On a Friday.

Tammy: We can just ask the principal for two school lessons after the break.

Valerie: She is not going to give us its exam time..

Tammy: Ok, let's do it in the breaks.

Valerie: The break is too short.

Pamela: After the exams she said.

Valerie: And who is going to come on weekends? And why will they They will have to have some sort of thing like.....

Gail: Or maybe like put vouchers for like.. lets just say a class that brings the most they get a prize out of that collects the most dirt from the environment gets.....or improves our school environment.

Valerie: So you are saying, these packets, give each class like five and the ones that collects the most...

Tammy: You know they tried that last year, I think it was last year. You know when this thing 11KN goes, cleans the grounds after school, after school ja, The following day, it didn't work, they ended up stopping it. So maybe we can do something sort all like this and change...

Gail: So there must be something that we can think of that will work.

Valerie: Why don't we have something like a cleanup and right afterwards a show on the grounds.

Gail: You know that the picnic thing, picnic spot where you pay..

Pamela: Pay for a spot you could have a braai and a picnic where you buy a spot and...[interjections about spot follow]

Tammy: Let's say maybe, like my class wants to have a spot they could like clean the school and everything... Every class buys a spot, but our class won't buy a spot cause we cleaned or something...you know like ...

Gail: Who will ever choose a spot that is not what you call?

Tammy: We'll have a picnic.

Gail: Let's just say that everybody cleans and you end up getting the not so good spot..

Tammy: Every spot will be good let's make it a good spot and then the other class...

Pamela: And the rest of the school should be cleaned seeing that the other class...

Valerie: Yeah that's why if you are gonna make it cleanup a spot you gonna.....

Pamela: If you are going to cleanup you might as well cleanup the other side..

Tammy: Lets say it's earn a spot.

Gail: Ja. That's a good title for it earn a spot.

Tammy: You know maybe let's just think of day, an environmental day on a Saturday. You know like a... you can have that, but ours will be, you buy a spot so when you clean you get a spot free you won't have to buy it. That's what I'm saying.. [banter etc]

Valerie: You set something for them and you tell them, you do this and we'll do this for you [banter] Family day will be a nice day.

Pamela: Family day is on the 24th of April. It's always on the same day!

Tammy: Maybe we should have a Cliffside Park family day. [Banter]

Valerie: Ah here's it! Audit! Schools can undertake an environmental audit of water, energy and waste used at the school. If an environmental auditing is done carefully and methodically, reliable information can be gathered about the costs associated in problem areas.

Bonnie: How much water we're using for what.

Valerie: Something like that. Waste, people cleaning up.

Pamela: Research, in the research?

Valerie: We could do a simple waste audit of how waste is collected in each classroom and the school as a whole. Mainly how much paper that is wasted each week and how many aluminium cans are thrown away in a week or month, etc. We have something like that, in the school don't we? In the end it will be better for the school because we will be able to collect cans for recycling Yes and the school earns and the grounds will be clean

Pamela: Yes agree and also we do have some of it going.

Valerie: So what are we going to do? Empty the bin and count the cans.

Gail: Aren't they like asking each person in the class if they are buying cans, instead of throwing the cans away, leave it in the class and they can count from each class and maybe at the end of the week they put it together...

Valerie: That's better not everybody passes those bins ... And they just throw it where ever and if you are allowed to carry it maybe to your classroom...

Pamela: Or have a specific place for those cans, or they will put everything else there....

Valerie: Wouldn't it be better? Okay just say that having three bins in a class is too much, because to buy three bins for a class... one bin for this and a bin for that, a bin for....

Girls: In a box [Abbreviated]

Pamela: [banter] or have a special place for those cans [banter background chatter] in a box [chatter noise] in a special bin.

Gail: Miss Wood has a small bin I am just saying for example, on her desk, to put in sharpenings and paper, lunch leftovers are thrown into the real bins, the plastic ones like every class has. Other stuff and simple cans, can, be thrown into that bin.

Valerie: That's a good idea instead of having one big bin... you could have disorder.

Gail: Plus, everybody don't come down that side, the juniors come down that side, some of the seniors come through the social tunnel up the kitchen and some down by the hall. So I think it just to uhhh lets just make people personally aware of the environment.

Valerie: It's a very weird situation.

Tammy: Some go the other way you know where the tunnel is, near there! [Abbreviation]

Valerie: In the end it will be better for the school, 'cos we will be able to collect more cans for recycling.

Gail: Jah and aren't they like asking each person in the class if they are buying cans, instead of throwing the cans away leave it in the class and they can count from each class and maybe at the end of the week they can put it together aaand We will make more money! [Other girls in background indistinct].

Valerie: And the school earns and the grounds will be cleaner and develop it.

Gail: Let's just put that point down.

Tammy: Maybe we could say that the class that collects a lot of cans something... something.

Bonnie: Like what?

Tammy: [Repeats] The class that collects more cans or something...

Valerie: So the people will still throw it on the field, others will pick it up and take it to the classroom.

Bonnie: Basically they are still cleaning up.

Valerie: Because they are going to win something. We must give them something that they want.

Bonnie: Like a day off.

Pamela: No like 10 minutes before the rest of the school. [And laughter, banter]

Tammy: We can't do it this term 'cos exams....

Gail: On a Friday. No I am saying maybe a week before the school closes.....

Valerie: We don't have even to do it this term we can have ideas we can use the entire year. We can make a list of rules pertaining to the environment for now.

Gail: Eventually everybody will want to leave early on a Friday.

Tammy: Let us just keep that can thing you know, available.

Gail: I think we should do it on Friday too not just 15 minutes before everybody leaves. 'Cos every class would want to leave even before the other classes so we end up actually

Valerie: Class, collect a can!

Tammy: What can we give away? [A free holiday to the Bahamas-whispered]

Valerie: We can actually do a survey, we can ask them to take part in an environmental thing. What sort of thing would you like in return 'cos nobody wants to do something for nothing.

Gail: But it's not actually doing something for nothing. They don't actually realise that they are helping clean...

Valerie: Helping us, yeah.

Girls: [Banter and giggling and coughing, sponsorship mentioned and Coca-Cola]

Tammy: You know how DHS has MTN as a sponsor?

Bonnie: No.

Tammy: They do.

Valerie: How? How do they sponsor DHS? [Speculation, interjections in background]

Tammy: She was saying we need a sponsor.... I'm saying...

Gail: Never mind how much they give, at least we'll have a name then more people will be interested....

Tammy: Let's give one a call. Cause when I think about it we can say to them that what the EC has to offer for me is to have a hands on experience from school and I enjoy the wildlife environments , you feel free if you like the outdoors. Tell them of the feeling that I can choose to do certain things and sometimes I prefer to just stand and to watch the others and its okay... You know what guys I have learnt so much

Gail: But let's just the try this, the one that says, you cleanup then you get people to leave school 15 minutes before. Let's first start with that. Cos saying now, we want a sponsor, we probably won't end up getting a sponsor now now now and people will still be littering.

Valerie: Let's have a clean-up race.

Bonnie: How?

Valerie: Well just tell them that it's gonna happen, they don't know when it's gonna happen because I'm not sitting on a bag of rubbish in the school, here give a class about five plastic bags and say go.

Bonnie: Go into the bins?

Tammy: No.

Gail: No, people should be there or the environmental officer.

Bonnie: What time do you come back with lots of rubbish?

Tammy: How will they know if they have lots of rubbish... If they come back first....?

Valerie: If they fill up five bags. Not the black bags... [laughter about bags]

Gail: Maybe class two or three..

Bonnie: Black bags?

Gail: A class! Not the whole class will go with one bag to the specific place where they get to clean the two grounds and in the buildings.

Bonnie: [Rapid speech indistinct]

Valerie: Go for it!

Tammy: Maybe we could.... You know how they making us do all those obstacle courses maybe..

Gail: Have something similar to that.

Tammy: Having something similar to that but something to do with the environment.

Valerie: Like?

Tammy: I was thinking something but I just forgot.

Gail: For that we need to have the so-called sponsors that she needs, our sponsors will be by having small cake sales and mark?? some money to start off with.

Tammy: You are thinking of a food thingy, cos you remember. The briyani and everything, we had everything maybe we could just do that and everybody will not be that stressed.

Gail: For that we will need a lot of people and most will know about that.

Pamela: We could ask the environmental officers to bring something and say we got to make money.

Tammy: We've got a lot of environmental officers.

Stephanie: Yes that is true....We work together and I am able to decide which activity I want to be fully involved in....and participation in the EC need us as members all of us to work together towards a common goal 'cause you know it's important that we work with each other not against each other.

Gail: Yes! Plus there are many people who have a goal in that they want to be environmental officers.

Valerie: People in the club. Cos you have to be involved in something or the other we haven't have a problem with that as well.

Bonnie: Maybe we have an environmental meeting next week. The whole club and then just inform them...

Valerie: You see they are not going to do something for nothing, we already have awards, taking them for hikes and stuff like that.

Pamela: It's mostly like a market day for the environmental thingy then we see somebody selling sweets for 10 cents and they give 50% of what they made and we take the other....

Gail: Maybe the thingy will be once its a success or maybe at a later stage this year we can go for a trip then everybody will work...

Pamela: They will want something now somebody selling something making 50% of what they made and we take the other half...

Tammy: If we sell sweets for 10 cents we'll not gonna make any profit.

Pamela: I was just saying...

Valerie: If I was selling something for 15 cents and make a profit half of the 25% we take it in..... (rapid speech).....it's like we are charging them for taking part in our market.

Bonnie: Write it down.

Valerie: We will have to find out stuff... Like stuff like to that it will be better if we just charge them for the table.

Tammy: Food...Food.

Pamela: We could also like charge them for the table or for whatever they sell...

Gail: Which the school permits them to sell.

Valerie: Almost everything.

Gail: And like a market day. We just act as if it is a market day.

Tammy: This is a food day.

Valerie: Do you have into primary, I am just asking..

Gail: And ask what the right spots are for.....

Vannessa: Not a holiday um special days like..

Tammy: don't get a holiday

Valerie: I know...

Bonnie: Arbor day.

Pamela: Heritage day, what's heritage day?

Valerie: Our culture.

Bonnie: Shaka's day it was...

Valerie: Arbor day is supposed to be in September.

Tammy: Let's just make it a day of our own... let's say it you know as we walk around the school grounds we are able to see if the area around the school is clean and then if there is any dirt there we pick it up. Sometimes the girls also ask the school to have more recycling bins placed in the designated areas where we find the litter to be a real problem

Valerie: You mean let the Adopt a spot ...yah and also Arbor day fits our own calendar. I think we need one huge calendar. We can mark it... [Short speculation about calendar]

Gail: Everybody must see it. At the end of the year you must see how many things you have done.

Valerie: It will be nice to record it.

Stephanie: Yes it's a good ideas remember it was not so positive in the beginning, we never had a completely clean school, there are learners with a don't care attitude , majority drop their tissues , apple cores and lunch on the ground , have no respect for the environment

Tammy: yes great idea Where will we put it?

Valerie: We can stick it up and keep somewhere [a lot of interjections] There is something here that says Environment Society of South Africa. I think we are going to have to have Mrs. Mitchell here to help us 'cos it's too hard for us, she can make it easier for us in explaining words. They have got games here. Make your own rain gauge. You need a two litre plastic coke bottle which they could collect instead of throwing away and afterwards recycling.

Gail: We've got the gist of it.

Valerie: We've got 100 rain gauges in our school.

Gail: We only have one. You know by the atrium..

Valerie: Check your school grounds against this list to highlight the areas for action and add your own if necessary to it. Having to see if we have all these. Let's just see this one form and do it now. Play and social area. Do you have a ball wall? It's down there but we only use it...

Gail: What's a ball wall?

Valerie: They kick a ball against it. We have it but we don't use it. A cooking or braai area?

Girls: The home-made kitchen.

Bonnie: But braai, we don't braai inside.

Gail: We braai on the field.

Valerie: Grassy areas? Yes. Play equipment? Now we got all these things, they only use for sport. We don't use them at break time like primary schools. So, why is this for primary schools?

Gail: Lets make.. mainly let's just put that instead of for sports, but change it as for an eco club.
[Banter and laughter follow]

Valerie: Rubber tyres? No. Sand pit?

Pamela: We do have a sand pit for long jump?

Valerie: No, according to this, it's not according to this area.

Bonnie: Social and play area.

Valerie: Yup.

Pamela: It's a special one but..

Valerie: Do you have reading areas?

Girl's: Library.

Valerie: Would you count that?

Gail: You are only there for a couple of minutes.

Valerie: Quiet areas for studying or thinking?

Gail: The same, library.

Valerie: A place for drama or guests?

Bonnie: The hall, besides the hall that room, what you call it...?

Valerie: After art areas?

Tammy: The art room and the other....

APPENDIX 7

Group Interview: Transcript of Cliffside School

Researcher: 28th of May, Ridge Park College and I'm meeting with the members for the environmental policy. We have the chairlady, the deputy chairperson as well as our treasurer Gail, Tammy the secretary, Zelda, Bonnie and Stephanie the Enviro Officers. What I want to ask you is, from the follow-up that you had with the environmental policy was there anything which you did in terms of what you put on paper actually went out with the school and did together with other children? Has everything been just discussion? Can you give me reasons why everything so far has been just based on discussions?

Valerie: The exams are on and people are learning and there are also other club activities. We have been having other things like extra classes and stuff like that. We'll start next term again. It wasn't really working, we'll keep our members and we gonna make it better and bigger next term.

Researcher: One thing that I did note, which was on a very positive scale the power-sharing. When you think about power-sharing, the discussion, if you think about discussion who is in charge? Who do you think is in charge of discussion, or are you sharing the load of discussion.

Girls: We are sharing.

Researcher: How important it is that you, Gail?

Gail: We get to listen to other people's different points of views of what the situation is or should be.

Valerie: One of us doesn't have to do all the work, everybody does, we listen to other people's ideas and you don't have to do all the work yourself.

Researcher: Is there anything else? No! Your set up is very unique and very different to the other schools that I have been watching, observing. Now I notice that you allow each other to express your views and you share your ideas as well. In the classroom, what is the situation within the classroom especially if you do like, do you do biology by any chance? In your biology classroom would you say that your setup is the same or is it different?

Girls: The same...

Researcher: What do you mean by that?

Stephanie: Like when a teacher is like teaching us a section, sometimes we tell her what we think of the section and everything. Tell her what we know and what we think of the section...

Gail: Or what we've heard before..

Researcher: Do you find that its easier to participate in the discussion that is happening here than people on your own to participate in the classroom? Do you feel intimidated to stand up and participate in the classroom on your own?

Valerie: I don't think so but its easier here. You don't actually have to put your hand up, stand up to say something and the whole class is looking at you, its kool its easier here.

Researcher: And in terms of being able to have freedom of expression and thoughts where would you find it? Can you do it within the classroom?

Zelda: No, not really because they just try to like knock you down..... Here it is better, because it's like how you feel and all that. You don't like criticise people for what they are saying.

Researcher: You mentioned..... knock you down?

Zelda: Like you know a person is answering something and like..

Stephanie: They make snide comments about your answer.

Researcher: And how does that make you feel as an individual?

Stephanie: You feel bad, and you don't want to answer again because each time ther'e gonna make you feel bad about yourself.

Researcher: Do you find that it's happening within the club?

Girls: No-no.

Researcher: No catiness and....?

Girls: No, no no

Researcher: A chorus of noes, why?

Zelda: Maybe because we just work with each other.

Researcher: Ah that statement we work with each other not against each other.... In terms of the selection of being an enviro club member. Why the enviro club and not..... Or are you other club members too.

Bonnie: for me the enviro club ahhh... because I enjoy the environment.

Girls: Yes.

Researcher: You are, how many other clubs do you belong to Gail?

Gail: It's a similar club.

Researcher: How many, what other club?

Gail: Just two, travel, I am a treasurer in that and the eco club.

Researcher: And you? Don't whisper.

: This club and the ow club.

Researcher: The ow club. What's that?

Girls: Outdoor and wildlife club.

Researcher: But isn't that linked to an eco club? What's the difference between the two?

Zelda: I think because in the ow club they go out. They go to other places, they have excursions and hiking and all of that we haven't done that yet.

Girls: (By consensus agree on doing similar activities in future)

Valerie: We are doing the environmental policy and we are working on things for the school on conservation. We don't really work on..... the club appreciates.... (Interjections)

Researcher: To put it in a nutshell, what I am trying to understand and what Valerie is saying is, they are an outing club and you are the working group.

Girls: Yes.

Researcher: How do you as a club link up with the idea that there is a bit of animosity between the two of you.

Zelda: Because..... not animosity, but they have excursions. Most people go to clubs because they have excursions and all that..... and getting money for badges.

Researcher: So what do you prefer that or what is the significance of what you're doing here?

Zelda: We work together!! At the end it's not gonna be benefiting me, cos you are working you've gonna get something out of it like going out on excursions like learn something, maybe help me in my future.

Stephanie: We have to do work to get the badge and excursions you have to do something and get a reward for it.

Gail: And our reward is better than just going for an outing and having nothing in return.to be able for example to do the essay competition we had to really read and get to know a lot about the environment and to talk to our family.

Researcher: and for you Bonnie what do you have to say

Bonnie: Well I am a very quiet person and often for me I feel that you don't have to say or watch what uuh how you say things everyone gets a chance and my friends always will encourage me to participate cause [looks around and smiles] they make me feel part of the group.

Researcher: wow thanks for that. So you find that you are a more working group of friends and then work first and play after! [ZELDACHatter]

Researcher: I was just asking Valerie about the environmental policy, is it something that just the group is working on or is it in conjunction with the office, that's the main office, because it is a policy document and what influence does the club have in terms of the office? What influence, has miss told you in any way or has the office come to you?

Valerie: Miss told us that we can make the policy since we're the pupils and we are in the school and club members we can think about anything that we want in the policy. And compile something that is useful and not just a piece of paper and hand in to whoever is in charge at the top and they can see it like the school and all that

Researcher: Valerie when we first met, I asked you does the club have any documentation, do you remember me asking you that? Does the club have a constitution and you said no because you don't. This is one of them. I wouldn't say a constitution but it's one of the documents because you are a foundation on which the school environmental activities are going to be carried through okay so where did you stop?

Valerie: Okay where did we stop?

Gail: uhm okay Valerie where we stopped was we did adventure and cultural activities. What adventure and cultural activities are taking place in our school. The next one; community knowledge. How has local knowledge been brought into learning programmes? Hey what is local knowledge? Pause to think and reads the document uuh I think local knowledge is uhm basically looking at our local community maybe from our culture I am not sure [looks at group for help]

Researcher: Local knowledge is basically looking at the local, community knowledge, people within the community. Here we are sitting with a community of people with different cultural backgrounds, Zulu, Coloured, okay but you've created a community. When you talk about local

knowledge it is what is happening, what you are coming with from your group from your culture, what you are coming with, what we are all coming with. (Short discussion)

Gail: Within the community, can we include the adopt a spot campaign?

member: Ja, because it's an activity that you what doing in the local area.

Gail: We are also involved in the clean up campaign.

Researcher: How often do you actually do this?

Gail: Eery morning.

Researcher: Every morning, how effective is it?

Tammy: We see if the area is clean and then if there's any dirt there are pick it up.

Stephanie: It is effective because the area is clean. Its effective to have the litter checks and Adopt-a-spot with the clean ups the school grounds and the other areas are kept clean.

Gail: You'll find it's always clean if not you'll just find only one bag in one particular spot where the D S W picks up to dirt from there.

Researcher: So you find that a lot of children go out and pick up or is it the street cleaners that actually doing the cleaning?

Gail: It is us the learners who on doing it and the DSW people.

Researcher: Okay and who controls the group that cleans the adopt a spot?

Gail: I do.

Researcher: And you meet at 7:30 AM?

Gail: Yeah from about the time that you get off your transport, you walk up the avenue and pick up dirt leave it in a bin and you just come up to school. Before you come to school, before the bell rings, we do it! At 7.30 in the morning before we go to school.

Researcher: I'm just trying to understand this situation, so if I am not a member of the group I will not pick up a paper?

Gail: Yes, they do cause other learners of the eco club also join and clean up.

Researcher: So a child that's not in the eco club will not do it?

Gail: They do, they can..

Researcher: So it's a school thing that as you're walking along you pick it up?

Girls: No, no.

Valerie: Can I ask a question. The people that help you who are not in this club are they your friends?

Gail: No, its people that I just walk with like if I jump off a taxi outside. Cause a lot of people are already at school by the time I jump off there, some of the learners do help.

Researcher: Why do you do it?

Gail: It's something, it's something that I have to do! Let's say the dirt that is there is not actually good-looking, so I'd rather pick it up instead of letting it lie there until somebody sees it. And what if somebody doesn't see it and then we would have to wait until tomorrow when the DSW people come, then I just do it for a clean environment.

Researcher: And since the other children on just passing you by with the group that's working do you find that remarks may be passed or by you picking up, is the next child encouraged to do that?

Gail: Not all, not all the time but sometimes if there's a lot of people we'll ask others to help. Some will listen, some wont but as long as I have done my share...but also the majority of learners have changed their attitude towards cleanliness of the school grounds.... They are walking to the bins to throw away their dirts as we said they even read the poster displays.....that makes us proud

Researcher: Do you do it on your own?

Gail: No, not on my own in we have a group of people, a list for different days, they're the people that do it. I mostly do it when I jump off that taxi and walk into school.

Researcher: When you say I, you mean by yourself?

Gail: No we've got a group....

Tammy: That sometimes have had hands on learning opportunities away from school in urban rural or wildlife environments, and we also make really good poster displays that makes us very proud.

Valerie: Travel, the excursions we went on and geography as well.

Gail: And outdoors the Drakensburg and Hlulhuwe and Dundee too.

Valerie: It's mainly travel and geography

Researcher: Who's taking notes here?

Tammy: Me

Tammy: Clubs, what conservation and community service activities are available in youth run structures in our school? (Repeated)

Gail: Isn't this maybe the jolly club collecting all the cans, for some project that we are doing?

Zelda: Environmental officer one, the adopt a spot, the one that she's in charge of, the whole area behind the kitchen.

Valerie: In the vegetable garden and the peace garden (cross talking) that peace garden only started because it is part of the standard 9 syllabus that's what Miss Moodley said and our club is involved because of that.

Gail: And the pond, every morning they go off there.

Tammy: Information, how has access to relevant up-to-date information been improved? (Repeated)

Gail: I think Miss Moodley she does it for us she goes and looks for information and reports to us and we see what we can do with it.

Tammy: She gives us everything she reads out and tells us how has access to relevant information been improved?
It is up-to-date, she brought us all those forms to filling the member

Gail: what we need to be informed about that's what she starts with

Zelda: like within the school like outside like the newspapers and magazines ordering the school

Valerie: goal we didn't do community work isn't it involvement or something

APPENDIX 8

Environmental club learner at Grasslands Jacky/Debbie – interview transcript

Researcher: I am now meeting the Grade 11 group, Jacky and Debbie. Tell me Jacky and Debbie what is it that you enjoy about the Enviro Club?

Debbie: We learn interesting things about the environment, how we can help it like things I never knew. I never knew that they had a Bay clean-up where we can go and help out, I do want to help with the environment and do things, but I didn't know where to go and things and associate with other people and learn things...I am earning the different associations and where to go to help

Researcher: And you, Jacky?

Jacky: Well, I'm very interested in the environment and my career I want to go into that field. So one way to get involved or to get going with my career is to be part of the environmental club where you can take part in a lot of things. We have a project in paper recycling competition to get a Ronnie bin and all the classes are participating. So, to learn things and to be part of this club, to enjoy the activities as well and the association.

Researcher: Teamwork?

Jacky: Yes I would say it's like teamwork where everyone helps to get like... because we want a Ronnie Bin we have to collect papers to get you know instead of getting it for free. The collection for the most paper brought in is really fun and we enjoy competing to get the most paper in at the last minute

Researcher: Everything about teamwork is it something that's good or bad?

Debbie: It's good! Because the teachers are involved aaaah right up from our principal everybody is involved in collecting paper. Also the enviro members are always eager to know what activity we have planned.

Researcher: Tell me, what is it that you enjoy about the principal being involved does this help to motivate the club?

Debbie: Our teacher always says that the support from our school principal was one of the reasons why the enviro club was one of the most successful clubs that existed in the school.

Researcher: Yes that is great anything else?

Debbie: Ohh the principal is always praising us he is always giving us permission for this and that activity aahm he never stops us and he encourages us and that is very motivating.

Researcher: Do all the members participate in the club activities?

Debbie: Well not all because some just come and go here in the club they attend one meeting maybe and they might come sometimes or you never see them again here or they have a clash with other school extra curricula activities.

Researcher: Do you find that you learn from being in the club or class?

Debbie: Yes like the environment, you learn new things. And also in class we learn how waterfalls are formed, why we have mountains, how they originate, where from, how they come, we learn the water cycle, the different names of the hydrological cycle. Also like according to jobs, you must have maths or science if you want to be a doctor I was interested even in primary I used to go to the Enviro club, because you get to know more things than the others.

Jacky: Of the Enviro Club ohh ? We also learn about the population and the economy and some places are polluted and some countries are very poor. You get some countries that cut a lot of trees down for paper and for our recycling competition we learn to conserve those trees. If a lot of countries can do this they can conserve masses and masses of forests and paper. So it does kinda link up, when you think about it, we are collecting papers to conserve the trees, and if other countries can do that they will also conserve trees and money... so it does link up.

Debbie: We were taken on the excursions. We learnt about electricity, how do we get it and things like the main places where they have electricity and places they don't have. This year we went to find out, what happens to our wastes, you know what I mean. We saw sludge, it was like fun, it's fun.

Jacky: It was environmental.

Researcher: We are going to go on to your participation, what do you understand about that word participation?

Jacky: When you get involved.

Debbie: When you help out with people and things.

Jacky: Whatever project you have, you've got to participate it's a group effort. Like it's a group effort when we are doing the recycling of paper so we can get a Ronnie recycling bin and all the classes are participating

Researcher: How would you rate your participation in your geography classroom for example as compared to your enviro club participation?

Jacky: Okay, I participate in Geography by answering questions and asking certain questions and that way it helps me....

Researcher: Would you say that your participation is very different to that of Enviro Club participation?

Jacky: No and ja , I would say so. No, I participate in Geography almost the same way as I participate in the Enviro Club. I am dedicated to my schoolwork and I am dedicated to the environment. Sometimes I have problems in and all I want is to go outside I am not always able to do that. Like yesterday, I was not able to make it to stay at the club, because yesterday my mom said no, that she didn't want me staying at home but otherwise I am and I will stay, and I do help and pick up papers and things like that. It's not fun to pick up papers, put them away and pack them but I do, do it because I have to help...

Researcher: How would you rate your participation, Debbie?

Debbie: I participate more in the environmental than I do in Geography because in Geography I am sort of quiet in the class, but now I'm like starting to pick up [noise].. in environmental like I'm free to say how I feel, like what I think is right and what's not right.

Researcher: Why?

Debbie: I don't know, because in Geography there is this ma'am, she normally focuses her attention on Jacky and friends you know. Because they are more intelligent, they are clever than me, ma'am normally raises the questions to them; which they can answer the questions and I find some of the questions difficult to answer. Sometimes I do get it, then I answer, I just keep quiet, sometimes I don't say anything.

Researcher: So if you look at your participation you say that you are more free in enviro? Can you explain

Debbie: Ja! probably because we are more comfortable because we spend more time together than other pupils with our projects on an on-going basis.

Researcher: Why in the enviro?

Debbie: It's like ... actually like I'm needed here you know, like I know what am doing, it's like easy, like I know what to do and when things [other learners enter]

APPENDIX 9

Interview with David.

Researcher: I am presently interviewing David . Good morning David.

David: Good morning mam.

Researcher: What is it that you enjoy about the science class, your natural science classroom?

David: Well you learn a lot about plant life and what's around you like the environment and animals it's quite cool.

Researcher: Why you say it's quite cool?

David: Cause like when you learn about like how things work, how things like live in this world and everything like that, mam.

Researcher: I see that you are a member of the enviro club, what is it that you enjoy about the enviro club?

David: Well like all the other members, the excursions and plus you learn about the environment and it's an advantage if you are doing science because you know more about the environment.

Researcher: Why is it an advantage?

David: It's an advantage because like if you are in the enviro club you learn about the environment, when you go to the science class and the teacher teaches about the environment you know a bit more than them.

Researcher: Can you give me examples, David ?

David: Like, can I give you examples of last year? Last year we went on a field trip, no I will talk about this year, we went to the botanical gardens a few weeks after that a man taught us about plants and we knew some of the plants he was talking about and the properties of the plants.

Researcher: If you are looking at the enviro club itself, what is it that you don't like about the enviro club that you would like to see different or you just don't like?

David: There is nothing that I don't like, its just that I wish that we could just like explore not only things like not only around us, but things like in other countries and stuff like that.

Researcher: So you want to go travelling afar.

David: Not travelling but instead of learning about our own country always, South Africa the gold mines, we want to learn about other countries too.

Researcher : Explain what being in the club is like

David: The enviro club is like...its not like those clubs where you go and you say; gosh I'm going to this club in exchange I am going to do this and I am going to do that, what am I going to do, its all about fun and learning.

Researcher: In the enviro club you seem to like slide around and you are very up and about

David: Okay.. in the enviro club there's not really like rules but in the classroom you have to behave because you're not going to get your mark. Last week, no this week, Monday the whole class was misbehaving and a mam lectured us about we should behave and.... . She kept on telling us we were talking about matter and materials and some people were laughing and there was this nice house and the next the nice house was like a squatter camp thing. The mam told us that we mustn't laugh at the other people cause some people can't afford it then she told us that if we laugh about people who have less than us then we won't achieve in life and we will be just like them.

Researcher: How you would like to behave or.....

David: Okay, Myself I know that I am very naughty sometimes I wish like I could be more free. I could be more free in the classroom sometimes when I go to NS I have to be kept quiet it's not very nice. Okay that's one thing I want to change. The next thing I want to change is, sometimes you think science is boring well most of the time I think that. Not most of the time but as I said I want to learn more about things outside our country and outside our environment.

Researcher: Why?

David: Because we know South Africans have to learn about our country and independence and all that. It would be nice to learn about other countries like the Rockies in America and kangaroos in Australia.

Researcher: If we were to think about the enviro club now, what is it that you don't like about the enviro club?

David: Well, the money, sometimes I hate paying so much for the excursions cause like them.....lemme give an example See like... everyone knows...I know...I come from a family that is *very unrich* my mom is always battling with money. And she thinks that, my mom knows that I like animals and stuff like that and she told me that David you in the enviro club... every time there was an excursion or anything my mom had to pay. I don't think the price has risen up from R25, but my mom it's like bothering her.....she thinks.. you sure you have to pay that much? ja she's like that. And I also had it... wish I could get more into the enviro club...

like an enviro sound..... and the enviro uniform. I hate going around in my school uniform whenever we go on excursions!

Researcher: Why?

David: Cause you feel uncomfortable, you are allowed to be free in your own clothes.

Researcher: But isn't your uniform a symbol of your school?

David: It is, I am proud of my school and my uniform, but when you are out in the open you don't need to walk through the streets with your uniform and plus sometimes it's uncomfortable. Like this blazer it's very cold on cold days and very hot on hot days. On hot days you have to take it off because it's so hot on cold days you want to keep it on but it's so cold.

Researcher: David, I don't want to keep you too long.

David: No it's fine, I don't want to go.

Researcher: Okay, David is there anything else you can remember with the links in enviro participation? I see that you are doing recycling of paper.

David: Yes we are doing that, as mam says its for the good cause. I also like to win the money and everything like that. I don't know if its about fundraising or anything and actually its quite nice, causehey trees are going to die.....

End of interview with David

APPENDIX 10

Unstructured group interview at CROW

Researcher: So how did you find your excursion to CROW?

Debbie: I enjoyed the interesting things that we were told about the animals and I found it very sad that people are the main reason why these animals are here ... I think that we should come and also volunteer to help where we can.

Researcher: what did you enjoy

Daniel : the birds were awesome I like birds we have at home we have an aviary and we have racing pigeons. Ever since I was young we always had dogs, cats and I have a hamster which I have to care for. I love animals and I care for nature.

(Others listen and make comment on how many animals he has and the time it must take to look after

Researcher: Now that you have visited CROW can you share of your experiences as you walked through the grounds

Linda: Wow I was not aware that there were so many different types of animals that were looked after at CROW, ... I really learnt so much about the tortoise and have a lot of respect for them now.

Anele: Eish ma'm I don't know something I don't like is the ... of the one place we walked through (looks at the other EC members) ahh.. There were there was one that wanted to bite ahh that rock rabbit- aish very scary.

John: Nah it was really cool, better than being at school, I liked watching the monkey enclosure they are ...cool.

Note there was a lot of debate and laughter overall sense of real enjoyment and excitement at being there. However there was a sense that the area was not worth taking care of and the idea that money in particular could be better spent on people rather than on animals..... debating and some raised their objection to the ... however still appreciating the comment made

Thembi: I knew about the importance of birds and all that but I especially understand a lot more now about how they feed, the beaks and different colours and how the importance of the habitat of birds are to them surviving. We are responsible to look after nature

Mazola: Yah ... all fine butwhy should we look after the animals and not just be kind to them by allowing them to die naturally or humanely kill them...

(..some chatter and disagreement....amongst the members..) no.. really guys it is just a question I mean it will save so much money , the lady didn't she say that CROW needs lots of money that is given to support these animals?

Researcher: What made you as a club decide to come here to CROW

Debbie : Well I really like animals and ahh if I can make a difference in the life of these poor harmless animals and help in whatever way I can... then that is I think important

Linda: Well for me I feel you get to know people when you go on excursion like here to CROW, to help us with you know , to understand the environments and stuff and coming to CROW is for me an opportunity to be with my EC members and to get to know each other more

FEW Note in field : what the answer to f/g ? w.r.t the knowledge about CROW:

Linda: Well aah ... I heard that it is a place where birds are kept if they are found....

Mazola: Yah it is where we can come and see different birds and learn about the birds (looks around and with surprise) but I can see other animals- how come they here too?

A/G/T/ - write notes/ answer the Questionnaire.

Thembi – (looked around and curious look) is it true that a tortoise can feel from its shell cause I saw on National Geographic That thinggie about the fact that a tortoise has a lot of sensation on its shell?

APPENDIX 11

INDIVIDUAL LEARNER SEMI-STRUCTURED INTERVIEW SCHEDULE

1. **EXPLAIN YOUR AFFILIATION TO THE CLUB e.g.**
 - a) how long you have been in the club?
 - b) Why did you join the club?

2. **WHO COMPRISES THE MEMBERSHIP OF THE CLUB? viz.**
 - a) number of learners within the club
 - b) reasons why the members participate
 - c) are most members from a particular subject group?
 - d) what type of learner membership is attracted to the club?
 - e) are the members active participants in the club?
 - f) are the members participating (involved) in other school activities?

3. **WHAT ARE THE ACTIVITIES OF THE CLUB?**
 - a) how often do you meet?
 - b) where do you meet?
 - c) is the club attendance monitored?

4. **WHAT MAKES UP THE ENVIRONMENTAL CLUB STRUCTURE?**
 - a) what is the role of the environmental club chairperson?
 - b) what is the role of the environmental club members

5. **WHAT IS THE LEARNERS MOTIVATION FOR PARTICIPATING IN THE CLUB?**

APPENDIX 12

CLIFFSIDE OBSERVATION SCHEDULE OF EC executive members

NAME OF ENVIRONMENTAL CLUB: _____ **DATE:** _____

- 1. PHYSICAL CONTEXT/SETTING**

- 2. NAME OF THE PLACE**

- 3. DESCRIPTION OF THE PLACE**
 - a) when – before school / during break / after school/other

 - b) where

- 4. DESCRIPTION OF THE MEMBERS**
 - a) number of learners _____

- 5. DESCRIPTION OF THE ACTIVITY**

- 6. LEARNER PARTICIPATION IN THE ACTIVITY**
 - a) what were the members undertaking
 - b) discussion among the members
 - c) documents used/ other

APPENDIX 13

GRASSLANDS OBSERVATION SCHEDULE OF EC members At CROW

NAME OF ENVIRONMENTAL CLUB: _____ DATE: _____ number of learners _____

1. PHYSICAL CONTEXT/SETTING

2. NAME OF THE PLACE

3. DESCRIPTION OF THE PLACE

4. DESCRIPTION OF THE MEMBER(S) activities in the field

5. DESCRIPTION OF THE ACTIVITY

6. LEARNER PARTICIPATION IN THE ACTIVITY
 - a) conversation
 - b) discussion among the members
 - c) seated
 - d) walking/ writing/talking/observing/
 - e) other

