

# **An investigation of how environmental learning and teaching support materials (LTSM) can influence team planning and teaching and learning activities in the Foundation Phase**



Thesis submitted in partial fulfillment for the degree of Master in Education  
(Environmental Education)

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## ABSTRACT

South Africa has experienced significant curriculum transformation over the past ten years. Environment was introduced into C2005 as a phase organiser. Following the streamlining and strengthening of the curriculum, the National Curriculum Statement (NCS) has a more explicit environmental focus in all of the Learning Areas. This has created opportunities for teachers to address environmental health issues in a community context. I work in a rural school and the community around the school experience a number of environmental health issues. In my previous observations I noticed that teachers were not using Learning Teaching Support Materials (LTSM) effectively. In this study I wanted to investigate how LTSM can be used to address environmental health issues in the Foundation Phase. As Life Orientation Learning Outcome1 is a 'backbone' of the Life Skills Learning Programme in the Foundation Phase, I decided to focus on this Learning Outcome as it is the Health Promotion outcome in the NCS (R-9).

It was my interest to investigate how LTSM are used in team planning and how this planning influences the use of LTSM in classrooms. In the research I observed the link between the activities and LTSM that were discussed in the planning session and those that were done in the classroom. To do this I documented the planning workshop, and I also observed three lessons undertaken in two classrooms, a grade 2 and a grade 3 classroom in my school, where I serve as a principal. I conducted this research as an interpretive case study, and I used workshop, interviews, focus group interviews and classroom observation as methods in the study.

The study found that LTSM used in planning influences activities done in the classroom. It also found that use of LTSM helps to achieve the Learning Outcomes and Assessment Standards, and to improve the participation of learners in the learning process. Use of LTSM in planning also improves teachers' Learning Area knowledge and their knowledge of curriculum development issues. Planning sessions also assisted teachers to address problems such as language used in LTSM and availability of LTSM. The study also found that teachers did not address formal assessment in the planning or in the way they used LTSM. The study concluded that use of LTSM in planning can strengthen classroom practice, and recommendations were made to take this work forward in the context of our school, as it addresses the gap between policy and practice.

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# TABLE OF CONTENTS

ABSTRACT	i
ACKNOWLEDGEMENTS	ii
TABLE OF CONTENTS	iii
LIST OF FIGURES, TABLES AND APPENDICES	viii
<b>CHAPTER 1: OVERVIEW OF THE STUDY</b>	
1.1. INTRODUCTION	1
1.2. BACKGROUND AND CONTEXT OF THE STUDY	1
1.3. RESEARCH QUESTION AND GOALS	6
1.4. OUTLINE OF THE CHAPTERS	7
1.5. CONCLUSION	9
<b>CHAPTER 2: HISTORY AND CONTEXT</b>	
2.1. INTRODUCTION	10
2.2. ENVIRONMENTAL HEALTH ISSUES AND RISKS AND THE RNCS	10
2.3. CURRICULUM CHANGE AND THE RNCS	15
2.3.1. The History of Curriculum Change in South Africa	15
2.3.2. The RNCS and Outcome Based- Education	18
2.3.3. Environment and Environmental Health in the Learning Areas	19
2.4. CURRICULUM AS PRACTICE	
2.4.1. Practice, Environmental Education and the RNCS	24
2.4.2. Outcomes Based Education and Practice	26
2.4.3. Team Planning and Practice	28
2.5. LTSM AND LEARNING	
2.5.1. The Role of LTSM in the Curriculum	31
2.5.2. Resource Based Learning and Curriculum Practice	32
2.5.3. Assessing and Using LTSM for Environmental Education	33
2.6. CONCLUSION	36

### **CHAPTER 3: RESEARCH DESIGN**

3.1	INTRODUCTION	38
3.2	RESEARCH DESIGN METHODOLOGY	38
3.3	DATA GENERATION TECHNIQUES	40
3.3.1	Workshops	41
3.3.2	Focus Group Interviews	42
3.3.3	Document Analysis	42
3.3.4	Participant Observation	43
3.3.5	Interviews	44
3.4	DATA ANALYSIS	45
3.5	VALIDITY AND TRUSTWORTHINESS	47
3.6	ETHICS	48
3.7	CONCLUDING SUMMARY	49

### **CHAPTER 4: PLANNING AND TEACHING LESSONS USING LTSM**

4.1	INTRODUCTION	50
4.2	LESSON PLANNING	51
4.2.1	What the Teachers Discussed During the Planning Session	51
4.2.2	How the LTSM were used During the Lesson	52
4.2.3	Lesson Planned By the Teachers	55
4.2.4	Knowledge About the Learning Area And the Curriculum	59
4.3	USING THE LTSM: TEACHER1	60
4.3.1	Lesson 1 On Water Pollution And Health	60
4.3.2	Lesson 2 On Purification Of Water	62
4.3.3	Lesson 3 On Purification	66
4.4	USING THE LTSM	
4.4.1	Lesson 1 On Recycling	68
4.4.2	Lesson 2 On Important foods	70
4.4.3	Lesson3 On Telephone Numbers Important for Social Purpose	72
4.5	TEACHERS REFLECTIONS	73
4.5.1	Reflections on Lesson Planning	74
4.5.2	Reflections on Working Together	75

4.5.3	Reflection on the Availability of Materials and Curriculum Relevance	76
4.5.4	Reflections on the Materials Used During the Lesson	78
4.5.5	Reflections on Learning	79
4.5.6	Reflections on the Language Used in the LTSM	80
4.6	CONCLUSION	81

## **CHAPTER 5: HOW TEAM PLANNING AND USE OF LTSM INFLUENCED TEACHING AND LEARNING**

5.1	INTRODUCTION	83
5.2	ANALYTIC STATEMENT 1: LTSM CONTRIBUTED TO PLANNING OF CLASSROOM ACTIVITIES	84
5.2.1	Planning with the LTSM and Classroom Activities	84
5.2.2	Use of Environmental Health issue Materials in the Planning Context	85
5.2.3	LTSM and Planning Integration	88
5.2.4	LTSM and OBE Curriculum Development Skills	89
5.2.5	LTSM and OBE Curriculum Development Skills	
5.3	ANALYTICAL STATEMENT 2: LTSM CONTRIBUTES TO TEACHERS' KNOWLEDGE OF ENVIRONMENTAL HEALTH ISSUES AND CURRICULUM IMPLEMENTATION PROCESS	91
5.3.1	Learning About the Environmental Health Focus in Life Orientation And Life Skills	91
5.3.2	Learning about Teachers Role as Mediators	91
5.3.3	Learning Area Knowledge	92
5.3.4	Learning about Integration	93
5.3.5	Learning about Contextual Approaches to Curriculum Implementation	93
5.3.6	Learning about Language and Learning	94
5.3.7	Knowledge of Curriculum Structure	94
5.4	ANALYTICAL STATEMENT 3: LTSM ASSIST WITH THE ACHIEVEMENT OF LEARNING OUTCOME	
5.4.1	Contextual Relevance and Learning Outcomes	94

5.4.2	Achievement of the Health Promotion Learning Outcome 1 Life Orientation	95
5.5	ANALYTICAL STATEMENT 4: LTSM IMPROVE PARTICIPATION OF LEARNERS.	
5.5.1	How Learners Participated	99
5.5.2	Quantity of LTSM Influences Learner Participation	100
5.5.3	Relevance of the LTSM Influences Learner Participation	101
5.5.4	Language and Colour in the LTSM Influences Learner Participation	102
5.6	ANALYTICAL STATEMENT 5: LTSM CHANGE THE INTENDED TEACHING ACTIVITIES	103
5.7	ANALYTICAL STATEMENT 6 : ASSESSMENT PROECSSSES WERE NEGLECTED IN TEAM PLANNING AND LTSM	105
5.8	ANALYTICAL STATEMENT 7: TEAM PLANNING CONTRIBUTED TO THE USE OF LTSM	105
5.9.	ANALYTICAL STATEMENT 8: LTSM AND TEAM PLANNING CONTRIBUTED TO CURRICULUM PRAXIS	107
5.10	CONCLUSION	109

## **CHAPTER 6: SUMMARY AND RECOMMENDATIONS**

6.1	INTRODUCTION	110
6.2	SUMMARY OF THE STUDY	110
6.3	THE RESEARCH PROCESS:EMERGING ISSUES	
6.3.1	Lesson Planning Using LTSM	112
6.3.2	Classroom Observations and LTSM	113
6.4	RECOMMENDATIONS	115
6.5	CONCLUSION	118

## **LIST OF REFERENCES**

## LIST OF FIGURES, TABLES AND APPENDIXES

### FIGURES

<b>Figure</b>	<b>Explanation</b>	<b>Page</b>
4.1	Foundation Phase teachers at the planning session with the Senior Phase teachers taking notes	52
4.2	Learner reading from the chart	61
4.3	Learners purifying water using Jik	64
4.4	Learners demonstrating use of robots	67
4.5	Learners working with plastic	69
4.6	Learners interact with vegetable chart used in the lesson	71
4.7	Grade 3 teacher at an interview session reflecting on the lesson implementation and planning	72
4.8	LTSM used which needed to be translated by the teacher	79

### TABLES

<b>Table</b>	<b>Explanation</b>	<b>Page</b>
2.1.	The structure of the Foundation Phase curriculum	14
2.2	A summary of the environmental learning focus in the Learning Areas	20
2.3	Specific environmental learning requirements (According to outcomes and assessment standards) for Life Orientation	22
3.1	Appendices and their abbreviations used in the text	45
3.2.	Categories and subcategories identified in the data	46
4.1	Lessons planned by the teachers and LTSM used in the planning session	55
4.2	Lesson Plan prepared for Grade 2 teacher- Teacher 1	56
4.3	Lesson plan prepared for Grade 3 teacher	57
5.1	The relationship between LTSM used in planning and LTSM used in the classroom	84
5.2	Table showing the expected and actual knowledge skills and values achieved	95

5.3	The actual knowledge, skills and values achieved and how the LTSM was used to support these	98
5.4	What the learners did and how LTSM helped or hindered participation	100
5.5	Planned activities and changes during implementation	104

## **APPENDICES**

1	A letter to the foundation phase teachers
2	A letter to the Foundation Phase teachers that participated in the research.
3	A letter to the School Governing Body
4	Workshop Lesson Plan Notes
5	Lessons planned
6a	Observation 1 - Teacher 1, Lesson1
6b	Observation 2 - Teacher 1, Lesson 2
6c	Observation 3 - Teacher 1, Lesson 3
6 d	Observation 4 - Teacher 2, Lesson 1
6 e	Observation 5 - Teacher 2, Lesson 2
6f	Observation 6 - Teacher 2, Lesson 3
7a	Observation tool - Teacher 1, Lesson 2
7b	Observation tool - Teacher 2 , Lesson 2
8a	Interviews Teacher 1 - done after Lesson Plan.
8b	Interviews teacher 1 - done after Lesson 1
8c	Interview Teacher 2 - done after Lesson Plan
8d	Interview Teacher 2 - done after Lesson 1
9	Focus group Interviews - done after Lesson 3
10	All LTSM used during the Lessons
11a	Learners work done during Lesson 1, Teacher1
11b	Learners work done during Lesson 2, Teacher1
11c	Learners work done during Lesson 3, Teacher 1
11d	Learners work done during Lesson1, Teacher 2
11e	Learners work done during Lesson 2, Teacher 2
11f	Learners work done during Lesson 3, Teacher 2
12a & b	Analytic Memos

# CHAPTER 1

## OVERVIEW OF THE STUDY

### 1.1 INTRODUCTION

This chapter introduces the focus of the research and the background of the study. This research is focused on teachers using learning and teaching support materials (LTSM) in the context of implementing the revised National Curriculum Statement (RNCS) in the Foundation Phase. The research focuses on the Life Orientation Learning Outcomes, as these have an environmental health emphasis, and traces the use of learning and teaching support materials from the planning phase of the lesson, to the implementation stage involving activities that were taught in classrooms.

This chapter introduces the aims and motivation for the research. Before this, however, the context of the research is introduced. In this section, I describe the rural setting of the school in which the research was conducted, and I discuss my role in the school and community, and my interest in the research. Following the discussion on the aims of the research, I include an overview of the thesis.

### 1.2 BACKGROUND AND CONTEXT OF THE STUDY

Mc Niff, Lomax and Whitehead (1996) stress that a responsible researcher needs to be reasonably clear as to why he /she wants to get involved in the issue she /he is researching. They further explain that as people living in a social context, we need to acknowledge that we already hold certain values that will influence our action and also the way we judge other people's action. Our thinking, wishes and reactions are therefore conditioned by what we believe. In presenting the description of the context of the research, and in describing my role and interest in the research in this section, I wish to make my values and interests in the research known at the start of the research process, so as to act as a 'responsible researcher' (*ibid*).

This study was conducted at a rural school, named *Zanohlanga Junior Secondary School*, in the district of Dutywa under the bigger Mbashe Municipal district in the Eastern Cape. This school is the second school in the Vonqo Administrative area which is the last administrative area of Dutywa in the South East on the way to Mjanyana Hospital (Ngcobo district). The school has three blocks containing 6 classrooms. The three mud structures were built by the community members without any help from the Department of Education. These 6 classrooms accommodate 301 learners with 6 permanent teachers and 3 temporary teachers. The school does not have toilets, water or electricity. It has just been fenced, but during the research period it was not fenced. There is no road leading to the school. The clinic is 10 km away from the area, this means that it is not easy to get health facilities for the school and community members.

According to the Human Science Research Council (2005) many people feel that it is inappropriate for teachers in rural areas with big numbers, with poor or limited resources, and teachers who are largely inadequately qualified to do what is expected of them, but I have a feeling that teachers from rural areas should do something to improve the situation around them for the future of the learners.

This study is influenced by my work as a Principal and a key person who holds a powerful position (see section 3.6) in the community which is composed of mostly illiterate and poor people. I started teaching in this area in 1991, when I had already gained 20 years of teaching experience. I was given a project to start a new school in the area. I started this school in 1994 using a neighboring homestead as a classroom. As noted above, the school has since grown enormously, but is still under-resourced.

In 1996/7, when Outcomes Based-Education (OBE) was introduced I felt a bit insecure and I experienced a loss of confidence as I had not been trained in the new curriculum, and I also had a duty of providing support to new teachers who were also not trained in the new curriculum. I decided to do a Further Diploma in Mathematics Education at Rhodes University, which I believe helped me to regain the lost confidence in my work which was not only teaching but also seeing that the other teachers were responding to and complying with the needs of the new curriculum, which at the time was being introduced as Curriculum 2005 (C2005) (South Africa. Department of Education, 1997). According to the Human Science Research Council (2005) Curriculum 2005 was

introduced in 1997 to provide a common curriculum and to remove bias and discrimination and to introduce a curriculum based on social justice principles. It was intended to 'sweep away' the legacy of mental underdevelopment, authoritarianism and rote learning, all of which were characteristics of the Christian National Education and Bantu Education system implemented under the apartheid regime in South Africa prior to 1994.

Because I was trained as a Bantu Education teacher I did not feel competent enough to render services in the new curriculum. I decided that I should study further to improve my skills in implementing the new curriculum. I started the above mentioned Further Diploma in 1997. One of the requirements of the Diploma was to present 8 workshops with local teachers which enabled me to build closer relationships with most teachers, and I was subsequently used as a key teacher of this area. Because of these activities the local community, together with the professional community, developed trust on me in almost all the developmental issues in the area and this encouraged me to become more involved in the activities that assist members of the community of this area to live a healthy lifestyle, and I developed a strong interest in environmental health issues.

In 1998, before completing the Diploma in Mathematics Education I was seconded by the Department of Education to the Mathematics and Science Education project as a Foundation Phase Mathematics teacher developer. My duty in the project was to help teachers with planning and implementation of Mathematics lessons, and to order and supply the selected schools with LTSM that were intended to help teachers develop learner centered activities. While working in this project, I noticed that most teachers do not seem to know how and when to use LTSM that are provided by this and other projects. This project was set to continue for 3 years, and at the end of the 3<sup>rd</sup> year I went back to school as a teacher and Principal again.

In 2002 I noticed that there was a high rate of teenage pregnancy in the area. In response to this, I organized a group of women to talk about how we could address the issue of teenage pregnancy we were faced with. When I was with these parents I noticed that there were many environmental health issues that the members of the society were faced with, but they were not aware how dangerous these issues are to the health of the community. The reason for the rampant proliferation of such environmental

health issues is that many of the parents in the rural area where I teach are illiterate and poor because they are not working, their main source of income is the social grants and small scale farming. Though this area does not have much rain the community members are committed maize farmers and live stock farmers. This commitment to stock farming is negatively impacting on the learners' attendance and results in drop outs before the learners are able to go to high school (Mdlungu, 2004).

The women's club mentioned above started a food garden to address issues of food security but unfortunately this did not last because the fence was not strong enough and there was no water. This is where my interest in working towards addressing the environmental health issues in the community developed, particularly since the new curriculum also emphasized the need for a stronger contextual orientation to learning, and it introduced environment and health as cross-curricular phase organizers (DoE, 1997). More recently, this curriculum focus is also encouraged by the needs of the RNCS policy principles which emphasises the *relationship between human rights, social justice, inclusivity and a healthy environment* (DoE, 2002). In 2002 I started a B Ed Honours degree with Rhodes University and in the second year of the course I took an Environmental Education course as one of my electives. My interest in working with people in the community was strengthened through this course, though I did not involve other teachers and male community members. This lack of involvement worried me as I noticed that some of the things that were discussed in the club were things that were in the curriculum and all teachers should have been involved. It is my interest to involve other teachers more in responding to local environmental health issues by addressing these issues through environmental learning in the context of the curriculum (see chapter 2), and also through using the LTSM to contextualize the curriculum. Though I am still in the classroom, and am still in teaching, my main interest is in assisting other teachers to contextualize their activities so that the curriculum that they are implementing helps in developing the community and addressing the environmental health issues that place the learners and the community at risk.

My interest in involving other Foundation Phase teachers has been strengthened by the National Environmental Education Project for the General Education and Training band (NEEP-GET, 2003: 9) which confirms that in order for curriculum planning to produce meaningful learning that is responsive to learners' needs and challenges, consideration

should be made of what the learner already knows about a particular topic or questions. This requires that teachers know something about the environment and the context in which the learner lives and acts. According to the *Norms and Standards for Educators* policy (South Africa. Department of Education, 2000), within an outcomes-based education system, teachers are seen as mediators of learning, who also have a responsibility to select and use LTSM in learning programme and lesson planning, and they also have a pastoral role, which requires them to respond to community needs. Teachers have therefore been ascribed with a responsibility to become curriculum mediators, who are capable of mediating the curriculum in context, and contributors to the curriculum and social transformation in South Africa. Involving teachers in a research project focused on these questions would, I thought, assist us (the teachers in my school) to practice and respond to the curriculum needs, and develop activities in the classroom which will address those environmental health issues that affect learning and learners' health and safety, and which assist in developing stronger future community members who are more able to make choices about their health and safety in a context of vulnerability and risk.

When I developed a contextual profile of my school (Mdlungu, 2004), I identified, through a small scale research process, that there was a need for teacher development in the school. Robottom (1987) observes that professional development in environmental education should be participatory and action based, which is why I wanted to involve the Foundation Phase teachers at my school in using environmentally oriented LTSM during planning, so that they could adapt the LTSM to their classroom contexts in the development of learning activities (see aims of the study below in section 1.3).

This study took place from January 2005 to May 2005 during the time when the Department of Education was starting to implement the Integrated Quality Management System (IQMS) (South Africa. Department of Education, 2003). This, together with the research activities undertaken for this study, helped me, as the Principal, to assist the Foundation Phase teachers at our school to become more reflexive so that they get the chance to correct their mistakes and to work in a team-based environment for planning and curriculum development. Teachers were encouraged to keep the lesson planning work in their files (portfolio's), which could also be used for IQMS purposes. I also thought that this would enhance sustainability of team planning and the use of LTSM in

classrooms, as I was aiming for the research focus in the school to become an ongoing developmental process. I am also hoping that this research focus will contribute to a change in the way LTSM are used at school, although the change process itself is not the focus of this research.

My concern is particularly with strengthening environmental learning in the Foundation Phase, as environmental learning is an important focus in the learning outcomes of the Life Orientation learning area, which forms the basis of the Life Skills Learning Programme. I recognized the potential of this learning area for contributing to improved teacher performance and the contextualization of the environmental health issues in classroom activities.

### **1.3 RESEARCH QUESTION AND GOALS**

As I have explained above in section 1.2, I am a Principal who has taught in the Foundation Phase for many years. Based on a number of earlier observations (as discussed above in section 1.2), I have noticed that there is a need for more in-depth knowledge of how teachers are using LTSM. I am not alone in having an interest in how LTSM are used in South Africa's outcomes-based education system. This has recently become a key issue of concern in curriculum implementation discussions in South Africa, as evidenced in research undertaken by others such as Czernewicz *et al.* (2000) (research undertaken on behalf of the Department of Education), Taylor and Vinjevold, (1999) (research undertaken as part of the President's Education Initiative), the Curriculum Review Committee (2000) (research commissioned by the Minister of Education to review the implementation of C2005) and individual researchers such as Mbanjwa (2002), Nduna (2003) and others (see Chapter 2). In particular, I have noticed that teachers very seldom engage in planning activities, and I was curious to learn how a team planning approach could strengthen the use of LTSM in the Foundation Phase.

I thought that this research focus would be particularly relevant given the emphasis planning and context in the Revised National Curriculum Statement (RNCS) (DoE, 2002), and on teacher competency in planning, mediating learning and selecting, using and adapting LTSM in the *Norms and Standards for Educators* policy (DoE, 2000). The RNCS states that teachers will be responsible for developing their own learning

programmes, which places a greater planning responsibility on teachers and schools in curriculum implementation processes (DoE, 2002).

As mentioned above, through this research I aim to work with teachers at my school in a process that will work towards Cornbleth's (1990) view that the curriculum should shift attention from intention to realisation, from plan to practice. A curriculum of this nature considers what knowledge and learning opportunities are actually made available to learners, how they are created and what values they reflect and sustain. Grundy (1987) refers to this as praxis. According to her (*ibid*), curriculum is constructed within actual learning situations with actual learners learning in a social process. In this process, curriculum knowledge is socially constructed and subject to critique and reconstruction. To encourage teachers to focus more on curriculum work which is context based and which has a praxis orientation, I considered that teachers should engage in team planning, and plan the activities, using LTSM, that learners are expected to engage in together. I planned to investigate the team planning process, as well as the influence that this had on use of LTSM in classrooms. My research interest is therefore located in the field of curriculum praxis.

**Research question:** The research question that I developed to guide this investigation is: *How does use of environmental learning support materials in team planning influence teaching activities in the Foundation Phase?*

**Research Goals:**

- Investigate how environmental learning and teaching support materials are used in team planning.
- Investigate how environmental learning and teaching support materials are used in classroom activities.
- Investigate the link between the use of the environmental learning and teaching support materials in planning and actual classroom practice.

## 1.4 OUTLINE OF THE CHAPTERS

**Chapter one** provides an overview of the study. The context of the research is introduced and my role and interest in the research is discussed.

**Chapter two** reflects on the broader contextual influences within which the study took place. It provides insight into the curriculum transformation process in South Africa, and provides further insight into curriculum as praxis (see section 1.2 above). It reviews recent research findings which comment on the use of LTSM in supporting planning and classroom practice.

**Chapter three** explains the methodology applied in the study and the associated research process and methods. This chapter describes the research design decision that I made, and describes the interpretive case study design, as well as the methods that were used in some detail. It also explains the analysis process, and discusses how I considered issue of ethics and trustworthiness in the context of the interpretive case study design.

**Chapter four** describes and presents the research findings. In describing the research process, it draws on data generated in the form of as lesson planning notes and interviews, observation notes and focus group interviews. Photographs and learners work are also presented as figures on the appendices to validate the research. The findings are discussed according to categories derived from analysis of the data. It describes how all Foundation Phase teachers were involved in using LTSM during team planning processes in the school, and then describes the classroom practice of two teachers in more depth, through explaining how LTSM were used in teaching and learning interactions. This is discussed in relation to the lesson plans that were prepared during the planning phase.

**Chapter five** provides a deeper analysis on term planning and use of LTSM to enhance teaching and learning of environmental activities. This chapter discusses the insights gained from the research findings reported in chapter 4 by addressing the research question. This is done through use of a number of analytical statements which give insight into some of the findings of the study. It provides a deeper understanding of the relationship between planning and the use of LTSM in the implementation of environmental learning activities in the Foundation Phase. This chapter also considers planning and using LTSM as a process of curriculum praxis.

**Chapter six** briefly summarises the research and makes recommendations on how team planning processes using LTSM and the use of LTSM could be improved in school context.

## **1.5 CONCLUSION**

In this chapter I have provided insight into the context of the study, which includes a description of the context and history of the school (the research site), and a description of my role and interest in the research. I also indicated that the research is focused on the use of LTSM in South Africa's outcomes-based education system, with particular focus on the revised National Curriculum Statement and its implementation. I have indicated that this is not a new research focus in South Africa. I have, however, indicated that this study has a unique focus and is focused on the relationship between planning and use of LTSM in classrooms. I have also said that the research has a curriculum praxis interest. This chapter also provides a brief overview of the study as a whole, and I outlined the different chapters of this research report.

In the next chapter I describe the contextual influences within which the study took place. I will also review recent research findings which comment on the use of LTSM in supporting planning and classroom practice.

## **CHAPTER 2**

### **HISTORY AND CONTEXT**

#### **2.1. INTRODUCTION**

In this chapter I discuss environmental health issues, and how the curriculum is responding to these. As mentioned in chapter 1, I have been involved in addressing environmental health issues in the school community, and an interest of this research is to consider how the curriculum can further contribute to responding to environmental health issues in the school community.

This chapter also discusses the history of educational transformation in South Africa, with reference to curriculum policy changes that influence classroom practice. As mentioned in chapter 1, the study has an interest in exploring the praxis of curriculum, i.e. the implementation of curriculum theory and policy in schools and classrooms (in social context). The chapter therefore also discusses curriculum as praxis (as introduced in chapter 1) in more depth.

The chapter then discusses issues associated with the use of teaching and learning support materials and their role in enabling curriculum praxis. It also reports on previous research undertaken to explore the significance of using LTSM in enabling learning in outcomes-based education, and in the new curriculum in particular.

#### **2.2 ENVIRONMENTAL HEALTH ISSUES AND RISKS AND THE RNCS**

This research is focused on improving the quality of teaching and learning to address environmental health issues and risks in the community, through team planning using learning and teaching support material (see chapter 1). As mentioned in chapter 1, the school community where I work is faced with a number of environmental health issues and risks, and actions have been started in the community to address these. In my role as Principal of the school I have established a relationship between the school and community in addressing environmental health issues and risks. The main

environmental health issues and risks faced by members of the school community are water, soil and air pollution, sanitation, disposal of waste, food quality and poor health habits, and these issues are linked to a context of poverty and unemployment which characterizes many of the rural areas in the former homelands in South Africa (Lotz-Sisitka & Janse van Rensburg, 2000; Human Science Research Council, 2004). In explaining what environmental health risks are, the *Enviropaedia* (2004: 78) states that:

Typical environmental health concerns would be the health related aspects of water and air pollution, for example drinking water quality, sanitation, waste disposal, food quality and the presence of harmful chemicals. In under developed countries [and in rural areas], major concerns would relate to lead to more basic aspects such as conditions causing the spread of tuberculosis or dysentery, malnutrition, or the lack of a safe drinking water supply...

According to Human Science Research Council (no date) the Eastern Cape is a province which needs infrastructure development such as clean water and sanitation, and improvement of life circumstances. This state of environment is stressing the need for early childhood development in rural areas of the Eastern Cape.

DWAF (1996) emphasizes the importance of environmental health issues in rural communities that mostly depend on natural water supplies like rivers, springs and streams which are exposed to all types of pollution. It stresses that water should be protected from all types of pollution to ensure the good health of people who use the water resources, and also because animals and plants need clean water.

According to DWAF (1996) the Reconstruction and Development Programme adopted a policy of a primary health care approach which is based on the prevention of ill health and promotion of good health in the spirit of community participation and self reliance. This is why a joint venture among government departments e.g. Department of Water Affairs and Forestry (DWAF), Department of Health (DoH) and Department of Education (DoE) has been formed in South Africa. The Department of Water Affairs and Forestry (1996) argues for the need to extend information on primary health care to families and communities through schools and clinics as well as other structures especially in rural areas. This is a response to the Constitution (Act 108 of 1996) which emphasizes primary health care, and gives all South Africans the right to a healthy environment, and the right to protection of the environment (DEAT, 1999). Environmental health issues

and risks have also been emphasized in global development policies, such as the Millennium Development Goals (MDGs) which have the following goals that are relevant to this study:

- Achieve universal primary education
- Combat HIV/AIDS, malaria and other diseases
- Ensure environmental sustainability (<http://www.un.org/millenniumgoals>, cited in Lotz-Sisitka, 2004)

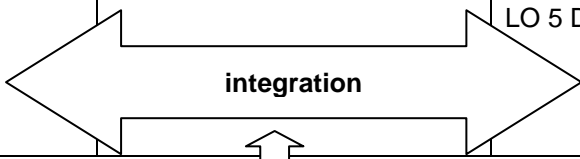
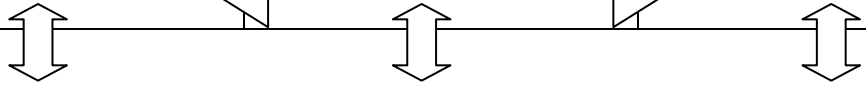
Attending to environmental health issues and risks in contexts of poverty and risk appears to be both a national and an international policy priority, and education has an important role to play in responding to these issues and risks as argued by many educators such as Lotz-Sisitka and Raven (2000); Lotz-Sisitka (2004); Jensen *et al.*, (2005), Fien (1993), and Mbanjwa (2002) amongst others.

South Africa's curriculum transformation process has put environmental health on the agenda of all schools, firstly through the incorporation of environment and health as Phase Organisers in C2005 (DoE, 1997), and more recently through incorporating an environmental focus into all Learning Areas in the Revised National Curriculum Statement (RNCS) (DoE, 2002; NEEP-GET, 2005, see section 2.3 below). The principles of the RNCS are located in the Constitution of South Africa. The principle focusing on a healthy environment cannot be attained independent of people, their lifestyles and choices, their rights and social justice. This principle encourages learners to become more aware that they should take care not to pollute air, water and soil and if water is not pure they should know how to purify water. It also encourages learners to, for example, avoid soil pollution and also how to avoid other forms of pollution by practicing healthy habits that avoid pollution and which will lead to avoiding diseases (DOE, 2003). The creation and dissemination of environmental knowledge amongst learners has been made possible by the opportunities for more participatory engagement in environmental education processes through the involvement of learners, parents, teachers and different stakeholders in the communities as indicated in the Eco-schools programme (le Roux 2005). It has also been made possible through the Learning Outcomes of the RNCS.

Learning Outcome 1 of the Life Orientation Learning Area supports the objectives of primary health care and environmental health. According to the Department of Education's Guidelines for Learning Programme Development (DoE, 2004, see also NEEP-GET 2003), Life Orientation forms the backbone of the Life Skills Learning Programme. Learning Outcome no. 1 is therefore a 'backbone' Learning Outcome in the Life Skills Learning Programme in the Foundation Phase, and it therefore forms an important focus in Foundation Phase teaching and learning. The Learning Outcomes from the Life Orientation Learning Area are integrated with outcomes from all the other learning areas (NEEP-GET, 2003) in the Life Skills Learning Programme. However, the curriculum also encourages integration with Learning Outcomes from the Languages Learning Area and from the Mathematics Learning Area, as outlined in Table 2.1 below. The focus on integration is significant, in that one of the aims of the curriculum change in South Africa of not compartmentalizing the Learning Areas has been achieved (NEEP-GET, 2003).

The environmental health focus in the Foundation Phase Life Skills Learning Programme can therefore be integrated with Learning Outcomes (LO) in the Literacy Learning Programme, and the Numeracy Learning Programme, as well as with outcomes from other learning areas as shown in Table 2.1 below. The curriculum structure therefore allows for a variety of activities that can be developed on environmental health issues that are relevant to the school community.

**Table 2.1 The structure of the Foundation Phase curriculum (adapted from DoE, 2003)**

<b>3 LEARNING PROGRAMMES WITH 'BACKBONE' OUTCOMES THAT CAN BE INTEGRATED</b>		
<b>LIFE SKILLS (25%)</b>	<b>LITERACY (40%)</b>	<b>NUMERACY (35%)</b>
<p><b><i>Life Orientation Learning Outcomes</i></b>                      LO 1 Health promotion                      LO 2 Social development                      LO 3 Personal development                      LO 4 Physical Development and Movement</p>	<p><b><i>Languages Learning Outcomes</i></b>                      LO1 Listening                      LO2 Speaking                      LO3 Reading and viewing                      LO4 Writing                      LO5 Thinking and reasoning</p>	<p><b><i>Mathematics Learning Outcomes</i></b>                      LO 1 Numbers, operations and relationships                      LO 2 Patterns, functions and algebra                      LO 3 Space and shape                      LO 4 Measurement                      LO 5 Data handling</p>
 <p><b>integration</b></p>		
		
<p><b>INTEGRATED WITH LEARNING OUTCOMES FROM ALL OTHER LEARNING AREAS</b>                      (Social Science, Natural Science, Technology, Arts &amp; Culture, Economic and Management Science)</p>		

The development of this curriculum framework, and further detail on the environmental health focus in the curriculum is discussed in more depth in section 2.3 below.

As mentioned earlier, a number of government departments have been involved in dealing with environmental health risks, and have formed partnerships with the Department of Education to involve schools in addressing and preventing environmental health issues and risks. One of the key activities that these government departments have been engaged in is the development of LTSM (NEEP-GET, 2005). For example, DWAF have produced a wide range of LTSM that address all of the Learning Outcomes and Assessment Standards relevant to Learning Outcome 1 of the Life Orientation Learning Area (DWAF, 1996). Other groups have also produced LTSM that address environmental health issues and risks, such as the 'Hands-on' field guide series and the

Working for Water alien vegetation pack (NEEP-GET, 2004), many of which have been used for curriculum implementation purposes (*ibid*).

I will now discuss the history and development of the RNCS, with reference to the broader history of curriculum change in South Africa. This includes a more in-depth look at environment and environmental health issues in the RNCS.

## **2.3 CURRICULUM CHANGE AND THE RNCS**

### **2.3.1 The history of curriculum change in South Africa**

To provide background to the study I will start with some curriculum history. According to Doll (1993:43) in the 1920's, 1930's and 1940's schools adopted the "... assembly line model as multi-purpose and multi-leveled classrooms gave way to discrete, but continuous, grade levels. The holistic day was broken into separate time units of twenty-to forty minute segments". This means that the instructional school time was standardised and teachers were considered more as workers and followers not leaders. These developments were part of an international standardization and expansion of mass education, which found more and more learners around the world in schools. Education in South Africa was influenced by this broader 'massification' of schooling, but also by the apartheid policies which introduced separatist education, and differentiated educational opportunities based on race. This left the majority of black children in South Africa in poorly resourced schools, with a racially biased curriculum, which was also authoritarian and discriminatory.

The People's Education movement wanted or demanded change from the previous education system which was producing labourers for the apartheid state, to education that would produce good adults who would be job creators in their adulthood. Bobbit (1918, cited in Doll, 1993) describes earlier technicist models of curriculum (such as the one implemented under the banner of Bantu Education) as concentrating on the deficits or shortcomings of an individual. As a result it produced teachers who concentrated on the deficits or shortcomings of learners. Because of these deficiencies in the past curriculum political activists demanded change, which were most visible in the late

1970's and throughout the 1980's. Following the 1976's Soweto uprising Peoples' Education came into place in 1980's (Kraak, 1999).

According to Kraak (1999:22) Peoples' Education was primarily "... a political movement which viewed the classroom as a central site of the struggle against apartheid". One of its important aims was the democratization of education through the participation of a cross section of the community in decision-making on the content, quality and governance of education. Though Peoples' Education had its own flaws, it managed to start creating new frameworks and alternatives to apartheid education. Kraak (1999:23), comparing the frameworks of peoples' education and apartheid education suggests that apartheid education was "... a conservative curriculum based on rigidly defined school subjects whose purpose was unquestioned transmission of apartheid determined syllabus content through rote learning". He goes on to describe Peoples' Education as "... a radical curriculum opposed to rote-learning and based on critical thinking, independent work and integrated studies, aimed at equipping students to question and reveal the underlying causes of social inequality" (Kraak 1999:23).

Commenting further on apartheid education Reeves (1994:5) notes that:

Teaching in South Africa has been a dehumanizing and undermining experience for most teachers. Teachers are burdened with a largely irrelevant and unwieldy syllabus which they teach, as they have been trained to do, through methods which rely on the passivity of learners. Their teaching task is to ensure that students can reproduce knowledge in their examinations.

The People's Education movement led to the establishment of the National Education Policy Initiative (NEPI), which, in the early 1990's worked on new policy options for a national curriculum, after the ANC was unbanned in 1990, and in preparation for policy changes (Kraak, 1999). The political change of the country in 1994 introduced new policies, which have influenced a major change in the South African curriculum aimed at addressing past inequalities and contributing to democracy.

After 1994, education transformation was focused on curriculum change from a teacher centered to a learner centered approach. This introduced a change in teachers' roles, causing some uncertainty amongst teachers who were trained in a totally different way. All the curriculum changes that have occurred since 1994, have directly or indirectly

affected the curriculum implementers (teachers) who were not well armed for such changes, hence one finds learning and teaching support material 'collecting dust' in the teachers' drawers, and many cases where schools and teachers are struggling to implement the new vision of the curriculum (Human Science Research Council 2004; Jansen and Christie, 1999). The immense challenge to teachers is discussed by Jansen and Christie (1999), who describe how teachers had to move from a curriculum which was racist, euro-centred, sexist, authoritarian, prescriptive, unchanging and discriminatory, to a curriculum which was outcomes-based and which had an intention to redress all the flaws mentioned above in the past curriculum. The first version of the outcomes-based education curriculum was introduced in 1997, and was named Curriculum 2005 (C2005). According to Christie (1999), this was an important step away from the content-laden, often ideologically distorted, examination-oriented apartheid curricula. She notes that C2005 emphasised 'learning by doing', problem solving, skills development and continuous assessment, and allowed greater space for teacher contributions to the curriculum. While the new curriculum was characterized by these positive features, its implementation has not been without problems.

The implementation of this OBE curriculum started in 1997 with the training of teachers in the foundation phase, starting with grade one teachers. The first round of training led to uncertainty amongst teachers, representatives of parents and also learners (Sisitka & Raven, 2001:8). Jansen and Christie (1999) report that C2005 and its implementation have been highly problematic. This was later confirmed by the curriculum review of 2000 commissioned by the Minister of Education to review the implementation of C2005 (Review Committee, 2000). One of the reasons provided by Jansen and Christie (1999) is that many teachers and other curriculum implementers have struggled to make sense of the complex curriculum language and structure. They also note that there was little consultation with teachers in the design of the curriculum, which has also led to curriculum implementation problems as teachers are not familiar with the new curriculum concepts and language. The new curriculum also introduced continuous assessment into schools, but without any teacher preparation and with minimal guidelines as to how this could be achieved (*ibid*). According to Lotz-Sisitka and Raven, (2001:8), who draw on the findings of the curriculum review (Review Committee, 2000) Curriculum 2005 was skewed, and characterized by confusions. These stem from a lack of clarity in the policy documents which were characterized by structure and design flaws with integration

being supported by 5 different curriculum design features including phase organizers and programme organizers (Review Committee, 2000). Another key issue identified was inadequate teacher preparation (Review Committee, 2000) and poor utilization of LTSM (*ibid*, Taylor & Vinjevold, 1999).

This research is hoping to address some of the issues above, particularly those linked to use of LTSM, and also those linked to the consultation of teachers which seemed to be lacking in 1998 when OBE started. According to Harley and Parker (1999) implementation of C2005 did not adequately address the crucial role of the teacher as a designer, manager and mediator of learning. Teachers were not well positioned to meet the challenge of the new curriculum, which has led to significant gaps between policy and practice (*ibid*). They (*ibid*) argue further that in most cases teachers' curriculum practices are likely to reflect tensions and dissonances which is sometimes influenced by positions or personal practices. Jansen and Christie (1999:208) in their research, discovered that teachers uniformly felt that their preparation for OBE implementation was inadequate and incomplete.

Following the review of C2005 (Review Committee, 2000), a decision was made to revise the curriculum, and a Ministerial Project Committee was appointed to revise the curriculum. This led to the streamlining and strengthening of C2005, and the development of a Revised National Curriculum Statement (RNCS) (DoE, 2002). Implementation of the RNCS was implemented in 2003 starting with the Foundation Phase, and was then introduced according to phases.

### **2.3.2 The RNCS and Outcome Based- Education**

As indicated above curriculum change in South Africa was necessary which also meant that teachers' needed to change their practice in order for them to meet the new demands for educational change, as outlined by the Department of Education. The Department of Education introduced an outcomes based system to bridge the gap between formal education and the world of work (Jansen and Christie, 1999). This curriculum envisaged all educators as key contributors to the transformation of education in South Africa and teacher education has been adapted accordingly. The *Norms and Standards for Educators Policy* (DoE, 2000) states that teachers are the mediators of

learning, interpreters and designers of learning programmes and materials, leaders, administrators and managers, scholars, researchers and life long learners, community members, citizens and pastors, assessors and learning area and phase specialists. This provides challenging new roles for teachers, who are needed to deliver the curriculum. Along with new roles for teachers, the new curriculum envisages creating lifelong learners who, amongst other things will have "... respect for the environment" and will have the ability to "... participate in society as critical and active citizens" (DoE, 2002:9)

According to Lotz-Sisitka and Raven (2001) the Ministerial Project Committee responsible for reviewing the curriculum was requested by the Council of Education Ministers to emphasise environmental education and history in the streamlining and strengthening of the curriculum. The RNCS was constituted as a streamlined curriculum with three design features only: Critical and Developmental Outcomes, Learning Outcomes, and Assessment Standards (DoE, 2002). The RNCS is still outcomes-based, and has 8 Learning Areas with 3 Learning Programmes in the Foundation Phase (see section 2.2 above).

According to Janse van Rensburg and Lotz-Sisitka (2001) both educators and political activists should work together to remove social inequalities and promote democratic values in the classroom by fostering group problem solving among students. This stresses the idea of teachers as change agents in the use of LTSM to foster environmental learning and social change in schools in the context of the RNCS.

### **2.3.3 Environment and environmental health in the Learning Areas**

The diverse environmental education processes piloted by teachers involved in the NEEP-GET research illustrates that our surrounding environments, and the meaning making and problem solving challenges within these are integral to all learning areas in schools.

(Lotz-Sisitka & Raven, 2001:70).

As indicated above, the revised outcomes-based curriculum, no longer has 'environment' as a phase organizer and environmental topics can no longer be defined as programme organizers. According to the NEEP-GET, the RNCS recognizes the importance of the environment in young children's learning in a number of different ways:

- The need for **a healthy environment** is included in the principles of the revised curriculum.
- The revised curriculum includes a range of **environmentally focused learning outcomes and assessment standards**. These form the basis of the three foundation phase learning programmes.
- The revised curriculum also emphasizes the **context of learning**. In the Foundation Phase learning programmes, the context of learning is provided by the self, the local environment, the home, school and community. Learning is, however, not only limited to local context; but includes exploration of the wider environment.

(NEEP-GET, 2003: 1)

Environmental concerns are integral to all learning areas. All the Learning Outcomes of all the Learning Areas are based on the principles of the RNCS (NEEP-GET 2004:8). One of the principles of the RNCS emphasizes the relationship between *social justice, a healthy environment, human rights and inclusivity*. This principle has been infused into all of the Learning Areas, which means that environmental education needs to take place in the context of all Learning Areas (NEEP-GET, 2005, see Table 2.2 below).

**Table 2.2 A summary of the environmental learning focus in the Learning Areas (NEEP-GET, 2005: 8)**

<b>Natural Sciences</b>	Emphasizes the importance of biodiversity and life support systems
<b>Social Sciences</b>	Emphasizes learners' abilities to identify and analyse a range of environment and development issues
<b>Life Orientation</b>	Emphasizes environmental health, and makes links between human health and environmental health risks (e.g. water pollution)
<b>Economic and Management Sciences</b>	Emphasizes sustainable development and growth, and calls for approaches to reduce waste and protect resources
<b>Arts and Culture</b>	Considers the importance of cultural and natural heritage
<b>Technology</b>	Emphasizes the importance of environmentally friendly designs, and encourages learners to investigate technological impacts on the environment
<b>Languages</b>	Develops critical literacy skills needed to analyze and address environmental issues and risks
<b>Mathematics</b>	Develops numeracy skills needed to analyze and address environmental issues and risks

According to the NEEP-GET (2005) many South African teachers are uncertain about the environmental focus in the Learning Areas, and how to teach for environmental learning. The NEEP-GET (*ibid*) recommends that a deeper understanding of the environmental learning focus in the learning areas be developed if this focus in the curriculum is to be adequately implemented. South Africa's Council of Education Ministers requested that environmental education receive special attention in the revision of C2005, making it clear that environmental learning is integral to the RNCS, and that it is an important priority in education, as is shown by its inclusion in one of the curriculum principles.

In this study I will focus mainly on the environmental focus in the Life Orientation Learning Area, given its significance in the Foundation Phase Life Skills Learning Programme (see section 2.2 above). Life Orientation has five learning outcomes and the first one is Health Promotion with four assessment standards which are related to one another. As all the learning outcomes are derived from the Critical and Developmental Outcomes, and are influenced by the principles of the curriculum, the principle focusing on the relationship between *human rights, social justice, inclusivity and a healthy environment*, is the basis of learning outcomes one and two of Life Orientation, while the others are related, and as mentioned in section 2.2 above, can be integrated with the first Learning Outcome. While the health promotion outcome (Learning Outcome 1) forms the main focus of this study all of the Learning Outcomes are relevant to this study (except Learning Outcome 5, which is only for the Senior Phase). They are:

- **Learning Outcome 1: HEALTH PROMOTION**  
The learner will be able to make informed decisions regarding personal, community and environmental health.
- **Learning Outcome 2: SOCIAL DEVELOPMENT**  
The learner will be able to demonstrate an understanding of and commitment to constitutional rights and responsibilities, and to show an understanding of diverse cultures and religions.
- **Learning Outcome 3: PERSONAL DEVELOPMENT**  
The learner will be able to use acquired life skills to achieve and extend personal potential to respond effectively to challenges in his or her world.
- **Learning Outcome 4: PHYSICAL DEVELOPMENT AND MOVEMENT**  
The learner will be able to demonstrate an understanding of, and participate in, activities that promote movement and physical development (DoE, 2002: 16-20).

The Life Orientation curriculum statement further explains that many social and personal problems are associated with lifestyle choices and high risk behaviors (DoE, 2002). It argues that sound health practice and an understanding of the relationship between health and environment can improve the quality of life and well being of learners (*ibid*). The Life Orientation Learning Area statement addresses issues relating to nutrition, diseases including HIV/AIDS and sexually transmitted diseases, safety, violence, abuse and environmental health. Learning Outcome 1 addresses the case of inclusivity as it is considering the needs of learners (DoE, 2002:7). All the Learning Outcomes in this Learning Area have a role to play in developing the environmental insights of both the learners and the teachers who, as I have mentioned above, are now seen as curriculum developers at school level. An extract from the NEEP-GET (2003:34) describes how the Learning Outcomes in Life Orientation can address environmental health concerns (see Table 2.3 below).

**Table 2.3 Specific environmental learning requirements (according to outcomes and assessment standards) for Life Orientation (NEEP-GET, 2003:34)**

<p><b>OUTCOMES</b></p> <p><b>Learning outcome 1: HEALTH PROMOTION</b></p> <p>Grade R: <i>Importance of drinking clean water and eating fresh food; Safety in home and school</i></p> <p>Grade 1: <i>Takes steps to ensure personal hygiene and links these to environmental health; Safety on route to school</i></p> <p>Grade 2: <i>Sources of clean and unclean water &amp; simple purification methods; Suggests actions to make home &amp; school environment healthier; Road safety</i></p> <p>Grade 3: <i>Participates in a recycling project; links recycling to environmental health.</i></p> <p><b>Learning outcome 2: SOCIAL DEVELOPMENT</b></p> <p>Grade R: <i>Identifies rights and responsibilities in class; Retells a story of moral value</i></p> <p>Grade 1: <i>Draws up classroom rules; sequences a story with moral value from own or other SA culture</i></p> <p>Grade 2: <i>Children’s rights and responsibilities, classroom voting; Identifies values and morals from different SA cultures</i></p> <p>Grade 3: <i>Explains leadership qualities and participates in school voting; Healthy social relationships</i></p> <p><b>Learning outcome 3: PERSONAL DEVELOPMENT</b></p> <p>Grade 1: <i>Shows and identifies different emotions, including care for other living things</i></p> <p><i>All other personal development skills associated with this learning outcome are important for learners to participate actively in interactions in their environment.</i></p>
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The RNCS is implemented by means of Learning Programmes, Work Schedules and Lesson Plans, in which activities are planned to make sure that teachers address all the Learning Outcomes for the phase, fully and effectively (DoE, 2003). In the Foundation Phase, the Life Skills Learning Programme is designed to:

... contribute to the full personal and social development of young learners, and to provide them with some of the knowledge, skills and values needed for wider social and economic development. The Life Skills Learning Programme helps learners to link school knowledge to their daily lives. It enables them to make **informed life choices**. The Life Skills Learning Programme enables learners to make sense of, and integrate things they learn at school into daily life, so that they are able to make skilled and informed life style decisions.

(NEEP-GET, 2003: 29, emphasis original).

According to Gough (1997) environmental education is a process of developing awareness, knowledge, skills and attitudes which will assist students to understand the relationships between people and their surroundings. These, he argues, are developed during the participation of learners in environmentally oriented lessons. According to the Human Science Research Council (2005), teachers should help to address the needs of learners to become active and creative citizens and realize the hopes of communities for a better life for their children. Human Sciences Research Council (no date:97) argues that early childhood development programmes that comprehensively address children's basic needs such as health, nutrition and emotional and intellectual development can foster development of capable and productive adults. Gough (1997) argues for learners being able to, as individuals, or as groups to contribute towards solving environmental problems. Through integration of an environmental learning focus in the eight learning areas, possibilities exist for learners to develop understandings, skills and attitudes which may enable them to participate in problem solving and caring for the environment in which they live. This, according to Lotz-Sisitka (2004:7) will depend on the processes which teachers in schools use to create and manage opportunities for environmental learning.

Cornbleth (1990) views the curriculum as what is happening in the classroom and as an ongoing process that comprises of teachers learners, knowledge, learning and the environment. She argues that curriculum is contextually shaped and this context is multi-dimensional i.e. it is structural (influenced by structures such as resources, curriculum

policy, availability of LTSM etc.) and also socio-cultural (influenced by local culture and social relationships). According to Janse van Rensburg and Lotz-Sisitka, (2000) it is wise for educators to realize that curriculum is a choice of story and to share the constructed nature of school knowledge with the learners. They further argue that this is important in environmental education processes aimed at helping the learners to consider alternative futures where an educator can adapt the story (the curriculum) and make it relevant to the environmental issues. Learners can also be involved in this process, and by retelling the story (what the curriculum requires of them) in their own context, learners can respond to emerging contextual issues as they experience them in their environments. Emphasising context in the OBE curriculum has helped both learners and educators to address problems associated with the use of abstract knowledge and assists learners and their communities to engage with real issues in the context where they live (NEEP-GET, 2005).

The curriculum, however, cannot only be about locally relevant contextual knowledge, so new knowledge also needs to be introduced, but this can be done in relationship to what learners already know. This study assists in the process of contextualizing learning, by emphasizing participation and interaction between learners, parents and educators as they engage in interactions, encounters and dialogue in educational processes that address or help learners to understand environmental issues that are relevant to their contexts and the curriculum outcomes (Janse van Rensburg and Lotz-Sisitka, 2000).

This introduces the idea of curriculum as praxis which I discuss next.

## **2.4 CURRICULUM AS PRACTICE**

### **2.4.1 Praxis, environmental education and the RNCS**

Praxis, according to Grundy (1987) is often related with doing, acting on practice, and then reflecting. According to Grundy (*ibid*) reflections undertaken to positively renew own practice can help to see how planning and acting can take place in a more effective way.

The understanding that education is an aspect of society and that social change is a learning process brought about by the curriculum also brings the notion of praxis to the

fore in education circles, more especially in environmental education so that learners can practice what they have learnt in context for others to learn from their practices which may contribute to bring about change not only amongst the learners, but in the whole society. This is an important factor in addressing environmental health issues and risks in society (Motsa, 2004), more especially in the rural areas where most people are illiterate (see chapter 1). Praxis favors inquiry based teaching methods, and negotiation of curriculum content with learners (Motsa, 2004). For example, in a 'learning by doing' task focusing on health and hygiene in our school, learners told the teacher that hands are washed when coming from the graves and soap is not used (Mdlungu, 2004). This indicates that learners know that hands need to be washed, but the teacher can negotiate with them the need to use soap for proper washing of hands. This engagement can assist the learners to see the need for the use of soap, whenever there is a need for the washing of hands, thus giving learners better understanding of environmental health issues.

According to Motsa (2004) praxis contributes towards change from behaviorist thinking in environmental education to a more critically oriented educational process. Through praxis-based approaches learners and parents can explore changing environmental health practices to more healthy and sustainable options. Important in this process is the process of encouraging learners to practice and improve on what they know or have already learned. Taking learners' previous knowledge into consideration will help them to share their ideas in the relevant context. This is what Cornbleth (1990) agrees with when she says that curriculum in the education field is contextually shaped and that context is both structural and socio-cultural, and that both of these factors influence and shape praxis.

The *structural* dimensions of the curriculum have been discussed in section 2.3 above. This discussion shows that education activities and processes are not only philosophical but also political. This is seen in the way that the outcomes-based curriculum in South Africa (C2005 and the RNCS) has drawn on the Constitution of the Republic of South Africa (Act 108 of 1996) to provide the basis for curriculum transformation and development in South Africa (DoE, 2002). As discussed above, this has led to the design of other structural features of the curriculum, for example the design of a new streamlined structure for the curriculum involving Learning Outcomes and Assessment

Standards, time allocations for different Learning Programmes and a new framework for teacher roles and responsibilities (DoE, 2002; DoE, 2000).

Some of the *socio-cultural* dimensions of educational activities have been discussed above, and in section 1.2, where I discussed the social context of the school. As argued above, this research project seeks also to focus on the cognitive development of the child as well as the socio-cultural and health-related development aspects of the child, while recognizing that learning takes place in a social context. This study does not only consider the socio-cultural context of the learners (the society), but also the socio-ecological context of the learners, as it focuses on *environmental* health issues, and therefore also considers the relationship between people and the environment in which they live.

In a praxis-oriented curriculum, the structural features of the curriculum interact with the socio-cultural dimensions (Cornbleth, 1990). It is at this interface that this study takes place (see chapter 4).

#### **2.4.2 Outcomes-Based Education and praxis**

There are features of the RNCS that support a praxis-oriented approach to curriculum. The Learning Outcomes and the Assessment Standards encourage learner centeredness and activity based-approaches to education where learners are seen and heard (DoE, 2002). In the discussion on Learning Outcome 1 in the Foundation Phase *Teachers Guide for the development of Learning Programmes*, the DoE (2003) states that teachers could:

... encourage learners to undertake small scale investigations into environmental or social problems that they experience on a daily basis in the local community or [with] natural phenomena. In this way, they can act in ways that contribute positively to changes in the environment.

(DoE, 2003:76)

In my experience as a teacher, the Constitution of the country has led to the development a curriculum which has made it possible for teachers to develop activities that are based in the context of the learner where learners can learn more about things

(including issues and risks) that are happening in their surrounding areas. According to Janse van Rensburg and Lotz-Sisitka (2000) teachers see the need for involving learners in their activities in class but are sometimes not able to do so. The NEEP-GET (2005) and Russo and Lotz-Sisitka (2003) indicate that LTSM can usefully support teachers and learners to undertake such activities, and in response to this, I have decided to investigate activities that teachers can do to use available LTSM to improve learner participation in classroom activities (see section 1.3). In a praxis-orientation to curriculum, "... what seems critical is whether the lesson promotes understanding of the subject being taught. Do learners attach meaning to what is being taught, and most importantly, are learners able to engage with the lesson?" (Janse van Rensburg & Lotz Sisitka, 2000:94). Russo and Lotz-Sisitka (2003) and Nduna (2003) argue that the role of the educator in using materials to mediate learning is an important consideration when using learning support materials. However, there is another dimension of a praxis-oriented approach to outcomes-based education that is significant to this study. This is the fact that a number of different departments e.g. Education, Health, Department of Water Affairs and Forestry and Agriculture have been working together to provide LTSM to support active learning in schools. Their visibility in schools and in the community and the availability of the LTSM in schools and community structures is an action that provides evidence that the state really want to see the environmental health issues and risks that exist in our areas addressed.

According to Grundy (1987) curriculum should be understood as a set of historical circumstances and as a reflection of a particular social milieu. She also further argues that curriculum is in the actions of people engaged in education i.e. how a group of people act and interact in a certain situation "...the curriculum is not simply a set of plans to be implemented but rather is constituted through an active process in which planning, acting and evaluating are all reciprocally related and interrelated in the process" (Grundy, 1987:115). This study aims to carefully monitor educators interacting at the planning workshops and how this planning, using the RNCS and LTSM plays out amongst teachers and learners in the context of classroom practice.

There are, however some challenges associated with curriculum as praxis, key amongst which is a concern that teachers are able to follow and use the curriculum policy (Jansen & Christie, 1999; Harley & Parker, 1999, Olivier & Lotz-Sisitka, cited in Janse van

Rensburg & Lotz-Sisitka, 2000). Educators often complain about poor training which is caused amongst other things by not enough time spent on teacher education, poor and / or lack of resources to implement the policy, and no follow up on training, with few practical activities done during and after training (Review Committee 2000). These research findings all present threats to implementing the RNCS. As mentioned in 2.3 above, a lack of teacher participation in resource and curriculum development activities is also a potential threat to implementing the RNCS with a praxis-orientation. Lotz-Sisitka (1999:14) views curriculum as deliberations that respond to environmental issues and risks as they arise in diverse contexts, involving activities that respond to particular learning situations in different settings. Implementing the OBE curriculum within a praxis-orientation, involves facing the challenge of changing teachers from preaching the knowledge that needs to be received by the learners to teachers becoming more reflexive practitioners who adopt a culture of learning-centred methods that enhance the participation of learners. Russo and Lotz-Sisitka (2003) and NEEP-GET (2005) argue that LTSM have the potential to assist teachers to implement more learner-centred approaches to education, if appropriately used in response to environmental issues and risks in local context.

### **2.4.3 Team planning and praxis**

According to Janse van Rensburg and Lotz-Sisitka (2000) the role of LTSM in constructing curriculum seems to have been somewhat neglected while more emphasis has been placed on establishing a model of professional development. The neglect of LTSM in implementing the outcomes-based curriculum (C2005) was noted in the President's Education Initiative report (Taylor & Vinjevold, 1999) and in the Curriculum Review (2000). In the NEEP-GET pilot research, Lotz-Sisitka and Raven (2000) noted that teachers tended to use 'easy' materials, which leads to superficial activities that do not address learning at the appropriate scope and depth, and it therefore leads to superficial learning outcomes being achieved by the learners.

In focusing on planning in this study, I have considered the need for teachers to be given opportunities to work together to draw on their expertise and the available LTSM, and to document and reflect on how the LTSM could be used within the Revised National Curriculum framework. Through phase-based planning of Learning Programmes,

teachers can secure the necessary resources and support for their classroom practices (DoE, 2003). The DoE (2003: 37) makes the following recommendation regarding the use of LTSM in the Foundation Phase Learning Programme, Work Schedule and Lesson Planning process:

Teachers are encouraged to use a variety of LTSM to address the Learning Outcomes and Assessment Standards prescribed for the Foundation Phase. While LTSM are used to support learning, teaching and assessment in the classroom, teachers must be wary of using them to replace the curriculum. The success of such material is determined by the teacher's ability to use it appropriately and effectively in the learning context. The mere presence of a LTSM in a learning activity does not automatically mean that it is an effective learning tool. Careful selection of LTSM is critical.

(DoE, 2003:37)

One of the key differences between C2005 and the RNCS is the emphasis placed on planning. The DoE have released a '*Teachers Guide for the development of Learning Programmes*' (DoE, 2003), which requires teachers to plan classroom activities more carefully to address the issues that arose with C2005 implementation, and to make the RNCS work. Planning amongst teachers can also be a constructivist process, where teachers work together on their planning, drawing on each other's knowledge and experience. The Vygotskian view of the Zone of Proximal Development (ZPD) may be helpful in observing the process of teachers' sharing knowledge (Simovska, 2005). In the ZPD teachers are challenged to learn through socio-cultural interactions and to bridge the gap between what they know at the start of the learning process, and what is known by more knowledgeable others. The new framework for planning (DoE, 2003) presents a new challenge to educators, and thus presents a potential opportunity for new learning to take place.

According to the RNCS planning for teaching in the foundation phase involves many layers or levels. The RNCS requires planning to take place in three levels, namely: Learning Programmes, Work Schedules and Lesson Plans (DoE 2003). The department notes slight changes in the methodology and content of planning in the RNCS which will improve the quality and effectiveness of teaching, learning and assessment. According to the (DoE, 2003) planning is important and must be done carefully to ensure that all the learning outcomes and assessment standards are covered for a particular grade in a school year. Planning will help to ensure that by the end of the grade learners have

achieved a certain level of understanding as required by the learning outcomes and related assessment standards.

The DoE describes the three layers as follows:

- A **Learning Programme** is a *phase-long* plan that provides a framework for planning, organising and managing classroom practice for each phase. It specifies the scope for teaching, learning and assessment for the phase ... the Learning Programme interprets and sequences the Learning Outcomes and Assessment Standards as spelt out in the RNCS into planned teaching, learning and assessment activities for a phase (the whole Foundation Phase from Grade R to Grade 3)
- A **Work Schedule** is a *yearlong programme* that shows how teaching, learning and assessment will be sequenced and paced within a *particular grade*.
- A **Lesson Plan** describes concretely and in detail teaching, learning and assessment activities that are to be implemented in any given period of time ... A Lesson Plan could range in duration from a single activity to a term's teaching, learning and assessment and, in terms of actual time, may last from a day to a week or a month. It includes HOW (i.e. teaching style, approach and methodology) teaching, learning and assessment activities are to be managed in the classroom.

(DoE, 2003:2, 3).

In this study I have concentrated on Lesson Planning and the use of LTSM in fostering environmental education processes in the RNCS to improve the way learners and educators respond to environmental issues in the area. As mentioned earlier, the research is focused on planning with the Life Orientation Learning Outcomes, but this does not avoid integration with other Learning Outcomes (as outlined in section 2.2 above).

Criticos *et al.* (2002) note that planning learners' activities is the key to helping students be successful in their learning. They indicate that educators need to establish the learners' prior knowledge in order to build classroom activities in a way that takes this prior knowledge into consideration. They further argue that the educator's job in any lesson is to engage with the learners in a process of modifying or extending their knowledge. In doing this, they are supporting a constructivist approach to learning (Moll,

2002). According to Criticos *et al.* (2002) whether in talk, reading or in writing, learners' minds need to be actively engaged on the task in hand, forming, transforming and reforming and allowing for the ideas to change and grow. This approach to learning needs to be considered in the planning process, as does the way in which LTSM can be used to scaffold and support learning (Nduna, 2003), which I discuss in a little more depth in the next section.

## **2.5 LEARNING SUPPORT MATERIAL AND LEARNING**

### **2.5.1 The role of learning teaching support material in the curriculum**

Russo and Lotz-Sisitka (2003) argue that adoption of LTSM without considering the context of their use, and selection of 'easy' materials might lead to poor and inappropriate learning. Russo and Lotz-Sisitka (*ibid*) emphasize the need for critical engagement of educators with issues associated with the use of LTSM in environmental education and also the development of reflexive orientations to the use of learning support materials. Based on this, the study aims to engage teachers in a review of how they use LTSM in lessons. Russo and Lotz-Sisitka (*ibid*) further advise that by using resource-based learning approaches the importance of LTSM in fostering environmental learning is highlighted.

Russo and Lotz-Sisitka (*ibid*), and other researchers such as Czerniewicz *et al.* (2000) and Mbanjwa (2002) provide guidance on the choice of LTSM, when they note that it is important to consider the language used in the LTSM to mediate learning by teacher to learner and in learner to learner interaction. In the case of this research learning support materials used in the study will be written in two languages i.e. English and *isiXhosa*, which ought to make it easier for the teacher to undertake the lessons using the LTSM, as most learners in the school speak *isiXhosa* as their home language. Taylor and Vinjevold (1999:176) mention that there are a number of reasons why teachers are not using the available LTSM, amongst them are the finding that teachers struggle to use LTSM because of language competence. The President's Education Initiative Study (*ibid*) found that the low levels of language competence among pupils and teachers themselves meant that they found textbooks too difficult to use or to read.

### **2.5.2 Resource based learning and curriculum praxis**

Czerniewics, *et al* (2000) view LTSM as helping teachers to implement the existing curriculum, they also consider LTSM as central to teaching and learning in OBE, and in supporting curriculum change. Resource-based learning is integral to outcomes based education and requires broader parental involvement in the education of their children as well as the participation of learners in knowledge construction involving use of LTSM and resource people. According to Russo and Lotz Sisitka (2003) new approaches to teaching and learning highlight the importance of LTSM in fostering environmental learning. They note that factors such as language used in the LTSM influence the way learners use the materials and therefore learning. Vygotsky (1975, cited in Moll 2002) views language as essential in informing thoughts and his theory emphasizes language as a social tool in processes of learning.

In this research, the following dimensions of a praxis-oriented approach to curriculum implementation will guide interpretation of the classroom interactions and the use of LTSM (resource-based learning processes):

- The learners' abilities to construct knowledge and meaning using the available LTSM,
- Learners themselves and their interest, experience and prior knowledge,
- Curriculum needs as demanded by curriculum policy in the form of Learning Outcomes, and Assessment Standards,
- The broader socio-cultural context of learning (see section 2.4 above).

In the context of my school, teachers appear to need more information about the resources that are available, and how they should align these with the curriculum requirements in order to mediate more meaningful learning and teaching. Teachers may also need to consider learning approaches and they may need to know more about the differences in their learners' capabilities to construct knowledge as this will inform the teacher of possible approaches, and how LTSM can be used in teaching and learning. This could help learners participate fully in the construction of knowledge using the resources. The interest of the teachers will be influenced by the curriculum needs of the RNCS and the environmental health issues teachers and learners are faced with in their

everyday life. The work of the teachers will also be influenced by their Learning Area expertise which, when well developed, can or will improve the abilities of teachers to produce effective learning activities in their planning (Czerniewics *et al*, 2000). As mentioned in section 1.2, I have previously observed that teachers and learners are experiencing problems in the use of LTSM at schools. Lotz-Sisitka and Raven (2001:47) support my observations when they say "... it is however not only the accessibility of learning support material but teachers and learners ability to use resource materials, and the difficulty of providing accessible, adequate learning support materials in eleven different languages that are of concern". This has implications for curriculum praxis. Russo and Lotz-Sisitka (2003) recommend that the use of language, context, meaning making, and planning the use of LTSM are important to enable meaningful learning with LTSM. They (*ibid*:10) note that "... valuable lessons have been learnt over the past ten years, key amongst them being the manner in which participatory orientations to learning support materials development enables materials to become relevant to learners and responsive to context".

#### **2.5.4 Accessing and using LTSM for environmental education**

As mentioned earlier, the Department of Education, Health, Water Affairs and Forestry and others are working together to address environmental issues in society. There are many different LTSM available in these Departments and organizations (NEEP-GET 2004, Nduna, 2003). Many of these have not been used by most teachers in the rural areas, despite the fact that they are really useful and relevant to the Learning Outcomes of the new curriculum (*ibid*).

Since 1994 the state has inherited racially based and urban-rural inequalities from the apartheid era. These call for redress and transformation which could be made possible if teachers planned more carefully, and consulted other departments for available resources. The Department of Education is currently not supplying enough LTSM to schools (for both, learners or teachers), and teachers in the rural education study conducted by the Human Sciences Research Council (2005) stated that LTSM are their greatest need. Adequate orientation on the use of LTSM is also needed.

According to Asmal (1999) cited in Czerniewicz *et al.* (2000) it is important that the quality of the resource materials is worth the large sums of money that have been spent on LTSM, and that they will be relevant for the Learning Outcomes that learners are supposed to achieve. According to Czerniewicz *et al.* (2000) the pressure in South Africa on decreasing the expenditure on non personnel items e.g. classrooms, textbooks, stationery, equipment, water, school maintenance etc. has affected the poorer provinces more seriously than the wealthier ones as the number of learners has actually increased, while expenditure on these items has decreased.

It is important that teachers acquire the skills required to analyze, interpret, synthesize and organize information, as well as the language and communication skills of reading, writing, viewing, speaking and listening necessary to work effectively with LTSM (Czerniewicz, *et al.*, 2000). These authors (*ibid*:11) argue further that use of LTSM requires "... carefully planned activities progressively linked in well structured learning programmes, without which learning may be arbitrary and superficial". Learners' attitudes to learning with LTSM also need to be changed as the LTSM require new skills and approaches and high levels of literacy in the language of learning and teaching (LoLT).

All of these factors mentioned above are important for both learners and teachers who are engaged in the process of knowledge construction through the use of LTSM in the context of curriculum change described above. Czerniewicz *et al.*, (2000: 20-21) have identified important points about LTSM in the curriculum. The important points that seem to be relevant in my work context are:

- Adequate LTSM are essential to the successful implementation of the curriculum,
- LTSM should be viewed as an integral part of curriculum development and as means of promoting both good teaching and good learning,
- LTSM are envisaged as including support materials for teachers as well as learners encompassing the principles and practice of the new curriculum,
- LTSM should empower practitioners to run learning programmes in a flexible, dynamic and learner-centered manner.

According to the Human Sciences Research Council (2005: 84), teachers cited lack of teaching aids, poor infrastructure, lack of cooperation by both learners and teachers and shortage of teachers as the elements that are contributing towards poor quality of

teaching and learning in rural schools. Russo and Lotz-Sisitka (2003) further argue that it is only in using the materials in teaching and learning interaction, that the materials become useful and meaningful as it can be used differently by many teachers and learners in different settings. The point made by the DoE (2003:37) that availability of LTSM does not necessarily contribute to quality learning and teaching is significant here. According to the Human Sciences Research Council (2005: 84), learners reflected that they need teachers to organize games, use charts and experiments and also make sure that they concentrate on each learner when teachers are teaching.

According to Mbanjwa (2002) one needs to consider the learners prior knowledge in the planning and use of materials when learning interaction takes place. In his case study research Mbanjwa (*ibid*) involving the development and use of LTSM, he provided the Foundation Phase educators with suggested questions which encouraged the educators to ask learners to work in groups, and which also encouraged learners to mobilize prior knowledge. Mbanjwa's research (*ibid*) is relevant to this study as he states that it has been revealed in many studies that in some cases educators do not use learning support materials. His research suggests that research needs to be done to find why some teachers are not using textbooks even when they are available in their institutions (*ibid*). From all the studies done about and on the LTSM it seems that there is a need to support educators to use the LTSM for better teaching and learning. Baxen and Green (cited in Mbanjwa, 2002) report that LTSM are used to access existing knowledge on the given topic, and not to develop conceptual understanding of the topic. Mbanjwa says that he used useful insights in a study conducted by Murray and Wilmot (2000) on the use of LTSM. The Murray and Wilmot study (2000, cited in *ibid*) influenced my study, as educators in this study also used learning support materials to plan their lessons and find answers from the textbook.

Macdonald and Langan (cited in Vinjevold, 1999) found that the low levels of language competence among pupils meant that they found text books difficult to use. Macdonald and Langan also found that some educators have poor levels of reading skills and that this caused misunderstandings of texts and an inability to interpret maps and signs. Smith (cited in Mbanjwa, 2002) also notes that teachers' subject knowledge, reading levels and language competence might be one of the causes for teachers not to have an interest in the use of textbooks.

Nduna (2003) in her study notes that educators need to understand the mediation role of the educator and the Department of Education's new expectations of educators, particularly as these relate to the use of LTSM to support teaching and learning. Educators should also become familiar with policies relating to the use of LTSM.

## **2.5 CONCLUSION**

This chapter has presented an overview of the broader context in which this interpretive case study of team-planning and LTSM use in grade two and grade three classrooms took place, in an attempt to enable curriculum praxis. It has highlighted some of the local influences that shape the research, particularly environmental health issues and risks. The chapter has also reviewed educational policy changes in South Africa, and how these have created new frameworks and expectations of teachers. It has highlighted the opportunities for environmental learning in the Foundation Phase by examining the new curriculum structure. As the focus of the study is on planning and LTSM use, the chapter has also reviewed issues associated with planning, and LTSM. At the heart of this research, however, lies an interest in making the curriculum work in context, or enabling curriculum praxis, and I have reviewed literature on approaches to curriculum praxis.

As shown by the extensive reference to research conducted on the use of LTSM in South Africa in the context of environmental learning in curriculum, this study draws on studies from, and has been encouraged by previous studies conducted by Mbanjwa (2002), Nduna (2003), Lotz-Sisitka and Russo (2003) and Lotz-Sisitka and Raven (2001) as well as broader studies on the implementation of C2005 and the NCS, particularly the work of Taylor and Vinjevold (1999), Jansen and Christie (1999), the Review Committee (2000), Czerniewicz et al. (2000), and more recently the Human Sciences Research Council (2005), which reviews educational change in rural areas. All of these studies have provided useful insights into the research topic.

In the next chapter I will discuss the research design decisions that have guided the generation of data for this study. I also discuss the data analysis process that I used and discuss trustworthiness and ethical issues that I have considered in the study.

## CHAPTER 3

# RESEARCH DESIGN

### 3.1 INTRODUCTION

In this chapter I describe the research design decisions I made to guide this study and the methodology I applied in the study. The explanation gives a clear view of how the study focused on the way teachers used LTSM from the lesson planning stage, through to the actual classroom presentation, followed by reflections on their practice.

The research design decisions were influenced amongst others by Bassey (1999) and I followed his stages of research design which are as follows:

- Stage 1: Identifying the research as an issue, problem or hypothesis.
- Stage 2: Asking research questions and drawing up ethical guidelines
- Stage 3: Collecting and storing data.
- Stage 4: Generating and testing analytical statements.
- Stage 5: Interpreting or explaining the analytical statements.
- Stage 6: Deciding on the outcome and writing the case report.
- Stage 7: Finishing and publishing the report.

In chapter 1 and 2 I provided the background to the research question (stage 1 and 2). This chapter explains how I conducted stages 3, 4 and 5 of the research process, as well as how ethical guidelines were established for the study (included in stage 2). Chapter 4 presents the research findings which provides the basis for interpreting and explaining the analytical statements discussed in chapter 5. Chapter 4 and 5 constitute stage 6 and 7 outlined above.

### 3.2 RESEARCH DESIGN AND METHODOLOGY

I originally planned to undertake a participatory action research case study as I wanted to involve teachers in a participatory research process that would improve performance

and participation of both learners and teachers in classroom activities and teachers in lesson planning using LTSM for mediating learning and teaching (Carr & Kemmis 1986). Given the scope of the study, it was not possible to implement a full participatory action research process, and I subsequently decided to conduct the research as an interpretive case study.

Stake (1978, cited in Gomm *et al.*, 2002) states that an inquiry is carried out with the expectation that certain audiences will benefit, not to swell the archives, but to help persons towards further understanding. In my case teachers involved in the research were able to develop understanding of the importance of team planning using LTSM and the importance of using LTSM in classroom activities to improve the quality of learning and teaching in order to address environmental health issues (see chapter 4 and 5).

By investigating a case focusing on the use of LTSM I hope to address some of the problems surrounding LTSM use in the school (described in chapter 2). The case therefore included a focus on identification of problems that contribute to the neglect and or sometimes poor use of LTSM (see chapter 2). It was also set up to allow discussion on the contextual problems surrounding the use of available LTSM in the classroom, as Russo and Lotz-Sisitka (2003:12) argue that the adoption of LTSM without considering the context of its use might lead to poor and inappropriate learning.

The history and context of LTSM use in the school (see chapter 1 and 2) shaped a decision to start the research with a workshop or a planning meeting where teachers could discuss and choose LTSM considering the Learning Area, Learning Outcome and the Assessment Standards to be achieved. As Bassey (1999:9) notes "... interpretive researchers recognize that by asking questions and by observing they may change the situation they are studying". According to Conole (1993) an interpretive study is done to discover the meanings and beliefs underlying the actions of others. She further argues that the integrity of the findings in interpretive research depends upon the quality of the social, linguistic and cognitive skills of the researcher in the production of data analyses and conclusions.

According to Yin (1993: 40) case studies have frequently been used by experienced investigators in education for "... analyzing educational innovations, implementation of

the federal aid-to-education policy, investigating excellence in high schools and for documenting evaluation findings in education". He further argues that all these and other examples of the use of case studies have produced important data and ideas and have helped to advance educational research. He presents a similar framework for designing case studies to the one outlined above, and argues that if these guidelines for case study designs are followed the one who is using it, is likely to succeed in the study. According to Dillon and Maguire (1997:26) case studies are frequently used in environmental education to illustrate applications of theories in practice as well as being used as potentially generalisable examples in research reports and advisory texts for teachers. Case study research can investigate processes in the real world rather than in artificially created settings (Gomm *et al.* 2002).

A case study can be used in classrooms and workplaces and it can be used to develop new theory or improve and evaluate existing professional practice and how to manage change more effectively (Hitchcock & Hughes, 1995).

For this study I have considered what Maxwell (1996: 289) describes as interpretive validity which is mostly appropriate for interpretive research which seeks to comprehend not on the basis of the researchers perspective and categories but from those of the participants in the case studies.

### **3.3. DATA GENERATION TECHNIQUES**

In this case all the Foundation Phase teachers at my school were initially involved in deciding on the LTSM to be used in order to achieve certain Learning Outcomes (to be chosen by the teachers). All the Foundation Phase teachers were involved in the planning of the classroom activities. After this planning meeting an interview with two of the teachers was held to probe teachers' reflections on the workshop.

The practice of two Foundation Phase teachers (grade 2 and grade 3) was the subject of observations, so I observed the classroom activities that were selected for more in-depth interpretation, based on the planning. 3 lessons were observed in each of the grade 2 and grade 3 classrooms. Data generated during the observations included lesson plans, learners' work, observation notes, and photos taken during the sessions. This was

supplemented and extended by the data generated in a workshop, and in interviews and focus groups conducted with teachers.

To achieve the aims of the research I used five data generating techniques. Amongst the methods that I used are:

- Workshops for planning
- Interviews
- Focus group interviews
- Observations
- Document Analysis

These are discussed in more detail below.

### **3.3.1 Workshops**

One workshop was held at the start of the research. During this workshop Foundation Phase teachers looked at the materials i.e. charts and textbooks sent by the Department of Water Affairs and Forestry and by the Department of Education. I did not choose the books and the materials (charts) used in the workshop but asked teachers to bring materials. Teachers then selected materials taking into consideration the Learning Area Outcomes and Assessment Standards that address environmental health issues. Teachers decided in the workshop to use the Life Orientation Learning Area and that Learning Outcome 1 and 3 would be an appropriate focus. Lesson plans were written in English though during the session teachers were free to use what ever language they felt comfortable to use.

According to Hope and Timmel (1986, cited in Lupele 2002) workshops have become common methods in strategic planning of community mobilization processes and provide insight for professionals (Lotz, 1996). I used inquiry based workshops where I have followed a process of inquiry. As outlined by Fortuno (2002, cited in Lupele 2003), I identified a problem focusing on the use of LTSM and planning. I asked teachers to bring LTSM they were using for their lessons so that they could analyse them according to the Learning Outcomes and Assessment Standards at the planning workshop.

During this workshop senior phase teachers were asked to take notes on what was happening during the workshop, this helped me to ensure that field notes were accurate. I used their notes to triangulate my own observations during the workshop. These were combined to produce a workshop record (see Appendix 4).

### **3.3.2 Focus group interviews**

I used focus group interviews to help to identify teachers' strengths and weaknesses in planning using the RNCS. I also probed their experience of using LTSM in the planning process and planned that I will do a focus group interview and teachers suggested that it should be an ordinary interview. A focus group interview was held at the end of the lesson 3 on both classes (see Appendix 9), and after the last of the lessons had been taught. According to Patton (2001), in focus group discussions it is not important for people to agree or disagree but rather to get high quality data in social context involving the views of others. He further argues that interaction amongst the participants enhances data quality and provides checks and balances, which 'weed out' false or extreme views (*ibid*).

Krueger and Casey (2000: 4) views focus groups as a special type of a group in terms of purpose, size, composition and procedures. The purpose of a focus group is to listen, and gather information. It is a way to further understand how people feel or think about an issue, product, or service. It is the responsibility of the researcher to create a permissive environment in the focus group that encourages participants to share perceptions and points of view, without pressuring participants to vote or reach consensus.

### **3.3.3 Document analysis**

During the planning workshop teachers discussed Lesson Plans for use in the Foundation Phase classrooms. Teachers also analysed the available LTSM comparing them with the curriculum policy. All the activities that were developed were discussed in the planning workshop taking into consideration stages of progression as laid down by the RNCS policy document (DoE, 2002, see chapter 4). I analysed these Lesson Plans to see how teachers plan using LTSM (see Appendix 12). Learners' work generated in

the six lessons, was used in the data analysis process. This helped me to see how the learners use LTSM in the classroom. I analysed all LTSM used by the teachers and learners, to gain further insight into the use of LTSM, and the links between planning and use.

### **3.3.4 Participant observation**

As noted above, I was involved in the process, and I have therefore been a participant observer in all the stages of the study. Jorgensen (1989, cited in Nduna, 2003) states that participant observation is especially appropriate for exploratory studies aimed at theoretical interpretation. Observation was an important method in this research as I was a participant observer in the lesson planning workshop and in the classroom activities that were undertaken by the individual teachers. My role was different in the two settings. In the workshop I was a more active participant observer, and I was fully involved in the workshop. In the classroom observations, I was less involved in the activities taking place, and was able to observe activities without being active in the lessons, although I did make some comments, and I did discuss things with the teachers.

When observing, the researcher has the opportunity to look at what is taking place in the particular situation rather than getting second hand information. To enhance the validity of my observations I also made use of 'critical friends' during the observations, who helped me to take notes of what was happening. I also used a diary to capture field experiences as suggested by Lincoln and Guba (1985). Observations included both oral and visual data. Cohen and Manion (2000) note that writing down details in the field notes is an important strategy. Audio-visual recordings can also be undertaken. I observed (taking my own notes, and taking photographs) and someone else was also taking notes. The activities done during the lessons were observed using an observation schedule adapted from Nduna (2003) (see Appendix 1a and b). An observation schedule was filled in during and after each of the six lessons undertaken in the classrooms.

According to Winston (1995) for a participant observer to be successful in a study, the observer needs to join the groups being observed for an extended period. He further argues that in participant observation the researcher may be living with the group and is

involved in the daily lives of its members. In the case of my study I am involved in the working life of the teachers I am observing (see section 1.2). Hopkins (1993: 77, cited in Nduna 2003) states that observations in educational research play a crucial role, not only in classroom research but in supporting the professional growth of teachers.

### **3.3.5 Interviews**

Individual interviews with teachers were conducted after the planning session and after the first lesson. After the second lesson the observation tool was used by the researcher with the teacher helping to generate reflective inputs. This helped to extend the observations and after the third lesson a focus group interview was used after the lesson observation (see section 3.3.2 above). The interviews included some questions about what actually took place during the lessons and the planning workshop (see Appendix 6a-f & Appendix 7). Interviews can be unstructured with a starting point and an objective but no set agenda of questions. In this scenario, the interviewer is free to follow where the interviewee leads her to as long as it is within the general framework (Mc Niff, et al.1996:101 The teachers involved felt that it would be appropriate if I prepared formal interview questions at different times as long as I showed them the recording of their responses. This helped me decide on how I should conduct the interviews as it was not easy for me to decide for them. I therefore used semi-structured interviews (see Appendix 9).

When I was doing the interviews I had a tape recorder but unfortunately it did not work for the whole interview period. The part that was taped did however help me to document some of the interviews in detail. I kept field notes so that I did not lose too much data when the tape recorder did not work. After the interviews I gave the teachers their responses so that they could read them to make sure that I was not misinterpreting them. This helped me to clarify meanings and to remove misinterpretations and this provided more quality and validity to the data.

After I finished with the data collection I managed to code the data, and I organised it using these codes, to make the analysis easier. The data sources are all included as appendices to the study, to provide evidence of the research process.

**Table 3.1 Appendixes (data sources) and their codes, as used in the text**

Appendix	Codes	Description of data sources
1	None	A letter to the foundation phase teachers
2	None	A letter to the Foundation Phase teachers that participated in the research.
3	None	A letter to the School Governing Body
4	LPN	Workshop Lesson Plan Notes
5	LP	Lessons planned
6a	Obs 1a	Observation 1 - Teacher 1, Lesson1
6b	Obs2a	Observation 2 - Teacher 1, Lesson 2
6c	Obs3 a	Observation 3 - Teacher 1, Lesson 3
6 d	Obs1b	Observation 4 - Teacher 2, Lesson 1
6 e	Obs 2b	Observation 5 - Teacher 2, Lesson 2
6f	Obs3b	Observation 6 - Teacher 2, Lesson 3
7a	Obs tool	Observation tool - Teacher 1, Lesson 2
7b	Obs tool	Observation tool - Teacher 2 , Lesson 2
8a	Int 1a	Interviews Teacher 1 - done after Lesson Plan.
8b	Int 2a	Interviews teacher 1 - done after Lesson 1
8c	Int1b	Interview Teacher 2 - done after Lesson Plan
8d	Int2b	Interview Teacher 2 - done after Lesson 1
9	FG	Focus group Interviews - done after Lesson 3
10	None	All LTSM used during the Lessons
11a	LW 1a	Learners work done during Lesson 1, Teacher1
11b	LW 2a	Learners work done during Lesson 2, Teacher1
11c	LW3a	Learners work done during Lesson 3, Teacher 1
11d	LW 1b	Learners work done during Lesson1, Teacher 2
11e	LW2b	Learners work done during Lesson 2, Teacher 2
11f	LW 3b	Learners work done during Lesson 3, Teacher 2

### 3.4 DATA ANALYSIS

According to Patton (1990) there are no straightforward tests and rules of data analysis in qualitative research that can replicate the researcher's analytical thought process. The process of data analysis started with the planning workshop data. I have used colored stickers to code all the data that I have collected during the planning stage, during the classroom activities and also during both interviews and during the focus group interviews.

Lesson planning documents were developed during the planning workshop for use in the Foundation Phase classrooms (Grade 2 and 3) in all the 6 observation lessons of the research. I developed categories and subcategories from the data I collected, through a

process of comparing and triangulating the data from different sources. According to Yin (1993) one would be more confident in saying that the event actually took place if the study showed that information from interviews, documents and own observations all pointed in the same direction.

I initially developed the following categories and sub categories. These formed the basis for reporting the process that took place (see chapter4).

**Table 3.2 Categories and sub categories identified in the data**

<b>Categories</b>	<b>Sub categories</b>
1. <b>Lesson planning</b> (see section 4.2)	<ul style="list-style-type: none"> <li>• Discussions during planning</li> <li>• LTSM used during lesson planning</li> <li>• Lessons planned</li> <li>• Knowledge about Learning Area and curriculum.</li> </ul>
2. <b>Using the LTSM</b> (see section 4.3)	<ul style="list-style-type: none"> <li>• LTSM used</li> <li>• Activities done</li> <li>• Learners work and interaction with the LTSM</li> <li>• Evidence of learning (knowledge, skills and attitude).</li> </ul>
3. <b>Teacher reflections</b> (see section 4.4)	<ul style="list-style-type: none"> <li>• Working together</li> <li>• Learning</li> <li>• Availability of materials and curriculum relevance</li> <li>• Planning process</li> <li>• Language used in the LTSM</li> </ul>

After I had developed the categories and the sub-categories I used colored stickers to further code the data. I then developed an analytic memo for each category, which helped me to organize the data (see Appendix 12). I used these to write Teacher 1's story and then Teacher 2's story (presented in chapter 4). I used gold for the first category, orange for the second category and green for the third category.

After presenting the data according to these categories and sub-categories in the data analysis process, I identified a number of analytical statements (as described by Bassey 1999), which I used to provide to further interpret and discuss the findings of the research in Chapter 5. These are as follows:

- Analytical statement 1: LTSM contribute to planning of classroom activities

- Analytical statement 2: LTSM contribute to teachers' knowledge of learning outcomes and of environmental health issues
- Analytical statement 3: LTSM assist with the achievement of Learning Outcomes and Assessment Standards
- Analytical statement 4: LTSM improve learner participation
- Analytical statement 5: LTSM change the intended teaching activities
- Analytical statement 6: Assessment was neglected in team planning and in LTSM use
- Analytical statement 7: Team planning contributed to the use of LTSM
- Analytical statement 8: LTSM and team planning contribute to curriculum praxis.

These were used to provide more in-depth interpretation of the data. These analytical statements are discussed in Chapter 5 and form the basis for the study's recommendations, presented in chapter 6.

### **3.5 VALIDITY AND TRUSTWORTHINESS**

I used triangulation as a key method of data validation, as I used more than one source of data as described by Lather (1986). Denzin (1970, cited in Cohen & Manion, 2000) suggested investigator triangulation where more than one observer is used as a data validating strategy. Cohen *et al* (2000) further say that the careful use of two or more observers or participant observers or participants independently, therefore, can lead to more valid and reliable data. I have used more than one person to record data during the planning workshop. I took all the notes, read them and recompiled them and gave them to one of the participants to ensure that I had systematized them correctly. I also checked my interpretations of teacher interviews with the teachers to ensure face validity (Lather, 1986), and encouraged teachers to reflect on their own lessons to ensure that I was not the only one interpreting and reflecting on the lessons.

Yin (1993:40) talks of internal validity and external validity. One can achieve internal validity "... through the specification of the units of analysis, the development of prior rival theories [in my case I used analytical statements] and the collection and the analysis of data to test these rivals theories". In the study I collected data, analysed it

helped by the participants in the research to make sure that there were no misinterpretations of the data I collected.

### **3.6 ETHICS**

Bassey, (1999:730) mentions three things to refer to when considering ethics in case study research, which I considered in this study:

- Respect for democracy: Researchers can expect freedom to investigate and freedom to ask questions, freedom to give and to receive information.
- Respect for truth: Researchers are expected to be truthful in data collection, analysis and the reporting of findings.
- Respect for persons: Researchers, in taking data from persons should do so recognizing those persons initial ownership of the data and also respect them and their rights as human beings.

I negotiated access with the school governing body, educators and participants who were part of the research (See Appendix 1, 2 and 3). According to McNiff, *et al* (1996) one needs to be absolutely honest about what one plans to do and if during the course of the project the initial plans change, one should inform the manager. I was honest with the teachers about the research aims and purpose, and also why the study was being done. I informed participants of their right to withdraw whenever they felt uncomfortable. I explained that I have ensured the confidentiality of data by referring to teachers as 'Teacher 1' and 'Teacher 2' in the study so that their names would not be used.

I was also aware of the fact that I was the principal of the school, and that I held a powerful position in the school and community. Although it is my ethical duty and obligation to the learners and parents to make sure that effective learning and teaching takes place in the school, I had other ethical obligations in the research process. These included the need for me to respect the rights of the teachers and the learners to participate or withdraw from the research. I therefore carefully negotiated their participation in the process with them, and assured them that they could withdraw at any time.

### **3.7 CONCLUDING SUMMARY**

This chapter describes the research design. It indicated that I have used Bassey's (1999) framework to design the research. I discussed the reasons for undertaking an interpretive case study, and I described the data generation techniques that I used in the study. I also described the data analysis approach and outlined the categories I developed from the data, and the analytical statements. I then discussed validity and trustworthiness, and how I dealt with ethical issues.

In the next chapter I share the results of the analysis. I do this by discussing the observations conducted in the Grade 2 and Grade 3 classrooms separately to ensure 'thick description', which Bassey (1999) recommends in case study research.

## CHAPTER 4

### PLANNING AND TEACHING LESSONS USING LTSM

#### 4.1 INTRODUCTION

In this chapter I explain the process of team based lesson planning and the use of the LTSM to mediate environmental learning in Grades 2 and 3 as informed by the Revised National Curriculum Statement (RNCS). In this process I worked with Foundation Phase teachers, but for the purpose of this study I have chosen to work intensively with only two teachers (Grades 2 and 3) and we have concentrated on the Life Orientation Learning Area as the focus area of this study, (see chapter 1 & 2) it has a strong focus on environmental health issues in its Learning Outcomes and Assessment Standards (see chapter 2).

Through 'thick description' I explain how the two teachers planned together using LTSM and how they used the LTSM in all three lessons (in each class) which I observed.

In describing the process of team-based lesson planning and the use of the LTSM, I draw on data generated in workshops, lesson plans, interviews, observations and the focus group interviews (see section 3.3.2). As mentioned in Chapter 3, the research is reported as an interpretive case study.

This chapter presents, in detail, the process followed by the two teachers. In chapter 5, this process is discussed in more depth presenting a more in depth analysis, in relation to the research question.

I firstly present the lesson planning process (section 4.2), after which I discuss the activities undertaken by each teacher in the three lessons they planned, reporting on the use of LTSM in each lesson (section 4.3 and 4.4). I also discuss the reflections of teachers, and the observation reflections which I shared with the teachers (section 4.5). Chapter 4 therefore focuses on the planning and lesson implementation processes.

## **4.2 LESSON PLANNING**

In this section I report on the team-based lesson planning discussion, on the Learning Outcomes selected, and on how teachers worked with LTSM during their planning. I then discuss and present the activities that were planned, and report on teachers Learning Area knowledge.

### **4.2.1 What the teachers discussed during the planning session**

The data reported here is drawn from a workshop (Appendix 4) where teachers reviewed LTSM relevant to the Life Orientation Learning Outcomes and planned how this material could be used to develop activities for the expected Assessment Standards for the Learning Outcomes (Appendix 8a and 8b )

In the workshop we had the following documents:

- All the policy documents for the RNCS,
- Copy of Readers for both languages,
- Copy of all available books for the Life Orientation Learning Area, and
- All the charts that teachers had (Appendix 4).

In this workshop we discussed causes of poor use of LTSM in our school. Amongst many points that were discussed were:

- That the LTSM, more especially charts, were not easy to keep at school because of the lack of furniture and poor infrastructure. (This means that the teachers leave the LTSM at their homes and the LTSM are therefore not available during teaching times.)
- All teachers in this discussion agreed that if they plan in advance for the learner's activities, they will know which of the LTSM they should bring to school in order for it to be accessible to learners during the teaching and learning activities in the classroom.
- Teachers felt that they needed proper training on the use of new materials.

- Teachers agreed that they should go through the LTSM when they is supplied to him or her.
- They also stressed the need for enough materials for all the learners (Appendix 4).

In this workshop we also discussed the Learning Outcomes we were to concentrate on and also the LTSM we were going to use in order to address the intended Assessment Standards (Appendix 4).



**Figure 4.1 Foundation phase teachers at the planning session with the senior phase teachers taking notes**

#### **4.2.2 How the LTSM were used during planning**

Teachers mentioned that they need to bring the LTSM to school when planning. They also noted that when planning, the teacher needs to go through the LTSM to identify Learning Outcomes that can be covered and to identify which LTSM need to be adapted to suit the desired or intended outcome (Appendix 4). This indicated that LTSM were

able to provide teachers with suggestions of activities that could be undertaken in the classroom.

In the workshop it became apparent that teachers thought that environmental education meant something new since there is no Learning Area with the name environmental education (Appendix 4).

Teachers have previously done environmental education activities in Nature Study, in extra curricular activities and in Handwork. Some teachers commented that they were not aware that they were teaching environmental education activities when teaching about cleanliness. "I am sure that Life Orientation has more environmental education activities in this book" (4.2.1), said Teacher 1 when looking through a book which was used in the planning.

Teachers discussed the integration of the Learning Outcomes, of Assessment Standards and also the integration of the Learning Areas (4.2.1). Teachers discussed how charts written in *isiXhosa* and English, meant that Life Orientation topics could, in actual classroom practice, be used to teach Learning Outcomes such as reading, listening, discussion and retelling, from the Languages Learning Area. This indicates that environmental learning can take place in Life Orientation lessons and also in Language lessons if they are planned in an integrated way. Water pollution was discussed, as was ways of avoiding water pollution. Relevant LTSM that will address water pollution and diseases that develop because of water pollution were considered for use in lessons. Teachers indicated that the aim of a lesson could be to look at the ways of polluting water and in turn how one can go about purifying water (4.2.1).

Teachers examined how the materials matched the Learning Outcomes, and this helped them to develop activities and to concentrate on environmental health issues. Teachers discussed how they would deal with the issue of insufficient LTSM and they suggested group work strategies and sharing the materials in pairs (4.2.1).

Teachers also consulted the policy document that provided guidance on the Learning Outcomes and identified the Assessment Standards that needed to be achieved in the Foundation Phase. They checked the available LTSM, and each teacher shared what materials she had. The LTSM provided guidance on activities and teachers considered

how to use them, for example: “Learners will read from the given LTSM. They will discuss what is in the picture and how relevant it is to own context. The sources of water from the chart can be compared with the sources of water in their real life situations”.  
(4.2.1)

Teachers also discussed the clustering of Assessment Standards in relation to the activity ideas they were generating with the LTSM. They indicated that Assessment Standard 1, Assessment Standard 2 and Assessment Standard 3 for Learning Outcome 1, (see appendix 10) can be easily clustered, if they were to use readers supplied by the government and the charts that are developed by DWAF. From the discussions it seemed that they were surprised by the way the material was relevant to the Learning Outcomes and the Assessment Standards, especially for the Foundation Phase. This indicated that the teachers had not previously used most of this material in classroom activities. They were sure that the Foundation Phase learners would enjoy working with bright charts and books written in their own language. They also discussed the need for the teachers to choose bright attractive LTSM for the Foundation Phase so as to attract the interest of the learners to use the material. Teachers also felt that the colors used in the material would help them (teachers) to integrate the Learning Outcomes and also the Learning Areas, as young learners needed to learn new vocabulary, and also identify and recognize colors (4.2.1).

Teachers also discussed the activities that could be demonstrated by the learners when they used the LTSM. They also discussed that almost all the LTSM that they have are based on environmentally oriented activities but teachers were not aware of this when they were (for example) warning learners not to swim in the river as it may be a danger to their health, and that the swimming may pollute the water that is used by other people for drinking purposes. Teachers also discussed the vocabulary used in the materials, for example, they indicated that instead of the learners seeing the word ‘JIK’ in the LSTM they suggested the alternative of using ‘JIK’ or ‘BLEACH’. They discussed that the assessment would need to be done in groups, given that there were not enough materials for all the learners in the class (4.2.1).

All the activities that were discussed and or planned were drawn from the LTSM, and teachers discussed the possible links to the previous knowledge and experience of the learners.

#### 4.2.3 Lessons planned by the teachers

Following the discussion on LTSM, as outlined above, the two teachers planned the following lessons, which drew on or were based on the following LTSM:

**Table 4.1 Lessons planned by the teachers and LTSM used in the planning session**

<b>Teacher 1 (Grade2)</b>	<b>Teacher 2 (Grade3)</b>
<p><b>Lesson 1:</b> Water pollution and health  <b>Assessment Standards:</b> Describes sources of clean and unclean water purification methods.</p> <p><b>Learning Outcome:</b> LO 1: Health Promotion: The learner will be able to make informed decisions regarding personal, community and environmental health  <b>Assessment Standard:</b> AS 1 Describes sources of clean and unclean water purification methods.</p> <p>LTSM used in planning: Charts and readers</p>	<p><b>Lesson1:</b> Recycling</p> <p><b>Learning Outcome:</b> LO 1: Health Promotion  <b>Assessment Standard:</b> 2 Participates in a recycling project, and explains how recycling contributes to environmental health.</p> <p>LTSM used in planning: Chart developed by DWAF</p>
<p><b>Lesson 2:</b> Purification of water  <b>Learning Outcome:</b> The learner will be able to make informed decisions regarding personal, community and environmental health.  <b>Assessment Standard:</b> Describes sources of clean and unclean water purification methods.</p> <p>LTSM used in planning: Vegetable chart by Chart studio</p>	<p><b>Lesson 2:</b> Eating healthy food  <b>Learning Outcome:</b> Health Promotion  <b>Assessment Standard:</b>1 Compares healthy and poor dietary habits and describes the effects of such habits on personal health</p> <p>LTSM used in planning: Chart developed by Chart studio</p>
<p><b>Lesson 3 :</b> Safety crossing at a robot  <b>Learning Outcome:</b> The learner will be able to make informed decisions regarding personal, community and environmental health  <b>Assessment Standard:</b> Identifies road signs relevant to pedestrians, and explains their meaning.            LTSM used in planning: Uvimba reading books</p>	<p><b>Lesson3:</b> Telephone numbers for a social purpose.  <b>Learning Outcome:</b> Health Promotion  <b>Assessment Standard:</b> 4 Identifies relevant people and their contact details, to report cases of accidents, abuse, crime, fire, illness and injury</p> <p>LTSM used in planning: Life Skills for one and all</p>

A more detailed outline of these lesson plans is provided below:

**Table 4. 2 Lesson Plan prepared by the Grade 2 teacher (Teacher 1)**

**LESSON PLAN - GRADE 2 (Prepared 26 APRIL 2005)**

**LIFE ORIENTATION LEARNING OUTCOME 1: HEALTH PROMOTION** – The learner will be able to make informed decisions regarding personal community and environmental health.

**ASSESSMENT STANDARD:** Describes sources of clean water and polluted water and simple water purification methods.

**ACTIVITIES:**

- Learners will mention the sources of clean water e.g. taps, tanks, windmill, fountain e.g.
- They will mention the sources of unclean water e.g. dams and rivers
- What makes water unclean? e.g. cows, washing, swimming in the river, toileting next to the river.
- Reading from the book – learners
- How would we purify water? Jik, cement, lime and by boiling water.
- Learners will draw and color these sources of water.

By purifying water we protect diseases such as diarrhea, Tuberculosis and cholera.

**ASSESSMENT STANDARD 4:** Identifies road signs relevant to pedestrians and explains their meaning.

**INTEGRATION:**

- Learning Outcome 3 of Home Language: **READING AND VIEWING** - The learner will be able to read and view for information and enjoyment and respond critically to the aesthetic, cultural, and emotional values in texts.

**ASSESSMENT STANDARD 1.** The learner uses visual cues to make meaning.

**ACTIVITY:**

- Learner predicts from the cover of a book what the story will be about.
- **ASSESSMENT STANDARD 2.7** Reads simple instructions in the classroom.

**ACTIVITY:**

- The learner will dramatize what is in the book.

**INTEGRATION:**

- Arts and Culture – LO3 Participating and collaboration

**ASSESSMENT STANDARD 2.** Drama: Uses events and experiences from own life as a basis for dramatic play.

- Home Language LO 2 Speaking

**ASSESSMENT STANDARD 4** – Contributes to class and group discussions

**ACTIVITIES:**

- Takes turns and asks relevant questions
- Reports back on group work
- Answers questions and gives reasons for answers

**LIFE ORIENTATION LO 3. PERSONAL DEVELOPMENT** - The learner will be able to use acquired life skills to achieve and extend personal potential to respond effectively to challenges in his/her world.

**ASSESSMENT STANDARD 2:** Learners demonstrate what to do to treat own body well.

**ACTIVITIES:**

- The learners will read and discuss from the chart (in groups) and retell what they have read.
- They will wash their hands using soap and water
- Learners will draw vegetable from the chart
- They will cut and paste healthy food from the magazines (Use of concrete material)

**INTEGRATION:**

- Home Language – Reading and Viewing

**ASSESSMENT STANDARD 5.** The learner will read for information and enjoyment

**ACTIVITIES:**

- The learners will read picture books and simple stories of own choice.

**ASSESSMENT**

- Individual peer assessment
- group peer assessment

**RESOURCES**

Crayons, pencils, glue, scissors, paper charts, reading charts, magazines.

**Table 4.3 Lesson Plan prepared by the Grade 3 teacher (Teacher 2)**

**GRADE 3 - PLANNING ACTIVITIES (25 APRIL 2005)**

**LIFE ORIENTATION LO 1: HEALTH PROMOTION -** The learner will be able to make informed decisions regarding personal, community and environmental health.

**ASSESSMENT STANDARD 1:** Identifies healthy and poor dietary habits and describes the effects of such habits on personal health.

**CONTENT AND ACTIVITIES:**

- Poor dietary habits: sweets, cakes, *lopisi*, (chips) sweet aids, scones, uncooked pork
- Health: Learners mention using charts, vegetables.
- (These are going to be said by the learners).

**ASSESSMENT STANDARD 2:** Participates in a recycling project and explains how recycling contributes to environmental health.

**ACTIVITIES AND MATERIALS:**

- Cardboards with labels - plastics, papers, organic cans and bottles.
- Paper making in groups
- Crocheting using plastics in groups
- Cans to make candle sticks

**INTEGRATION WITHIN LIFE ORIENTATION:**

**ASSESSMENT STANDARD:** Discusses myths surrounding communicable diseases and the causes and prevention of these:

- Contagious diseases diabetes, heart attack, cancer
- Infections TB, Soars, Ring worms
- Transmitted diseases AIDS, Syphilis Gonorrhoea

**ASSESSMENT STANDARD 4:** Identifies relevant people and their contact details to report cases of accidents, abuse, crime, fire, illness and injury.

- Fire – 0474 891 225
- Police – 10 111
- Ambulance – 10177

**MATERIALS, CONTENT AND ACTIVITIES:**

- Page 14 of Life Skills textbook
- Draw police, nurse and hospital
- Activities to avoid infections diseases by washing hands
- How and when to wash hands
- Why should hands be washed
- Learners are going to read and answer from the chart

**INTEGRATION:** Languages LO 2 SPEAKING

**ASSESSMENT STANDARD 5:** Contributes to class and group discussions (Home Language)

- Take turns and asks relevant questions
- Reports back on group work
- Answers questions and give reasons for answers

**LIFE ORIENTATION LO 3: PERSONAL DEVELOPMENT** - The learner will be to use acquired Life Skills to achieve and extends personal potential to respond effectively to challenges in his or her world.

**ASSESSMENT STANDARD 2:** Explains why own body should be respected

**ACTIVITIES:**

- reading chart by the learners and discuss
- Identify words from the chart using English that are familiar to them.
- Draw and label (toilets, sty)
- Cut and paste (healthy food)
- Private parts (how to care) integrate with AS 4 from LO avoid smoking, alcohol, drugs which diseases can be developed by these drugs.
- Name healthy food and label

**INTEGRATION:**

- Arts and Culture: Dance
- **ASSESSMENT STANDARD:** Identifies how feelings and moods are expressed through the body and face
- Home Language LO: Reading and Viewing.
- **ASSESSMENT STANDARD 5:** Reads for information and enjoyment.

**ASSESSMENT:** group or individual

**RESOURCES:** Pencils, magazines, crayons, charts, books, scissors, glue, paper charts.

These are all the lessons that were planned but as mentioned in section 4.1, I only observed three lessons for grade two and three for grade 3. These six lessons were drawn from the Lesson Plans outlined in the tables above.

#### **4.2.4 Knowledge about the Learning Area and the curriculum**

During the lesson plan workshop (Appendix 8b) it became clear that teachers had little in depth knowledge about the Learning Area, the Life Orientation curriculum and the environmental focus in this learning area. Teachers did not know that the recycling activity that was planned for the classroom had an impact on society or on the animals that feed around the school. They did not know about the impact of indigestible plastics which could result in the death of the animals (Appendix 8b). During the sharing of knowledge in the workshop, and when looking into the LTSM, it was evident that there was more that could be taught to the learners to take care of their bodies and to address environmental health issues than teachers appeared to know at the time (4.2.1).

From their discussions it was clear that teachers knew about integration of Learning Outcomes for example one said “this chart can be used after this reading lesson” (4.2.1). The chart was about water pollution and the reading was about issues of water pollution. Reading would be followed by discussions and asking of questions. This showed the potential for strengthening the environmental focus in the curriculum in the different Learning Areas in the Revised National Curriculum Statement. These planning activities appear to have encouraged teachers to work with an environmental learning focus and improved the planning of activities (Appendix 8a).

In the next section I describe what actually took place when teachers used the activities and materials in their classrooms.

### **4.3 USING THE LTSM: TEACHER 1 (Grade 2)**

#### **4.3.1 Lesson 1: Lesson on water pollution and health (29 April 2005 / 1hour 20 minutes)**

- **What materials teachers used**

The materials used during the lesson were the material chosen and decided on during the lesson planning workshop (4.2.1). This included books, charts, pencils, and crayons. All the material that was used in class was brought to class before the lesson started. The teacher felt really confident and well prepared for the lesson (Appendix 8a).

- **What activities took place**

The teacher gave the learners charts and books. It seemed that the learners were seeing and using the material for the first time. They were reading, discussing, pointing at the pictures and saying “This is our windmill and this is your river”. The teacher called their attention and they were told to look at the charts and tell (in groups) what the source of water was (Appendix 6a). The learners went to the front of the class holding a chart to point at the sources of water. They also said something on the uses of water. We wash with water, we cook with water. “*Igazi lenziwe ngamanzi*”. At the end the teacher told them to draw diagrams on the sources of water and label them. They copied and transcribed from the LTSM (Appendix 6a).



**Figure 4.2** Learner reading from the charts

During the time they were drawing, a lot of reading was going on and a lot of discussions were taking place amongst the learners. Some said they were not going to draw something that is not in their locality. Learners drew and labeled their work (see LW 1 a in Appendix 11a).

The teacher told the learners to refer to their books and look at the ways that water is polluted. Picture discussions dominated during this part of the lesson. The information in the charts was almost the same as the information contained in one of the books (Literacy for the Nation) (Appendix 6 a). A lot of work was undertaken during this lesson and it encompassed both planned and unplanned activities.

- **What the learners were doing and how they interacted with the LTSM**

Both learners and the teacher appeared to enjoy the use of the LTSM. They looked at the activities in the pictures and discussed the pictures. They discussed which water was clean and pure. Some discussed what pollutes water and how they can avoid polluting

water. The teacher asked some guiding questions which lead them to discuss the results of using polluted water without purifying it.

The learners noticed that some of the things that were in the charts were also in the books. The discussion about how they can avoid polluting water seemed very important to them as they contextualized the pictures saying those people who wash at 'Bolotwa' (that is the river) are polluting water that is used for drinking and cooking down the stream. In this lesson the teacher developed the school community link when she asked the learners to avoid all the possible ways of polluting water in their own community context.

- **Evidence of learning (knowledge, skills and values )**

In this lesson the teacher stressed the need for learners not to pollute their water sources in order to keep themselves healthy. She asked the learners to share information with their colleagues and parents to contribute to the whole community's health (Appendix 8a) thus developing a sense of responsibility and care.

Learners showed evidence of attitude development when they showed concern for polluting nearby drinking water. They showed evidence of knowing about waterborne diseases and how they can avoid those waterborne diseases for their own good. They also showed knowledge of hygiene, when they mentioned that they need to bring water to wash their hands after going to the toilet, before eating, when returning from the play ground, when their hands are dirty and also when they come from the graves. Team work on both the teacher's side and learners' side proved to be fruitful for the sharing of ideas, and for developing group interaction skills. They also developed identification skills.

#### **4.3.2 Lesson 2: Lesson on purification of water (8 June 2005, 1hour 10 minutes).**

- **What materials the teachers used**

As in lesson 1 above the teacher chose relevant charts as informed by the RNCS policy during the planning workshop. In this lesson she used charts that were developed by DWAF (see Appendix 10). There were also real objects like jik, water, cement and lime

that were used. The use of these objects was were influenced by the contents of the LTSM.

- **What activities took place**

Learners were asked to name things that would be necessary for them to purify water. They looked at the chart and mentioned all of the items. Some that they mentioned were not in the chart e.g. boiled water. This was an indication that the information that was in the chart was contributing to the previous knowledge of the learners.

They discussed the reason why water needed to be purified and how one can purify water. They read from the chart and measured jik over a 20litre bucket of water. Almost the whole bottle of jik was poured in to the bucket of water. "What a mess" said one of the learners "people will die if they use this water". This indicated that learners were aware of the consequences of not measuring correctly (Appendix 6b).



**Figure 4.3** Learners purifying water using jik

The teacher asked the learners what the correct measurements were. One of the girls stood up and offered to show the class and advised not to measure over a bucket that contains water to avoid such situations. This girl pointed to the LTSM to show other learners that it is shown there (Appendix 6b).

Learners were reading loudly, reporting to the teacher and discussing the process of purifying water. The teacher stressed the need for the purification of water before it is used, and indicated that it was important for the good health of the learners (obs 2a).

- **What the learners were doing and how they interacted with the LTSM**

After learners were given the LTSM they read aloud, discussed and pointed at the charts. The learners were not only discussing among themselves but they were also telling the teacher "...this is the Jik that used for washing" (Appendix 6b). This alerted the teacher to be aware that reading from the chart helped the learners to measure

neatly and correctly and also that it helped them to learn how to purify water so that it could be used for human consumption.

This activity also encouraged measurement exercises. From the activity observations, it was clear that it was the young ladies that were doing the work neatly and correctly.

After measuring, the learners were told to draw water purification utensils. While the learners were drawing the utensils they were discussing and comparing with what is in the charts (Appendix 6b). It appears that the learners were enjoying the use of LTSM as they were laughing, discussing and answering the questions that were asked. The teacher also noticed that the learners can even redirect the lesson (Appendix 7a).

The learners' discussion helped to achieve more Assessment Standards than the teacher expected (Appendix 7a). Learners easily participated in the activities during the lesson as they were encouraged by the pictures in the charts and books. Discussions became dominant in the lesson although they were not stressed in the Lesson Plan. This shows that when LTSM are discussed in class, planned activities can become more learner centered.

- **Evidence of learning: knowledge, skills, and values**

Learning was evident when the learners were asked about what they were doing, and answered that they were doing “water clean”, “water purification” and others ‘*sicoca amanzi*’. The learners were able to retell what was done during the lesson, showing evidence of knowledge acquisition. The teacher was excited by this outcome. Learners were relating what was learnt with what was said in the LTSM (Appendix 6b).

Learners drew and labeled the purification utensils (LW2a, see appendix 11b) and as they were drawing they were reading from the charts, sharing ideas and reporting or presenting to the class. Learners were answering questions which encouraged discussions. During the lesson implementation it was evident that team planning of lessons had contributed to the quality of teaching and learning.

#### 4.3.3 Lesson 3: Lesson on road safety (13 June 2005, 1 hour 20 minutes)

- **What materials did the teacher use**

As in the first and second lesson the teacher used books, charts and concrete material to mediate teaching and learning in the classroom. As mentioned in the first and second lesson the teacher brought all the LTSM to school, as they are not normally kept at the school due to the lack of storage space at the school. All the material that was brought was decided on at the planning session, this means that the teacher knew which materials she would use for which Learning Outcomes and she knew how to use them in order to achieve the planned lesson for that particular Assessment Standard.

The LTSM used in the lesson were:

- Text books for Life Skills
- Charts developed by the Department of Water Affairs and Forestry, and
- Coloured papers developed by the learners during an Arts and Culture lesson

- **What activities took place**

The teacher motivated learners' discussions by asking questions such as 'what is the yellow color standing for in the robots?' 'Show me something that is yellow in the classroom' (Appendix 6c).

The learners demonstrated (acted out) what robots do. One learner stood up and the group followed. The learner was holding a red paper and another learner was holding a green paper. When holding up the red paper, the learner said "Red means stop". The other learner said, "Green means go" *'hamba'*. All the other members of the group moved. It was not clear what learners should do when it came to yellow but one of the learners who was sitting down said, "it means 'ready'" one said 'careful' *'lumka! kuba u red ukufuphi.'* (Appendix 6c).

- **What learners were doing and how they were interacting with the LTSM**

The teacher told the learners that their lesson was about robots. She told them to turn their books to the robots section in the book but she did not tell them the page number.

The learners were reading and discussing the colors and the meaning of colors “red means *yima*”.

The teacher took out some papers with yellow circles, green circles and red circles. These circles represented the colours used in robots. As mentioned above, the learners acted as robots. “Red means ‘*yima*’ ” “green means ‘*hamba*’ ”. The learners were instructed to move according to the colour instructions. (Appendix 6 c). This was exciting as the learners were using the materials or robot circles that they made during their Art lesson. This idea for developing the colours for the robots was adapted from the Life Skills textbook supplied by the Department of Education.



**Figure 4.4** Learners demonstrating the use of robots

- **Evidence of learning: knowledge skills and values**

Learning was evident when the learners were warning others that if they cross when robots are red they will be killed by cars (Appendix 6c). The learners were sure of naming the colors and saying their meanings when the learners were pretending to cross the road. The learners also mentioned that there are no robots in Dutywa (town).

Some of the learners laughed at them, telling them where the robots are in town (Appendix 6c). The lesson was teaching learners to take care of their own safety.

#### **4.4 USING THE LTSM: TEACHER 2 (GRADE 3)**

##### **4.4.1 Lesson 1: Lesson on recycling** *(28 April 2005, 1 hour 45 minutes)*

- **What materials were used?**

The teacher used the cholera chart developed by the Department of Water Affairs and forestry (DWAF). There were fortunately enough charts for the groups in the class (Appendix 6d).

- **What activities took place?**

In each group the learners were given a chart. Learners were so excited they did not wait for any instructions, and they immediately started discussing the pictures (Appendix 6d). They read the charts and were impressed that they could understand what was written in their home language (Appendix 6d). Learners' discussed different sections of the chart. Though they were sitting in a group they were not working in groups as there were no instructions that were given at the beginning of the lesson. Some were reading loudly and others wanted to read, "You have finished! Turn it around so that I can also read", one said, showing their excitement.

- **What the learners were doing and how they interacted with the LTSM**

The LTSM that was issued to the learners directed the learners as to which learning activities they could do (Appendix 8d.) This was also confirmed (Appendix 6d) when the teacher gave learners the LTSM and did not give them any instruction for 5 minutes and the learners' were able to independently start discussing the pictures. They started reading and tried to practice what was in the material (Appendix 6d). The learners' started the recycling activity in groups. The teacher intended to have a group working on recycling paper, a group working on plastic recycling and another group working on recycling tins. During the course of the lesson the learners told the teacher that they all wanted to work on the recycling of plastics bags (Appendix 6d).

The teacher was happy that the learners were enjoying the recycling activity they saw in the picture (Appendix 8d). Learners were communicating freely when they were practising what they saw in the picture. This seemed to make the lesson interesting to the learners. In this case the teacher acted as a facilitator or as a guide. Outcomes for the Learning Areas were covered during the lesson as the learners read, discussed and practiced healthy habits. After they had finished working with the plastic bags they washed their hands (Appendix 7b).



**Figure 4.5** Learners working with plastic

- **Evidence of learning: knowledge skills and values**

The learners answered the questions asked and sometimes discussed the questions as the teacher asked them. As the learners were reading, they were communicating, showing that they were reading with understanding (Appendix7b). Every learner was keen to participate, as expressed by this learner who said “It’s my turn now let me read” (Appendix7b). It helped learners to see their class activities reflected in the materials, like washing hands and learners picking up papers. Some learners were very fast when

making ropes. Some learners were also learning to share responsibilities, as some were cutting the plastic bags while others were weaving the rope. They also told the teacher that plastics are now scarce because when they were collecting them, they were not easily available in the surrounding area.

#### **4.4.2 Lesson 2: Lesson on important foods (10 May 2005, 1hour 10minutes)**

- **What materials did the teacher use?**

The teacher used a chart, crayons, pair of scissors, magazines and glue.

- **What activities took place?**

The teacher hung the colorful chart with pictures of different types of vegetables. Learners helped the teacher to hang the chart. While they were doing this, some were looking at the different types of vegetables that were depicted on the charts (obs1b) naming them and identifying which vegetables they had never seen. The teacher was worried that the learners' discussion was not a well organized one. The picture discussion, and learners answering of questions was not done in groups and the individuals that responded were in a hurry to attend to the questions such as "What are the vegetables that are on the picture that are found at your homes?", to which one learner answered quickly "*Umxoxozi*" (white water melon) (Appendix 6 e). Questions were asked about things that can be done to ensure good vegetable plants. Learners responded by saying that one should bring manure '*manyola*' to the garden. The teacher asked them to mention the sources of manure that are available at their homes (Appendix 6e). The learners were given books to page through and were asked to identify vegetables. These were grade 1 Reading Books which the teacher said they should read at home but the learners' were so eager they all started reading in class and they started discussing the similarities between the chart and the books.



**Figure 4.6 Learners interact with the vegetable chart used in the lesson**

In many cases during the lesson there were informal discussions that were taking place referring to the chart. The teacher gave the learners magazines (one per group), and the learners cut, pasted and labeled the vegetables they saw in the magazine (Appendix 6e). They cut and pasted the vegetables pictures. Some vegetable pictures were drawn as they were not available in the magazines.

- **What the learners were doing and how they interacted with LTSM**

The learners were attracted by the colors of the vegetables and fruit that were on the chart (Appendix 6 e). It was clear that it would have been better if each group had a chart as all the learners flocked to the charts (Appendix 6e, see figure 4.6 above). There should also have been more magazines but the teacher only managed to bring 4 magazines, so some learners had to draw vegetable pictures. The activities in this lesson were not easily done due to limited availability of materials (Appendix 6e).

- **Evidence of learning: knowledge skills and values**

In their discussions learners compared the vegetables in the picture with those that they had never seen, like 'water melon' which they compared with "*umxoxozi obomvu*" (Appendix 6e). Learners named the vegetables using their own language though there were those that did not have another name except the one that was in English on the chart. They appreciated the vegetables they saw in the chart (Appendix 6e). When they were given magazines they only cut pictures of raw vegetables that were in the pictures, and not frozen and cooked vegetables. I was not able to find out why they did this.

#### **4.4.3 Lesson 3: Lesson on telephone numbers important for social purpose**

*(14 June 2005, 1 hour 30 minutes)*

- **What materials the teacher used?**

The learners and the teacher used textbooks that are supplied by the Department of Education.

- **What activities took place?**

The teacher issued some text books to the learners. The learners and the teacher discussed the pictures in the books (Appendix 6f). The teacher asked them some questions which the learners answered - as individuals not as groups. In the lesson it was apparent that the learners' ideas about what was happening in the pictures were influenced by the discussions of the teacher. The questions that were asked led to the introduction of a discussion of a 'help line' by the teacher (Appendix 6f), and it was not sure that learners understood what this was. She asked this question; "Teacher Nosipho was beaten, is that abuse?" (Appendix 6f). The teacher explained that when a person is beaten or is a victim of sexual practices and is forced to work too hard, these are all abuses and they need to be reported to the social workers (appendix 6 e).

- **What the learners were doing and how they interacted with the LTSM**

The learners discussed the pictures in the LTSM and they reported what they thought about the pictures. They answered questions such as: "How can one avoid the common ways of abuse?" and answered, "Wearing clothes that are not appealing" (Appendix 6f). The teachers discussed with the learners what one should do if one is abused. She discussed where and when to report the abuse and also why abuse should be reported.

This was the main discussion during this lesson. It was clear that the learners knew what was happening in their surroundings concerning abuse. They knew that there is abuse in their homes amongst their parents. The teacher encouraged the learners to participate openly by asking questions (Appendix 6f).

- **Evidence of learning: knowledge skills and attitudes**

During the discussions it was apparent that the learners were against abortion '*ubulale*' (Appndix 6f). Learners discussed some of the issues, and shared ideas about what was happening in their homes and communities. They developed skills to discuss sensitive issues and seek help. They were learning to care for others and to protect themselves.

#### **4.5 TEACHERS' REFLECTIONS**

When discussing teachers' reflections on the planning and the lesson process, I start with reflections that took place during the lesson planning meeting. I discuss Teacher 1's reflections, and then Teacher 2's reflections. I also include my reflections as participant observer in the process.



**Figure 4.7 Grade 3 teacher at a focus interview session, reflecting on the lesson implementation and the planning**

#### 4.5.1 Reflections on lesson planning

**Teacher 1** reflected that the going through the LTSM during the Lesson Plan meetings helped her to see how the LTSM can be used when planning the lesson. This, she said, has helped teachers to consider how to avail the LTSM for use in the classroom, and also to identify which LTSM can be used for different purposes. During the team planning a number of classroom activities that were to be used in class were developed and this gave the teachers a chance to look for more material to supplement what they had brought to the planning meeting before doing the teaching. Initially the teacher thought that working with the LTSM would be time wasting but during and after the planning session it was clear to her that it was not a waste of time and teachers enjoyed it as they were all involved in the choice of materials.

She (Teacher 1) also reflected that planning together is good if teachers could work together in future again. This meant that teachers would need to be available for such planning activities. She indicated that teachers were committed to practicing health improvement activities that would benefit the learners and community. During the session they planned how to use the LTSM.

The teacher also made a comment that the lesson to cover the intended Assessment Standards ran more smoothly when the activities and the use of the LTSM are well planned. As mentioned in 4.4.1.above that this teacher positively commented that when the lessons are well planned the teacher knows which materials she needs to bring to school for the next lesson.

**Teacher 2** said that she had to look for the relevant LTSM after having looked at the Learning Outcomes as desired by the RNCS. She could see from the cover of the book that it would give her the necessary information on the environmental learning activities for her lesson. It was during the lesson planning sessions that the teachers came up with the idea to translate the LTSM activities into *isiXhosa*, to make them relevant to the needs of the language policy, which requires learners in the Foundation Phase to be taught in his/her mother tongue (DoE, 2003). Teacher 2 reflected that the planning meetings gave her a chance or sort of motivated her to look for more relevant material

(Int 1a). The teacher reflected that during the lesson plan meetings it was clear that Life Orientation activities are closely related to environmental health issues.

This teacher reflected that team planning gave teachers a chance to look for more environmental education activities in books. She was also pleased that during the planning session there were some teachers who were not informed on how to deal with the LTSM that was not written in the instructional language of the learners, like herself. She was very pleased that this was resolved during this planning session, and that she got the advice that she (the teacher) could translate the LTSM into the relevant language of instruction.

**Observer's reflections:** When this planning was done teachers were using LTSM to plan the activities. The LTSM provided a range of activities, that helped the teachers to plan more activities. They analysed Assessment Standard 2 of the Life Orientation Learning Outcome 1: Health Promotion. This has helped the teachers to identify which concrete material would be most appropriate for the lesson, and which activities to leave out because they had been done before, making the lesson planning more effective. I noticed that teachers need to be trained in using LTSM during their planning, in response to the Learning Outcome requirements of the RNCS, as this was initially not an easy process for the teachers to engage in. Teachers reflected that during the planning of the lessons they were able to develop more activities. They planned according to the available LTSM, and found them interesting and useful for the Learning Outcomes.

#### **4.5.2 Reflecting on working together**

**Teacher 1** reflected positively on the process of working together, and said 'one [more] head is better than one.' (Appendix8b). This meant that she appreciated the collaborative work with the other teachers in the planning of activities. She wanted this planning process using LTSM to be an ongoing process and recommended that it should be done in all the phases in the school. The teacher decided to use her own knowledge of the context when comparing LTSM available at the school with the number of learners that use the LTSM, and indicated that she needed to plan the lesson so that all learners could use the LTSM.

**Teacher 2** in her reflections, was also positive about the process of working together with other teachers to plan for the effective use of LTSM to achieve the desired Learning Outcomes for Life Orientation. This teacher was impressed by the way teachers worked together sharing ideas as discussed the activities that were possible in the classroom. She reflected that she was able to identify what would happen in almost all of her lessons, as all of the activities had been discussed during the lesson planning session (FG).

**Observer's reflections:** In my observations, teachers were able to gain valuable knowledge from each others through the working together process. For example, teachers discussed the integration potential of the LTSM and how the LTSM could be used for Learning Outcomes in different Learning Areas. Teachers also gained new knowledge of environmental health issues when they used the LTSM in the working together process, for example when they discussed the diseases that are caused by polluted or unclean water. The working together process also helped teachers to solve problems, for example the problem of translating materials. Teachers also learned more about how to use the RNCS with LTSM, when they worked together in the planning sessions, as they were able to help each other identify which Assessment Standards were relevant and how the LTSM could be used with the Learning Outcomes and the Assessment Standards.

#### **4.5.3 Reflections on the availability of materials and curriculum relevance**

**Teacher 1** reflected that the LTSM were not enough for all the learners. Because she felt that the charts and the books were relevant, she identified that learners would have to share the LTSM in the classroom. Her main worry was if other teachers might want to use the same LTSM at the same time. The LTSM that were developed by DWAF was not enough to serve all the learners in the class but she worked out that the learners could use the charts in groups and that there were enough charts for 5 groups of learners. The teachers were not aware that DWAF and the Department of Health are supplying such good LTSM, even though the materials were not sufficient for the whole group of learners.

Teacher1 in the focus group interview (Appendix 9) argued that whenever LTSM are delivered to the school, teachers should be trained or educated to use the LTSM. She remarked that all the LTSM used in all the lessons was relevant to the requirements of the RNCS. The LTSM were not only relevant to one Learning Area outcome but could also be used to cover more Learning Outcomes for the other Learning Areas relevant in the Foundation Phase.

**Teacher 2** reflected that one of the reasons why teachers were not using the LTSM is that they are not trained in the use of LTSM. This means that even if materials are available, teachers do not see the relevance of the LTSM to the curriculum (Appendix 9). This teacher brought books to school that were relevant to the Learning Outcomes and the Assessment Standards though the language used in the LTSM was not the LoLT of the Foundation Phase. This teacher reflected that the books and the charts were relevant to the Learning Outcomes.

The teacher reflected that even though she provided the learners with magazines for an activity, she felt that the LTSM were not enough. She also felt that only one chart was inadequate for the learners, as learners had to keep leaving their desks to move to the front of the class to access the information on the chart. Teacher 2 also commented on the relevance of the LTSM (Appendix 4), and she indicated that she was satisfied by the way she conducted the lesson using the LTSM, even though they were not adequate for the whole group (Appendix 6e).

**Observer's reflections:** According to my observations the available LTSM was relevant to the RNCS, and teachers were able to use the available materials to achieve the Learning Outcomes and Assessment Standards. Using different materials helped the teachers to achieve different Assessment Standards. For example, using the Life Skills textbook helped teachers to tackle Assessment Standard No 4, which was not dealt with in the use of the charts.

Through bringing the available materials to the planning session, teachers were able to collect the material long before the lessons started. This helped to address the problem that LTSM were not used because they were not kept at school.

A problem was experienced with insufficient materials for the number of learners in the classrooms. There were not enough charts or magazines.

I also observed that the available materials were also helpful for supporting integration and clustering of Learning Outcomes and Assessment Standards became easy. The pictures in the LTSM could be extended, and this enabled teachers to use the LTSM for more than one Learning Areas.

#### **4.5.4 Reflections on the materials used during the lesson**

**Teacher 1** reflected that during the lesson the teacher was not only concentrating on the construction of new knowledge but also on reconstruction of knowledge. For example she corrected language use when the learners said '*Emthombeni*' instead of saying '*Emthonjeni*' (Appendix 6a).

She also reflected on the learners engagement in the lesson when she explained that during the lesson the learners turned to the sides of the chart that was in *isiXhosa*. One learner said "turn to the Xhosa side" and they immediately looked for the *isiXhosa* side and excitedly started to read. She also reflected that it was evident that the learners were enjoying the use of LTSM as they were laughing, discussing and answering the questions that were asked. The teacher also noticed that the learners can even redirect the lesson (Appendix7a).

**Teacher 2** reflected that learners enjoy reading or using the LTSM that is written in their own language. She noted that unfortunately much of the LTSM is written in English and this resulted in the materials not being user friendly, even though the content of the LTSM is relevant. During the planning meeting teachers decided that she should translate the material into *isiXhosa*, and she commented on the usefulness of this suggestion. This teacher also reflected that when the learners get involved in reading or discussions (when they are enjoying this), the teacher should make sure that she does not forget the focus of the lesson.

**Observer reflections:** In my observations, it seemed that the learners' discussion and participation in the lessons helped to achieve the Assessment Standards. Learners

easily participated in the activities during the lessons, and discussions dominated the lessons, even though they were not a main focus in the lesson plans. LTSM seem therefore to assist with creating more learner-centred lessons.

#### **4.5.5 Reflections on learning**

**Teacher 1** reflected that the LTSM helped to interpret the Assessment Standards in relation to the Learning Outcome. It was mentioned before the LTSM were used that they could encourage active learning, and easy participation of learners in their activities. This teacher said that learners (Appendix 6a) indicated that it was a problem that some of the things that were taught could not be practiced in the school because of poor resources as there is no water at the school. This made it difficult for the learners to practice what they were learning about their health needs (e.g. washing hands).

The learners discussed the pictures even after the teacher had left the classroom, and encouraged each other to practice what was shown in the chart.

**Teacher 2** reflected that the teachers should always go through the LTSM before they used materials, as this improved learning. She also reflected that teachers could use LTSM to address environmental health issues in the community, which could contribute to the good health of members of the community. She reflected on the teachers' discussion of the water borne diseases on the chart, and noticed that teachers identified how learners could use the chart to learn about the diseases.

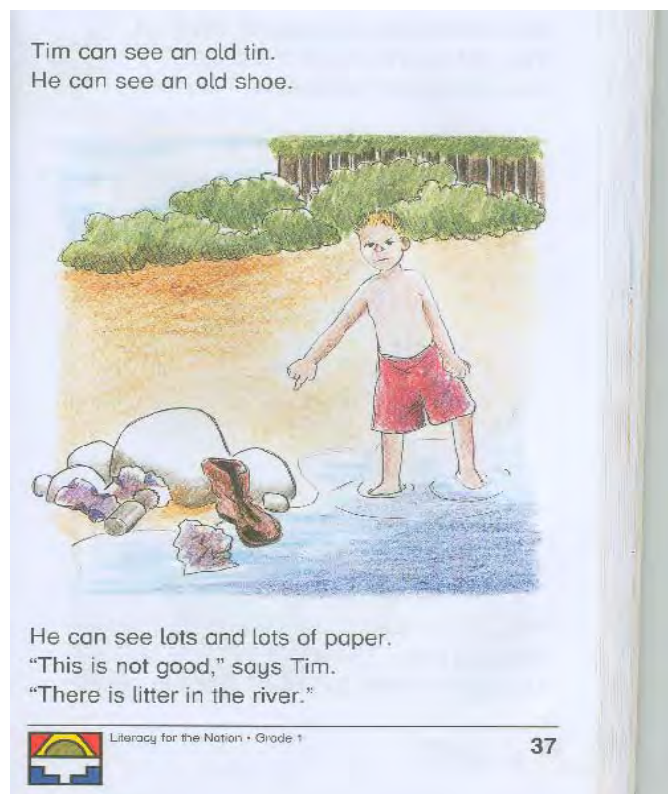
**Observer reflections:** It struck me that learners were very interested in using the LTSM, as they started reading before they were given any instructions. Learners were also able to follow diagrams in the materials as was shown when they purified the water. Learners were also able to make links between different materials (e.g. the chart and the books). The LTSM used in all of the lessons appeared to be very important for encouraging learner participation, and for supporting their learning as they encouraged interaction and discussions. LTSM in the learner's own language seemed to be very important as learners were immediately able to read, and were not only interpreting and using pictures. Learners were also able to make links between the pictures and information in the LTSM and their own lives. Learners discussed the pictures and tried to put the

activities in to practice, showing their ability to apply what they were learning from the LTSM to daily activities.

#### 4.5.6 Reflections on the language used in the LTSM

**Teacher 1** reflected that the language used in the LTSM is usually not the language of instruction. This, according to her, affected the poor use of LTSM in the school. She also mentioned that it can lead to complete non-use of LTSM.

**Teacher 2** reflected that teachers could resolve the language problem in LTSM, by translating the language used in the LTSM into the instructional language.



**Figure 4.8** LTSM used which needed to be translated by the teacher

**Observer reflections:** I reflected that the learners showed high levels of interest in materials produced in their home language. Learners often used words from their own language to explain what was going on in the pictures, for example when instead of saying germs they said '*Ntsholongwane*'. I noticed that the issue of language in LTSM was discussed in some detail during the planning meeting, and I was surprised that it was such a big issue to the teachers. Teachers preferred LTSM produced in the LoLT, and in the Foundation Phase this needed to be the learners' home language (*isiXhosa*). Though most of the available materials needed to be translated there were some concepts and words which were never translated and there did not appear to be a need to translate everything, as the learners seemed to know the meaning of the words that were not translated, indicating that the learners were learning things in two languages (English and *isiXhosa*).

#### **4.6 CONCLUSION**

This chapter provides a detailed description of the findings of the research. I have described how teachers used LTSM in team planning and lesson plan implementation in an under-resourced rural school in the Eastern Cape. In chapter one I described the contextual profile of the school which helped to explain the conditions in which the teachers work. The contextual profile explains the circumstances surrounding availability of LTSM in the school. Chapter 2 described the new curriculum policy. Evidence shown in this chapter indicates that teachers appear to have received enough training to begin the process of Lesson Planning for the RNCS as they appeared to have some knowledge of the Learning Outcomes and Assessment Standards. They, however, seemed to need more in-depth Learning Area knowledge, as shown in the discussions on the environmental health issues and Learning Outcome 1 of Life Orientation. The data shared in this chapter also shows that teachers appear to have limited experience of working with LTSM, and the lesson planning process seems to have helped the teachers to see the need for the teachers to be trained or guided on how LTSM can be used in the context of the RNCS, although they were able to implement effective lessons using LTSM.

A number of issues have been identified in the presentation of this data, which will be discussed in more depth in the next chapter. The next chapter (chapter 5) looks at the relationship between team-planning and use of LTSM in improving the quality of teaching and learning in the classroom. This chapter also considers the role of LTSM in enabling curriculum praxis.

## CHAPTER 5

# HOW TEAM PLANNING AND USE OF LTSM INFLUENCED TEACHING AND LEARNING

### 5.1 INTRODUCTION

This chapter reviews and discusses findings that emerged during the research process. It draws on the data analysed and presented in chapter four and highlights the dimensions of team planning using LTSM and the associated learning activities that made use of the LTSM. This chapter considers the classroom activities in relation to activities planned in the planning session, and involves critical reflection on the influence of the team planning using the LTSM in mediating learning. The chapter also considers the influence of LTSM in improving learner participation in the learning process, as this relates to environmental health promotion and safety and security, as required by Learning Outcome 1 of Life Orientation. In addition this chapter considers how team planning and the use of LTSM has improved teachers knowledge of the curriculum and environmental health issues and discusses how LTSM use enables curriculum as praxis.

In this chapter I discuss the analytical statements (as described by Bassey, 1999, see section 3.3.2) that I have been able to derive from reporting the data in chapter 4. These are:

- Analytical statement 1: LTSM contributes to planning of classroom activities
- Analytical statement 2: LTSM contributes to teachers' knowledge of curriculum implementation process and of environmental health issues
- Analytical statement 3: LTSM assists with the achievement of Learning Outcomes and Assessment Standards
- Analytical statement 4: LTSM improved learner participation
- Analytical statement 5: LTSM changed the intended teaching activities

- Analytical statement 6: Assessment was neglected in team planning and in LTSM use
- Analytical statement 7: Team planning contributed to the use of LTSM
- Analytical statement 8: LTSM and team planning contributed to curriculum praxis

## **5.2. ANALYTICAL STATEMENT 1: LTSM CONTRIBUTED TO PLANNING OF CLASSROOM ACTIVITIES**

### **5.2.1 Planning with LTSM and classroom activities**

In this section I describe the contribution of the LTSM to the planning of classroom activities in the foundation phase. I do this through identifying the correlation between LTSM used in the planning of activities and LTSM used in the classroom with learners (see table 5.1 below). Table 5.1 shows that in the context of this case LTSM contributed to planning of classroom activities. All the LTSM used by the teachers in the planning session were used by the teachers in their classroom activities.

As can be seen in Table 5.1, the teachers used a mix of charts, reading books and textbooks to plan their lessons and to teach their lessons. Teachers also discussed using the LTSM when planning. They discussed the reasons why they had previously not used LTSM efficiently and effectively for learning and teaching. The potential response of learners to the LTSM was discussed by the teachers in the planning session. Teachers planned their lessons taking into consideration the curriculum needs and the constitution of the country. In doing this the teachers were aiming to help community members respond to the environmental health issues.

As shown in Table 5.1 below, teachers used more than one type of material to construct more meaningful activities to be implemented in the classroom. Teacher 1 (lesson1) used a chart on 'Controlling disease through good sanitation' produced by DWAF, and a reading book 'Literacy for the Nation' (Aitcheson & Beal, 2003). In lesson 2 she used the chart on 'Controlling disease through good sanitation,' and in her last lesson she used a reading book *Incwadi yomfundi: Uvimba*.(Mali, Mtimkulu and Tsitsa, 2003). Most of the LTSM used is specifically developed for the RNCS.

**Table 5.1 The relationship between LTSM used in planning and LTSM used in the classroom**

LTSM used in planning	LTSM used in lessons
<ul style="list-style-type: none"> <li>• Chart: Controlling diseases through good sanitation.</li> <li>• Reading book: Literacy for the Nation.</li> <li>• Reading book: <i>Incwadi yomfundi: Uvimba</i>.</li> </ul>	<p>Teacher 1, lesson 1: Chart: Controlling disease through good sanitation. Reading books Literacy for the Nation</p> <p>Teacher 1, lesson 2: Chart: Controlling disease through good sanitation.</p> <p>Teacher 1, lesson 3: Book <i>Incwadi yomfundi: Uvimba</i>.</p>
<ul style="list-style-type: none"> <li>• Book: Water and Sanitation Towards a Healthy Family (DWAF).</li> <li>• Text book: Life Skills for One and All</li> <li>• Chart:Vegetables by Chart Studio.</li> </ul>	<p>Teacher 2, lesson 1: Chart:Controlling disease through good sanitation.</p> <p>Teacher 2, Lesson2: Chart: Vegetables by Chart Studio. Book: <i>Incwadi yomfundi : Uvimba</i>,</p> <p>Teacher 2, Lesson 3:Text book: Life Skills for One and All</p>

Teacher 2 (lesson 1) also used the chart on ‘Controlling disease through good sanitation’ developed by DWAF, and in lesson 2 she used the chart on Vegetables developed by Chart Studio and combined these with the reading book *Incwadi yomfundi: Uvimba* by Mali, Mtimkhulu and Tsitsa (2003). In lesson 3 she used a textbook called ‘Life Skills for One and All’. These materials were used in the planning session, and teachers decided to use them to work on Life Orientation Learning Outcomes which provided an opportunity for environmental education activities which would help to address the environmental health issues in the area.

### **5.2.2 Use of environmental health issue materials in the planning context**

As mentioned above, teachers used a variety of LTSM to plan the activities the Life Orientation Learning Outcome to help to address environmental health issues in the local area. For this to be successful, teachers that were involved in the planning session considered lessons that were learner-centred, and based on the context of the learners as recommended by Cornbleth (1990) who argues that curriculum is socio-cultural, and that curriculum is a contextualised social process. They also considered the prior

knowledge of the learners (as proposed by constructivist theories of Vygotsky in Moll, 2002) hoping that the learners could take the information to their parents as this may create indirect parental involvement in addressing environmental health issues.

DWAF (1996:6) stresses that the lessons on sources of clean and unclean water and different methods of water purification need to be taught (as done by teacher 1), more especially to rural communities who depends on natural water supplies like rivers, springs and streams which are exposed to all types of pollution. As mentioned in chapter 2 most of the rural areas have the problem of water, soil and air pollution, disposal of waste, food and poor health habits which would relate to higher risk of contracting more serious diseases such as dysentery, tuberculosis and malnutrition.

According to Vygotsky, (1978,1987 cited in Moll 2002) tasks that are collaborative and authentic in form will enable participants to construct knowledge through socially situated learning within the community, its language and culture. This is one of the reasons why the planning phase involved all of the teachers, so they could work together as a community to consider the environmental health issues in the broader community.

In this process, teachers were asked to mention and discuss environmental health issues that exist in the area. They mentioned sources of water, unclean water, poor health habits, purification of water recycling, soil pollution, and diseases caused by poor food, malnutrition and dirty utensils. After these were discussed teachers interacted with the policy document and all concentrated on Life Orientation Learning Outcome 1 that states that the learner will be able to make informed decisions regarding personal, community and environmental health. Teacher 1 suggested that they should start by considering the Assessment Standards in comparison with the available LTSM for grade 2, which are as follows:

- Describes sources of clean and unclean water and simple water purification methods.
- Suggests and investigates to make the home and school environment healthier.
- Identifies communicable diseases and explains measures to protect self and others.
- Identifies road signs relevant to pedestrians, and explains their meaning (DoE, 2002).

Lesson 1 was planned to address Assessment Standard 1 and the chart and the books helped to address the problems of unclean water in the community. The teachers discussed the ways of purifying water as seen in the charts. They also discussed what learners would be able to discuss. In lesson 1, teacher 1 also planned to address Assessment Standard 3 which requires learners to identify communicable diseases and explain measures of protecting self and others. These Assessment Standards were useful for addressing the environmental health issues that are in our area.

After the Assessment Standards for grade 2 were discussed Teacher 2 decided that they should then discuss the Assessment Standards for Grade 3. The Assessment Standards for Grade 3 are as follows:

- Compare healthy and poor dietary habits and describes the effects of such habits on personal health
- Participates in a recycling project and explains how recycling contributes to environmental health
- Discusses myths surrounding communicable diseases, and causes and prevention of these
- Identifies relevant people and their contact details, to report case of accidents, abuse, crime, fire, illness and injury (DoE, 2002)

Teacher 2, in lesson 2 planned to address Assessment standard 1 above and to implement a recycling activity. In lesson 1 she considered Assessment Standard 2 and lesson 3 she addressed Assessment Standard 4. She planned to use LTSM in the lessons, as explained in section 5.2.1 above.

As discussed in chapter 2, one of the key differences between C2005 and the RNCS is the emphasis placed on planning. The DoE have, through the release of a teachers' guide for the development of the Learning Programmes (DOE, 2003) provided planning guidelines for teachers to follow, which require teachers to use the Learning Outcomes and Assessment Standards in their planning. This, the DoE (2003) argues, is vital for making the RNCS work, and for addressing learner and community needs.

Janse Van Rensburg and Lotz Sisitka (2000:16) stressed that environmental teachers have a concern to plan and implement contextually situated activities. They (*ibid*) say that one of the reasons for a growing concern with contextual approach, is that environmental issues manifest differently in different contexts and that they have different effects and as a result have different solutions depending on the context in which they occur. The teachers in this case study discovered that using LTSM in their planning helped them to achieve the Health Promotion Learning Outcome. Their intent was to address local environmental health issues for the benefit of the learners and later the community as a whole. According to Mdlungu (2004) the easiest way of spreading information in the rural areas which is composed of mostly illiterate community members, is to share information with children at school, who then pass the information to their parents. This relationship between the school and community has also been indicated in the Human Sciences Research Council's report (2005) on rural schools. Teachers identified, during the planning that the information in the LTSM carried information that needed to be practiced, discussed and even demonstrated, not only by the learners but also by the members of the community. They hoped that learners could use the information in their continuous daily activities.

### **5.2.3 LTSM and planning for integration**

A further aspect that shows how planning with LTSM influenced classroom use of LTSM, is evident in the planning for integration of Learning Outcomes. This was evident as teacher 2 reflected that the LTSM she planned to use for Life Orientation Learning Outcomes allowed for the integration of other Learning Outcomes from other Learning Areas in the lesson she was planning. According to the DoE, (2003) planning is important and must be done carefully to ensure that all Learning Outcomes and the Assessment Standards are covered for a particular grade in a school year. Criticos *et al* (2002) note that planning learners activities is the key towards helping students to be successful in their learning. Teachers discussed in their planning session that learners will read, discuss, ask and answer questions amongst themselves, allowing for the integration of Learning Outcomes from the Language Learning Area. Through Language activities, learners were able to contextualize the environmental health information in the books and charts.

Teachers also considered the NEEP-GET (2004) lesson planning guide lines which stress that integration done in the lesson should also have links with the previous lesson. This was evident in the study when teacher1 and the learners used LTSM developed by the learners during the Art and Culture lesson in the Life Orientation lesson (see section 4.3.1).

#### **5.2.4 LTSM and OBE curriculum development skills**

LTSM also contributed to teachers' curriculum development skills, which helped them to plan classroom activities. One of the implicit aims of the study was to consider use of the LTSM as a way of improving curriculum and teacher development. This interest has also emerged in other research on the use of LTSM. Lotz, (1996) in her research on participatory materials development, mentioned the link between curriculum development, LTSM, and teacher professional development as teachers in her study used LTSM to support their curriculum activities and lesson planning. In this case study teachers used LTSM to plan their lessons. As teachers used LTSM and the curriculum policy they developed activities guided by the RNCS. Lotz-Sisitka and Raven (2001) in their NEEP-GET pilot research project note that one of the reasons why teachers used LTSM in their lessons is because the materials contained relevant information for the Learning Outcomes. Teachers in this case study read the LTSM and chose the relevant ones to plan their intended Learning Outcomes so that the LTSM would help them (teachers) to address the environmental health issues in the area. As discussed above teachers also reviewed the LTSM relevant to the intended Learning Outcome, for Life Orientation.

Making a link between LTSM and the Assessment Standards showed that teachers' curriculum development skills were being developed, and it was evident that this process helped the teachers to use the LTSM more effectively, and to plan how they would use LTSM in integrating the Learning Outcomes from the Learning Areas. Teachers discussed the features of the LTSM and their links to learning, for example how colours that were used in the LTSM would make the lesson more relevant and interesting for the Foundation Phase learners.

Teachers also interacted with the policy document, comparing it with the available LTSM and in their discussions they were surprised to see how relevant the LTSM was to the needs of the RNCS in addressing the environmental health issues the school was faced with. Teachers also commented the relevance of the LTSM to the Learning Outcomes of the Foundation Phase.

Taylor and Vinjevd (1999:164) in their research, mention that the DoE expects LTSM to promote awareness and respect for the environment and the diverse cultural heritage of society at large. LTSM should also be able to promote "... emotional, intellectual, personal, physical, spiritual, moral and social development, gender appropriateness and sensitivity, and an integrated approach to learning which encourages hands on experiences" (*ibid*). Teachers noticed the importance of team work in the planning of activities, and team planning helped teachers to share ideas on the activities and on how they can use the LTSM to promote environmental health in the community context (see Appendix 4). Czerniewics *et al* (2000) view LTSM as integral to Outcomes Based Education (OBE) which requires broader parental involvement in the education of their children, as well as the participation of learners in knowledge construction involving use of LTSM and resource people.

### **5.3 ANALYTICAL STATEMENT 2: LTSM CONTRIBUTE TO TEACHERS' KNOWLEDGE OF ENVIRONMENTAL HEALTH ISSUES AND CURRICULUM IMPLEMENTATION PROCESSES**

The planning workshop, where the teachers decided on the Learning Outcomes, and on the LTSM that they would use contributed to the improvement of their knowledge of environmental health issues and their knowledge of curriculum implementation processes. Teachers learned more about the environmental health focus in the Life Orientation Learning Area. They also learned more about their role as mediators of learning, and learned more about the Learning Area Life Orientation.

### **5.3.1 Learning about the environmental health focus in Life Orientation and Life Skills**

Teachers in their planning discussed that they were not aware that the activities they were doing in their classes were environmental education activities. **Teacher 1** was pleased by the way they started the planning session as they were not very sure about the environmental health issues in the area and after the discussion at the planning session she was confident that she could deal with all the lessons as the LTSM were relevant enough to address those issues (Appendix 8a) At the planning session she mentioned that the chart on 'Controlling Disease through Good Sanitation' was relevant to all the Assessment Standards of the Learning Outcome.

**Teacher 2** brought books that she was using in class but initially was not sure that she was doing environmental health in the lessons she was doing. Teachers felt that there was a need for the learners to know more about these issues as they were affected, and the only way that they could know is by getting the information from the teachers.

### **5.3.2 Learning about teacher's roles as mediators**

The involvement of teachers in the development of activities that they were implementing in their classrooms helped teachers to fulfill their role of being mediators of learning in the contextualization of learning activities. This was evident in the study as in all six lessons the learners were actively involved and the teachers were acting as guides or mediators of learning by asking questions that were encouraging learners to be developers of their own knowledge, assisted by the LTSM in their discussions. As in table 5.1 above the role of the teacher in choosing the LTSM to mediate learning and planning the activities that were done in the classroom needs to be considered for the effectiveness of learning (Russo & Lotz-Sisitka, 2003).

### **5.3.3 Learning Area knowledge**

It was also evident in the study that teachers' knowledge of the Learning Area was improved during this study when teachers commented that they were not aware that they were teaching environmental education activities when teaching cleanliness. This was also evident when teachers commented that Life Orientation has potential for more

activities on environmental health that could be done in the Foundation Phase. **Teacher 1** reflected that she did not know that the material was so relevant to the Learning Outcomes and Assessment Standards of the Life Orientation Learning Area until such time that it was discussed during the team planning where the LTSM were used. **Teacher 2** reflected that she has gained some knowledge on the issues relating to environmental health in the learners context and that she was not initially aware of the needs of the curriculum related to the environmental health issues as envisaged by the RNCS.

According to Mbanjwa, (2002) the LTSM that are available at schools are relevant to help teachers and learners to achieve the Learning Outcomes within the OBE curriculum, and both teachers and learners are also able to develop their knowledge, drawing on what they already know. Smith (cited in Mbanjwa, 2002) notes that teachers' subject knowledge, reading levels and language competence might be one of the causes that result in teachers not being interested in the use of textbooks. The NEEP-GET (2005) indicated that teachers' knowledge of the environmental focus in the Learning Areas is one area that needs ongoing attention in professional development as this is a new focus in the curriculum for many teachers, as shown in this case study.

#### **5.3.4 Learning about integration**

Teachers also improved their curriculum knowledge through discussing integration issues. Teachers commented, during planning, that the LTSM can be used for addressing other Learning Outcomes, like reading, listening, retelling and discussions, showing knowledge of integration. **Teacher 1** decided that if you are teaching Life Orientation you can choose a book that is talking about the environmental health issues and at the same time learners would be gaining reading skills and they will develop values from the content. **Teacher 2** was overwhelmed by the comment on integration from teacher 1. They discussed that Learning Outcomes from language would be achieved as learners would be reading the text in both languages from the chart on controlling diseases through good sanitation. The NEEP-GET pilot research (Lotz-Sisitka & Raven, 2001) discussed integration, noting that there is a need to develop a more in-depth understanding of integration in the context of OBE. They commented on the inclusion of environmental learning as integral to all learning areas, and that teachers

needed to develop a deeper understanding of this. The NEEP-GET (2004) book on lesson planning indicates that teachers should ensure that integration is meaningful. In this case study teachers discussions showed a concern for meaningful integration.

### **5.3.5 Learning about contextual approaches to curriculum implementation**

A further area of teachers' curriculum knowledge that seemed to be improved through the use of LTSM includes knowledge of contextual approaches to curriculum implementation. Considering the Learning Outcomes of the RNCS and the Assessment Standards, the teachers prepared and implemented lessons relevant to the context of the learners, their school and community. Because teachers were aware of the environmental focus in their planning they guided the learners towards achieving those Learning Outcomes. All of the lessons were linked to the learners' context.

According to Gough (1997) environmental education is a process of developing awareness and knowledge of how to address the issues that affect the society. Development of teacher knowledge of how curriculum and learning about community issues could help the learners to take the knowledge they have acquired from the classroom activities to the community, was an important reason for this study, and is an important aim of including environmental activities in the curriculum, as described by Lotz-Sisitka and Raven (2001), Janse van Rensburg and Lotz-Sisitka (2000) and Mbanjwa (2002).

### **5.3.6. Learning about language and learning**

Teachers also seemed to learn more about language in learning, through the use of LTSM. This was evident in the lesson planning as one of the teachers (teacher1) was having a problem in using the LTSM that were produced in English which is not the language of instruction in the Foundation Phase. This discussion on language issues helped teachers to learn about using LTSM to improve teaching and learning in the Foundation Phase. As mentioned above, teachers shared knowledge on how the problem could be solved as some LTSM contained important information which was necessary for knowledge construction in the classroom. Mbanjwa (2002) also

comments on how use of LTSM helped to develop teachers' understanding of language in learning in the Foundation Phase case study that he worked on.

### **5.3.7 Knowledge of curriculum structure**

Teachers' curriculum knowledge was improved as they also noticed that there was no need for a special reading lesson or a special time for doing story telling or drama as all these are integrated in the learning activities for Life Skills Learning Programme. They realized how Life Skills and Languages in the Foundation Phase could be integrated, but they also seemed to be aware that while the Learning Outcomes can be in an integrated way, there were different Assessment Standards. Czerniewicz *et al* (2000) envisage LTSM as including support material for teachers as well as learners encompassing the principle and practice of the new curriculum, indicating the close relationship between LTSM use and the structure of the curriculum.

## **5.4. ANALYTICAL STATEMENT 3: LTSM ASSIST WITH THE ACHIEVEMENT OF LEARNING OUTCOMES**

According to the NEEP-GET (2003) Life Orientation forms the backbone of the Life Skills Learning Programme, and aims to equip the learners to live productive and meaningful lives in a transforming society. As discussed in Chapter 2, Learning Outcomes from this learning area can be integrated with Learning Outcomes from other Learning Areas in all phases in the GET band (DoE, 2002).

The activities that were developed by the teachers in the planning session were implemented in the classrooms I observed and these activities were planned using the LTSM that were used in the classroom

### **5.4.1 Contextual relevance and Learning Outcomes**

Teachers were able to make sure that Learning Outcomes were interpreted so that they showed contextual relevance. Lessons on water sources and pollution, water purification, healthy food, recycling of waste and safety were some of the environmental health questions addressed in the lessons. All these lessons have contextual relevance

to the environmental health issues that need to be addressed in our area in order to achieve the Learning Outcome: Health Promotion. The activities also helped learners to see that learners from other areas have problems with water pollution. They noticed in the picture (see appendix 11 a) that learners can help to avoid these problems, and to limit water borne diseases (see section 4.3.1.) DWAF (1996) stresses that water should be protected from all types of pollution to ensure good health of people who use the water resources.

#### 5.4.2 Achievement of the Life Orientation Outcome Learning Outcome 1: Health Promotion

Health promotion and social development knowledge has been improved in the lessons, as shown in Table 5.2, which identifies the expected knowledge and skills (as planned by the teacher to address the Assessment Standards for the Learning Outcome) and as actually achieved (through evidence provided in the lesson observations and learners' work).

**Table 5.2 Expected and actual knowledge, skills and values achieved**

LESSONS	LOS	Expected knowledge, skills and values.	Actual knowledge, skills and values.
Teacher1 lesson 1	Learning Outcome1 and integration of LOS.	<p><b>Knowledge:</b> Sources of clean and unclean water. How can you protect water from pollution? How can you avoid air pollution to avoid diseases?</p> <p><b>Skills;</b> Reading, discussion, presentation, sharing of knowledge and drawing.</p> <p><b>Values:</b> No pollution, awareness of the results of pollution.</p> <p><b>Assessment Standards:</b> Describes sources of clean and unclean water purification methods.</p>	<p><b>Knowledge:</b> Describes sources of clean and unclean water and how one can avoid water pollution.</p> <p><b>Skills:</b> reading, discussion, presentation and drawing.</p> <p><b>Values:</b> they should not pollute, awareness of the results of pollution.</p>
Teacher 1 Lesson 2	Learning Outcome1	<p><b>Knowledge:</b> Health promotion (water purification). All types of water purification. Boil water, add cement, add lime, add bleach or Jik, sieve water, and keep water covered.</p> <p><b>Skills:</b> How to purify water with Jik, how to avoid over measurement, what are the results of over measurement.</p> <p><b>Values:</b> hate to use unpurified water. Keep water covered.</p>	<p><b>Knowledge:</b> Water purification: addition of bleach, mention diseases that are contacted when using polluted water.</p> <p><b>Skills:</b> How to purify water with Jik, how to measure correctly.</p> <p><b>Values:</b> Will hate to use unpurified water. Keep water covered.</p>

		<b>Assessment Standards:</b> Describes sources of clean and unclean water purification methods.	
Teacher 1 Lesson 3	Learning Outcome 1	<b>Knowledge:</b> Road safety of self and others, how to respond to robots. What are pedestrian crossings? <b>Skills:</b> Crossing of Robots, use of pedestrian crossings. <b>Values:</b> Will never cross anywhere in the road. Will never wear dark clothes in the darkness. <b>Assessment Standards:</b> Identifies road signs relevant to pedestrians, and explains their meaning.	<b>Knowledge:</b> Use robot when crossing, what are pedestrian crossings. <b>Skills:</b> Crossing at robots. <b>Values:</b> Will cross where there are robots.
Teacher 2 Lesson 1	Learning Outcome 1	<b>Knowledge:</b> Health Promotion: (soil pollution and recycling). Recycling papers tins, bottles, and plastics. <b>Skills:</b> Making ropes using plastics. <b>Values:</b> develop negative attitude towards throwing plastics. <b>Assessment Standard:</b> Participates in a recycling project, and explains how recycling contributes to environmental health.	<b>Knowledge:</b> Pollution of soil, bad effects of soil pollution, and recycling of plastics making ropes. <b>Skills:</b> Making plastic ropes. <b>Values:</b> Save animals from chewing plastics.
Teacher 2 Lesson 2	Learning Outcome 1	<b>Knowledge:</b> types of vegetables, sources of vegetables, Need to fertilise. <b>Skills:</b> Developing of own garden for the school. <b>Values:</b> Values the soil, water and plants. <b>Assessment Standards:</b> Compares healthy and poor dietary habits and describes the effects of such habits on personal health.	<b>Knowledge:</b> know all vegetables in the chart and book, Which vegetables can be eaten raw, which vegetables can be found at homes. <b>Skills:</b> Cut and paste vegetables, appreciation skills. Garden development. <b>Values:</b> importance of soil, water and plants.
Teacher 2: Lesson 3	Learning Outcome 1	<b>Knowledge:</b> Contact details of relevant people, what is abuse, where to report accidents, abuse, crime, fire, illness and injury. Able to say when to report abuse. <b>Skills:</b> Dealing with an abuse, crime, fire, and injury <b>Values:</b> Develop negative attitude towards crime, positive towards reporting abuse. <b>Assessment Standards:</b> Identify relevant people and their contact details, to report cases of accidents, abuse. crime fire illness and injury.	<b>Knowledge:</b> Identifies relevant people and their contact details, to report cases of accident, abuse, crime, fire, illness and injury. <b>Skills:</b> Dealing with an abuse, crime, fire, and injury. <b>Values:</b> Self esteem, self actualization, positive about reporting abuse, wont abuse when they are old.

As shown in the table above, the expected knowledge, skills and values was related to the expected knowledge, skills and values described in the Assessment Standards. There was a correlation between what learners were expected to know, do and value,

and what they actually learned, as shown in Table 5.2 above, which shows that the Learning Outcomes were being achieved, as expected in the Revised National Curriculum Statement.

According to Gough (1997) environmental education is a process of developing awareness, knowledge, skills and attitudes which will assist students to understand the relationships between people and their surroundings. These he argues are developed during the participation of learners in environmental lessons. Mbanjwa, (2002) highlighted the importance of the link between planning and use of materials in achieving the Learning Outcomes.

Russo and Lotz- Sisitka, (2003) argue that it is only in using the materials in teaching and learning interaction that the materials become useful and meaningful as it can be used differently by many learners and teachers in different settings. In order for the learners and teachers to address the environmental issues such as water pollution, sources of clean and unclean water, water purification and recycling of waste that exist in the area, the teachers used the LTSM that had these issues either in the form of pictures or in content. According to Learning Outcome No 1 (**Health Promotion**) which needs the learners to be able to make informed decisions regarding personal, community and environmental health, this Learning Outcome was achieved. During the study it was evident that the LTSM used during the lessons helped the teachers to achieve the intended Learning Outcomes and the Assessment Standards in all the six lessons planned and implemented.

When LTSM are used effectively by teachers combined with successful or effective lesson planning it can lead to successful achievement of outcomes (Lotz-Sisitka & Olivier, 2000). Table 5.3 below, shows the link between the achievement of Learning Outcomes (based on the analysis of the actual knowledge, skills and values achieved, shown in Table 5.2 above) and the LTSM that were used.

**Table 5.3 The actual knowledge, skills and values and how the LTSM was used to support these**

<b>Actual knowledge, skills and values (see Table 5.2)</b>			<b>How LTSM was used to support the development of knowledge, skills and value</b>
<b>T1</b>	<b>L1</b>	<p><b>Knowledge:</b> Reading, discussing about sources of clean and unclean water. How you can avoid air pollution to avoid disease</p> <p><b>Skills:</b> Reading, drawing, discussion, presentation and sharing of knowledge.</p> <p><b>Values:</b> Will not pollute water when they are old. Aware of the results of pollution.</p>	Reading from the LTSM, discussing pictures, discussing content in the LTSM, answering of questions and asking of questions about sources of clean and unclean water.
<b>T1</b>	<b>L2</b>	<p><b>Knowledge:</b> Types of water purification. Boil water, keep water covered and add Jik, lime and sieve water.</p> <p><b>Skills:</b> How to purify water with Jik, how to avoid over measurement, what are the results of over measurement.</p> <p><b>Values:</b> hate to use unpurified water. Keep water covered</p>	Looking at the chart and practicing what is in the chart on water purification. Purification of water using Jik. Measuring water and Jik so that 20 litres of water is used to one spoon of Jik and then wait 2 hours before the water is ready for human consumption.
<b>T1</b>	<b>L3</b>	<p><b>Knowledge:</b> Road safety at self and others, how to respond to robots. What are pedestrian crossings?</p> <p><b>Skills:</b> Crossing of Robots, use of pedestrian crossings.</p> <p><b>Values:</b> Will never cross anywhere in the road. Will never wear dark clothes in the darkness.</p>	Learners practiced what is in the LTSM - crossing the robots. Learners demonstrated the crossing of robots. The information was from the LTSM.
<b>T2</b>	<b>L1</b>	<p><b>Knowledge:</b> Health Promotion: (soil pollution and recycling). Recycling papers tins, bottles, and plastics.</p> <p><b>Skills:</b> Making ropes using plastics.</p> <p><b>Values:</b> develop negative attitude towards throwing plastics.</p>	Mentioning bad effects of plastic as they were pointing at the LTSM. Learners learned to audit waste and to identify what will rot (for compost). Learners made ropes out of plastic. The teacher asked the learners to take out the waste that was in the boxes and sort it. The learners were aware that papers can rot so the teacher suggested that papers will help them with the making of compost and the learners responded that they will not use papers for making compost as there is enough kraal manure at their homes.
<b>T2</b>	<b>L2</b>	<p><b>K:</b> types of vegetables, sources of vegetables, Need to fertilise.</p> <p><b>S:</b> Developing of own garden for the school.</p> <p><b>V:</b> Good value for the soil, water and plants.</p>	Looking at the chart with vegetable pictures and pointing, naming vegetables and telling others which vegetables they have never seen. Telling others the sources of vegetables. Learners thought that the source of the vegetables they have never seen in town.

T2	L3	<p><b>Knowledge:</b> Contact details of relevant people; what is abuse, where to report accidents, abuse, crime, fire, illness and injury. Able to say when to report abuse.</p> <p><b>Skills:</b> of dealing with an abuse, crime, fire, injury</p> <p><b>Values:</b> Develop negative attitude towards crime, positive towards reporting abuse,</p>	<p>Discussing pictures on crime, abuse and fire - the content of the LTSM. Contextualizing and internalizing pictures, telling stories of their experiences about crime, abuse and fire.</p>
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The table shows that the LTSM helped the learners to achieve the Learning Outcomes.

## 5.5 ANALYTIC STATEMENT 4: LTSM INFLUENCES THE PARTICIPATION OF LEARNERS

### 5.5.1 How learners participated

In Teacher 1's first lesson, the learners discussed the pictures in the books and charts even before the teacher told them what to do. The learners were contextualising the pictures by making links with what was in their environment. Learners were presenting and reading for the class. Learners were presenting their knowledge in the form of answering questions in all the lessons; some questions were asked by the teacher and sometimes questions were asked by other learners. In her second lesson, learners were participating in water purification activities, when they were measuring. Learners suggested that girls should measure and measure away from the bucket. In lesson 3 the learners were demonstrating the use of robots.

In Teacher 2's first lesson all learners were participating through reading and discussions. They also participated in the skills development activity where they participated in weaving ropes. The teacher did not experience any problem of learners who were not keen to participate.

In all the 6 lessons observed the learners seem keen to use the LTSM in their learning activities. Even when the learners were not given clear and uniform instruction by the teacher, they participated by discussing pictures and by reading.

The RNCS envisages a curriculum that will create life long learners who amongst other things will have “respect for the environment” and will have the ability to “participate in society as critical active citizens” (DoE, 2002: 9, see Chapter 2). According to Janse van Rensburg and Lotz-Sisitka (2000) both teachers and political activists should work together to remove social inequalities and promote democratic values in the classroom by fostering group problem solving techniques amongst learners. The use of LTSM seemed to facilitate these processes. However, there was a problem with availability of LTSM, which influenced the lessons, as shown in Table 5.4 below, and as discussed in the next section.

**Table 5.4 Showing what learner’s did and how LTSM helped or hindered participation**

Lessons	What learners did	How the LTSM helped/hindered the participation of learners in the lesson
Lesson 1, Teacher 1	Learners were reading discussing, answering questions, telling others how bad it is to pollute water.	Learners were using the LTSM to read, pointing at the chart and others were saying this is <i>Bolotwa</i> pointing at the book. All the learners were participating using the LTSM as guide in their discussion.
Lesson 2, Teacher 1	Learners were asked to mention the methods of water purification, learners were reading a certain part in the LTSM,	Pointing at the LTSM and said boiling water, add Jik or bleach. LTSM helped the learners to remember even those things that were not in the LTSM
Lesson 3, Teacher 1	Learners were practicing Crossing of robots, crossing in a pedestrian crossing.	Used LTSM to read, looking at the books, mentioning colours that are in the LTSM. Learners made some of the LTSM in their Art lesson.
Lesson 1, Teacher2	Soil pollution, Recycling; reading and discussing. Weaving ropes with plastics preparing to make mats.	Looking at the LTSM and reading after that they comment, questions asked and answered checking the answers from the LTSM though there were no answers from the LTSM they mentioned what they estimated to be in the black plastics.
Lesson 2, Teacher 2	Healthy food: discussed sources of healthy foods like vegetables. Learners mentioned the pictures of vegetables in their own language.	Learners pointed at vegetables, and identified vegetables. There were not enough charts so learners had to keep getting up to go to the front to work with the poster. There were not enough magazines for all learners to participate fully in the activity

Lesson 3, Teacher 2	Safety: telling stories about what happen in the communities. Telling that a sick person and a person who has had an accident could both be taken to hospital.	LTSM helped and encouraged the learners to tell their own stories about what they see in the materials. The language used in the LTSM did not seem to hinder the performance of the learners though it was not like when it is written in isiXhosa.
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### 5.5.2 Quantity of LTSM influences learner participation

In my observation I noticed that though all the learners were participating in the activities, the levels of participation by all the learners was not the same in all the lessons in both classes. I noticed a difference in the levels of participation in lesson 2 and lesson 3 of Teacher 2. The two lessons' level of participation was lower than the first lesson and also lesson three's level of participation was higher than that of lesson 2 of the same teacher. In lesson 1 there were enough charts for the groups in the classroom, in lesson 2 there was only one chart (written in English) and many books (written in *isiXhosa*) with few vegetable pictures (see Appendix 11 e).



**Figure 5.1 Successful group work where learners could share the charts**

The Human Sciences Research Council research (2005:94) indicated that one of the greatest needs of rural teachers was adequate supply of LTSM. In this study, learners

also indicated that they wanted lessons in which teachers organized games, used charts and experiments and they also wanted teachers to concentrate on each learner in teaching and learning process. Czerniewicz *et al.* (2000) also commented that availability of LTSM affects learning, so the issue of availability of LTSM is not a new issue in rural schools. This study shows that the availability of LTSM positively influences learning and classroom interactions.

### **5. 5. 3 Relevance of the LTSM influences learner participation**

According to Janse Van Rensburg and Lotz Sisitka (2000) it seems critical that the lesson promotes understanding of the subject being taught. Learners should also attach meaning to what is being taught and most importantly, the learners should be able to engage with the lesson. Russo and Lotz-Sisitka (2000) note that the way the LTSM are used can influence how learning takes place. As shown above, LTSM in this case study encouraged and stimulated learners to participate in the lessons. Russo and Lotz-Sisitka (2000), Mbanjwa (2002) and Nduna (2004) all stress that observing *how learners use* LTSM can help in planning more effective use of LTSM.

In this case study, learners used LTSM in their discussions and related what they saw and read in the LTSM to their own lives and experience. The LTSM also gave the learners the opportunity to see what the experience of other learners was (for example they discovered that other learners also had problems with water pollution). As discussed above, the LTSM influenced the performance of learners in the learning activities. South Africa's curriculum transformation process has endorsed environmental health on the agenda of all schools, firstly through the incorporation of environment and health as phase organizer in curriculum 2005 (DoE, 1997) and more recently through incorporating an environmental focus into all Learning Areas in the RNCS (DoE, 2002; NEEP- GET, 2005). As shown in this study, LTSM that assist learners to consider these issues in the context of their communities, and which help them to learn about other learners' experiences would seem to be needed to implement this focus.

#### **5.5.4 Language and colour in LTSM influences learner participation**

In lesson 3, Teacher 2 (see appendix 11 f) used LTSM for emergency numbers. The LTSM were adequate for the numbers of learners, but the material was written in English which is not the learners' language of instruction in the Foundation Phase. The colors used in the LTSM were dull. In lesson 2 the chart was written in English but because the chart was bright and attractive it drew the attention of the learners.

It also emerged that the language used in the LTSM has an impact on the participation of learners as the level of participation was higher on the lessons where the LTSM was written in isiXhosa. In lesson 1 teacher 1 the participation was high as the learners wanted to read on the side that was written in isiXhosa and also in lesson 1 teacher 2 almost all the learners were reading on the side that is written in isiXhosa on the different lessons as were seemingly affected by the language used in the LTSM as seen in lesson 1 presented by Teacher1.

From the insights gained in this case study, it would seem that:

- LTSM that are written in the learners own language (*isiXhosa*) improve participation of learners as the learners' understanding of the Learning Area content is improved.
- The colour used in the LTSM improves the participation of learners, particularly in the Foundation Phase as young learners enjoy working with bright beautiful colours. This is also the phase where learners need to learn to distinguish between different colours.

#### **5.6 ANALYTICAL STATEMENT 5: LTSM CHANGE THE INTENDED TEACHING ACTIVITIES**

In Teacher 2's first lesson, the learners negotiated with the teacher that they all wanted to make ropes with plastics instead of one group doing paper recycling the other one recycling tins and the other recycling bottles. Though there were no changes that redirected the achievement of the intended outcomes there were some delays as learners discussed the issue, and this was not the intended outcome for that day.

Learners in Teacher 1's first lesson discussed something that was in the media. The teacher did not just stop these discussions as it was also educational, but it was not the main focus for that day. During the discussion the teacher stressed the dangers of eating meat that was not slaughtered as it could be life threatening. Table 5.5 below shows the slight changes that took place during the lessons, due to learner participation. The experience in this case study shows that teachers need to be flexible to allow for learner participation, but that they should ensure that the focus of the lesson remains in place. Teachers in the study also reflected on this aspect of the teaching, as shown in section 4.4.

Cornbleth (1990) views learning as a social interaction that takes place in a social context, and she emphasizes that learning is not only about the structural (i.e. the structure of what the curriculum requires), but is also about the socio-cultural (i.e. what the learners and teachers bring to the learning). Learning in all lessons in this case study took place in a social context (as described in Chapter 1) and in some cases this influenced what happened in the classroom, as teachers discussed and negotiated with the learners, which contributed to changes described in above and which are listed in Table 5.5 below.

**Table 5.5 Panned activities and changes during implementation**

<b>Planned activities</b>	<b>Changes</b>
Teacher 1 Lesson 1 Sources of clean water. How can one avoid water pollution so as to avoid diseases	None.
Teacher 1 Lesson 2. All types of Water pollution	Only water purification using Jik was practically done other forms of purification were only discussed.
Teacher 1 Lesson 3 Road Safety.	Crossing at the Robots was discussed and demonstrated. Discussed crossing in a pedestrian crossing.
Teacher 2 Lesson 1 Soil pollution and recycling.	Only the recycling of plastics was done.  Other recycling processes were done later as suggested by the learners.
Teacher 2 Lesson 2; Healthy food. Vegetables as sources of Healthy Food.	None.
Teacher 2 Lesson 3. Telephone numbers for the important people in the society.	None.

In all the lessons both teachers and the learners discussed and shared ideas in order to make learning more effective. In section 4.2.2 I described how teachers discussed activities during the planning phase, that could address environmental health issues in the area. Teachers discussed the relevance of the LTSM to the Learning Outcomes and the relevance to the language of instruction of the Foundation Phase as the LTSM is produced in two languages. This helped both teachers and learners to address language issues. Taylor and Vinjevold (1999:176) mentioned that one of the reasons why teachers were not using the available LTSM was the low level of language competence which contributes to teachers' finding the LTSM too difficult to use in their teaching.

#### **5.7 ANALYTICAL STATEMENT 6: ASSESSMENT PROCESSES WERE NEGLECTED IN TEAM PLANNING AND LTSM**

Learners were participating in groups, in pairs, and sometimes as individuals in almost all the lessons. I unfortunately did not observe the assessment part of the lessons and as a result I don't have details on how the teachers assessed the learners. Teacher 1 asked some questions at the beginning of the lesson which assessed the prior learning, and this helped the teachers to focus on the environmental health issues in the learning activities. According to Mbanjwa, (2002) one needs to consider the learners prior knowledge in the planning and use of LTSM when learning interactions takes place.

According to the RNCS assessment needs to take place using an assessment codes system, and assessment needs to be planned into the teaching and learning process (DoE, 2003). Teachers did plan how they would conduct formal assessments in the lessons, and they did not use the assessment code system in the lessons. Assessment was more informal, and Teacher 1 and Teacher 2 both made comments as they moved amongst the learners when they were drawing, reading and writing. This was more to give learners some encouragement in their activities. When the learners were writing the teachers concentrated on those learners who were having a problem in writing and most mistakes were corrected as the learners were writing. This showed evidence of formative assessment and shows that assessment is an ongoing process which is intended to support the improvement of performance of learners. While informal assessment was taking place, there was no formally recorded assessment which

reported on learner achievement against the Assessment Standards. While teachers discussed the Assessment Standards during the planning, there was little or no planning for formal assessment, or on how LTSM could be used in assessment tasks.

## **5.8 ANALYTICAL STATEMENT 7: TEAM PLANNING CONTRIBUTED TO THE USE OF LTSM**

The DoE (2003) recommends that lesson planning should include information on how the teaching will be done, the approach to learning that needs to be considered in the learning process, and the way in which LTSM can be used to scaffold and support learning (Nduna, 2003). As discussed previously, teachers used books, charts and curriculum policy documents to discuss what the learners would do in class and they considered the relevance of the LTSM to the Learning Outcomes and Assessment Standards, and the principles of the RNCS.

Team planning helped teachers to address issues surrounding the use of LTSM such as availability of LTSM and language used in LTSM as explained in the discussions above. Czerniewicz *et al.*, (2000) mentioned that it is important that teachers acquire skills to analyze, interpret, synthesize and organize information as well as the language and communication skills for reading, writing, viewing, speaking and listening to work effectively with the LTSM. Teachers discussed the reasons why they were sometimes reluctant to use LTSM. Russo and Lotz-Sisitka (2003) recommend that the use of language, context, meaning making and planning the use of LTSM are important to enable meaningful learning with the LTSM. In the thesis it seems that all 6 lessons were planned around LTSM in the planning session and teachers did not only use one type of LTSM in order to avoid the use of easy LTSM, and to address the Assessment Standards. Russo and Lotz-Sisitka (2003) argue that use of easy LTSM can lead to poor and inappropriate learning (as shown in the research by Lotz-Sisitka & Raven, 2000).

This case study has shown that the use of LTSM in planning has contributed to the use of LTSM in the classrooms.

## **5.9 ANALYTICAL STATEMENT 8: LTSM AND TEAM PLANNING CONTRIBUTED TO CURRICULUM PRACTICE**

According to Grundy (1987) praxis is related to a process of planning, doing, acting on practice and then reflecting. To illustrate the process of curriculum praxis in this case study, I discuss each of the processes mentioned by Grundy (1987).

**LTSM and planning:** In this case study, the planning process was an important aspect of achieving curriculum praxis, as teachers engaged in planning activities using LTSM. In this process they interacted with the policy documents for the RNCS and also discussed how activities could be done in classrooms using the LTSM. As discussed at the start of the study, this was a relatively new experience for teachers, as they had previously not engaged in many team planning activities, nor had they used LTSM effectively as these were not kept in the school. Using the LTSM to establish how the Assessment Standards could be achieved was also an important part of the planning process, which contributed to curriculum praxis.

**LTSM and teaching practice:** The implementation of lessons by both the teacher and the learners shows how the planning (and the theory of the curriculum) was put into practice, using LTSM. Through the focus on environmental health issues, it was evident that teachers and learners could relate what was happening in the classroom to the life of the community, showing that education is an aspect of society and that social change is a learning process brought about by the curriculum. Learners discussed real issues during the lessons, making links with their context, for example, when the learners told one another that those learners who wash and swim in the river are polluting the water.

**LTSM use and reflections:** As discussed in Chapter 4, teachers reflected on what happened in the lessons and in the planning process. They commented that they had learned more about the Learning Area, and about the environmental health focus in the Learning Outcomes. They also learned about using LTSM with the Assessment Standards, and how to address language issues in the LTSM. Teachers also learned new curriculum development knowledge, such as how to contextualize learning, and how to plan for integration. One area that was not well addressed was formal assessment.

Cornbleth, (1990) who also advocates for curriculum praxis, argues that curriculum praxis involves both the structural (e.g. curriculum policy statements, available LTSM and environmental factors) and the socio cultural. (e.g. language and learners experiences and prior knowledge). As shown in this study, these two aspects of curriculum as praxis were 'brought together' through the use of LTSM in planning and teaching.

Though the transformation of curriculum in South Africa since 1996 was based on a political ideology, which introduced the changes advocated for by Peoples' Education into an outcomes based education system (Kraak, 1999), the curriculum managed to provide the basis for environmental educational activities to improve health practices in our area which in turn will help to develop capable citizens. This has created interesting "openings" for curriculum praxis work that is contextually situated and that addresses community health issues, as shown in this study.

Motsa (2004) argues that praxis contributes towards change through application of more critically oriented education processes. This was evident in the study as teachers planned classroom activities that dealt with social issues. It was also evident during the implementation of the activities that learners were discussing as they presented their ideas to the whole class for others learners to help in the construction of knowledge and in the skills development process.

The allocation of time for different learning programmes and teacher responsibilities affects praxis approaches to curriculum that takes place in a social context. From the evidence presented in this case study, curriculum praxis would seem to require teachers to engage seriously in planning with LTSM to implement the Learning Outcomes. As illustrated by this study's engagement with Learning Outcome 1: Health Promotion, there are Learning Outcomes and Assessment Standards in the RNCS that encourage curriculum praxis, and encourage learner centeredness and activity based approaches to education where learners are seen and heard (DoE, 2002).

## **5.10 CONCLUSION**

This chapter has reviewed the use of LTSM and their relationship to team planning and classroom activities focused on addressing the environmental health issues. The chapter indicated that LTSM influence the planning of classroom activities, participation of learners in activities, and help teachers to develop their Learning Area and curriculum knowledge. The chapter also indicated that use of LTSM in planning helps to achieve the Learning Outcomes and Assessment Standards of the curriculum, and also helps to ensure that the quality of learning and teaching meets the required standards of the RNCS. The study also revealed that there is a need for the teachers to use the available LTSM when planning classroom activities for quality results. The study has shown that in the process, teachers need to solve problems surrounding non-use of the available resources, and problems associated with the availability of LTSM, and language used in the LTSM.

In this work, teachers worked on activities that could address the gap between the policy and the actual implementation of the curriculum policy, a gap identified and discussed in some detail by Jansen and Christie (1999:208) where they comment that in their research, teachers uniformly felt that their preparation for OBE was not complete. As shown in this study, curriculum praxis is important in closing this gap.

The Norms and Standards for Educators policy (DoE, 2000) requires educators who are competent in interpreting and designing learning programmes, and in selecting and adapting LTSM. As mentioned in chapter four teachers have demonstrated the ability to design, select, and adapt LTSM appropriate to the Learning Area, and change the language used in the LTSM to suit the needs of the curriculum policy. The study also shows that teachers in the study were able to use LTSM to mediate learning.

## CHAPTER 6

# SUMMARY AND RECOMMENDATIONS

### 6.1 INTRODUCTION

This research has been undertaken as an interpretive case study. Through this approach I have been able to study in depth how teachers at *Zanohlanga* Junior Secondary School used LTSM in planning and in mediating teaching and learning of environmental activities in the Foundation Phase. The use of LTSM started in the planning stage of the lessons where team work was emphasized. This emphasized the performance of both teachers and Foundation Phase learners in addressing environmental health issues.

In this chapter I will summarize the study and discuss the findings that arose in the study in relation to the research question. I will also outline emerging issues in the study and make some recommendations. I will also critically review the research methods and methodology used in the study to provide a critical view on the research process.

### 6.2 SUMMARY OF THE STUDY

As indicated in chapter 1, the purpose of the research was to see how teachers use LTSM with an environment focus, from the team planning stage to implementation stage in classroom activities. It explored the mediation of learning and had an interest in improving the quality of teaching and learning, and achievement of Learning Outcomes. The study also explored learners participation in environmental education activities using LTSM. In this study, the RNCS policy was a central focus, as it is the current curriculum policy in the South African education system. I discussed the structure of the curriculum, and some of the research on curriculum implementation issues. I also discussed the environmental health focus in the curriculum, and mentioned that I would focus on Learning Outcome 1 of the Life Orientation Learning Area, as it is the Health Promotion Learning Outcome. I also considered the needs of the Norms and Standards for Educators Policy (DoE 2000) which requires educators who are competent in selecting,

using and adapting LTSM that are relevant to the curriculum, and educators who are designers of learning programmes and activities. The Norms and Standards for Educators Policy (ibid) also requires teachers who are mediators of learning, capable of helping learners to contextualise their own knowledge and to develop new knowledge.

In setting up this study, I considered the quality of work of teachers I am working with and as a principal who, amongst other duties, has an important job of supporting the professional development of the teachers' I work with, I wanted to focus on a research project which would contribute to the professional development of teachers in the school, even though the study was not conceptualized as an action research project. As mentioned in chapter 1, I was concerned about the teachers use LTSM hence I decided to do this study. I wanted gain a clear, in-depth view on how teachers are using LTSM in planning activities and also how they use the LTSM in their classrooms. I was interested in finding out how planning activities using LTSM are linked with the activities and use of LTSM in the classroom.

I started by explaining my intentions of the research which was followed by a letter to the teachers who were participants in the study. I also discussed my intentions with the SGB and confirmed my previous discussion with them and also wrote them a letter. I organized a planning workshop with all the teachers of the Foundation Phase which took place in February. After the workshop I conducted an interview with the two teacher participants who are both working in the Foundation Phase. It was after these interviews that we all decided to strengthen work with the LTSM. We considered the NEEP-GET (2004) finding which mentions that in order for the teachers and learners to produce good quality lessons they need to have good lesson plans. Russo and Lotz- Sistika (2003) confirmed the possible problems that need to be addressed on the use of LTSM in schools when they commented on the need to strengthen teachers' skills to use LTSM. This was also confirmed by research by Lotz (1996); Mbanjwa (2002) and Nduna (2003) who all researched the use of LTSM in environmental education in curriculum implementation contexts.

I observed 6 lessons in the Foundation Phase (three lessons in grade 2, involving Teacher 1 and three lessons in grade 3, involving Teacher 2). During all the lessons I took notes on the proceedings of the lessons using an observation schedule. After the

first lessons (for both grades) I conducted interviews and after the second lesson (for both grades) I conducted interviews. I used an observation tool and at the end of the third lesson (for both grades) I conducted a focus group interview, which was suggested by both teachers that were participating.

After the classroom observation I analysed the data, coded it and came up with categories (see section 3.4) which helped me to see the direction of the study in answering the research questions and its aim. After reporting the data according to these categories, I was able to make analytical statements, which helped me to discuss the data in Chapter 5. These have also helped me to develop recommendations for the study.

### **6.3 THE RESEARCH PROCESS: EMERGING ISSUES**

#### **6.3.1 Lesson Planning using LTSM**

During the lesson plan process, it emerged that teachers need to have knowledge about the Learning Area and the curriculum (see section 4.2.4). There were some topics that they did not realize were part of the environmental focus of the curriculum. This stresses the importance of the team planning where teachers discuss and develop their own knowledge that they need for teaching the learners. The importance of strengthening teachers' knowledge was also stressed by Mbanjwa (2002) in his study on LTSM in the Foundation Phase. Teachers discussed the integration of Learning Outcomes. Discussions on integration were strengthened by the review of the LTSM that they did in the planning session.

It was agreed that teachers need to have knowledge of what LTSM was available and planning with the LTSM encouraged teachers to bring LTSM to school for lessons, as it emerged LTSM are not kept at school because of poor classroom structures. The research by Human Sciences Research Council (2005) also found that poor infrastructure is one of the problems that affect performance of teachers and learners in rural areas.

Planning of activities seemed to solve the problem of availability of LTSM at school and teachers brought the LTSM to school that they planned to use during the lessons. Teachers used the policy document when planning the lessons (4.2.2) as these directed the teachers on which activities and LTSM could be undertaken in the classrooms as seen in the Assessment Standards.

Teachers worked together to address the language problem raised by Teacher 1. Taylor and Vinjevold (1999) in their research, mentioned that the language used in the LTSM is one of the things that needs to be addressed by teachers as it is not easy to obtain LTSM for the eleven official languages. The teachers unanimously agreed that this problem could be solved by using the LTSM as the guide and then translating the information to make the LTSM user friendly. This case study showed teachers who implement an environmental focus in their lessons need to consider issues of language, interaction, context and meaning making when using LTSM (Russo and Lotz-Sisitka 2003, Mbanjwa 2002, Nduna 2003).

In the planning sessions teachers discussed the limited number of LTSM that was available for use and advised one another to use the LTSM in groups and in pairs and that the teacher should consider other methods or new approaches to the use of LTSM. Russo and Lotz- Sisitka (2003) suggested a resource- based learning approach which encourages adaptive use of LTSM to foster environmental learning. The Human Sciences Research Council (2005) cited the lack of LTSM in the rural areas as one of the biggest problems that is facing the rural community. This also emerged as an issue in Teacher 2's lessons.

South Africa is characterized by numerous environmental and development issues such as uncontrolled exploitation of forests, soil erosion and inadequate management of pollution and waste, poor diet and poor sources of water and sanitation (NEEP-GET 2004). There is a need for teachers to undertake activities for health promotion, as directed by Learning Outcome 1 of Life Orientation, to address these issues in a contextualized way by choosing LTSM that are relevant to the context of the learners (ibid) and to encourage learner participation in the lessons. In this case study, the consideration of learners' context and the associated environmental focus has contributed to the selection of LTSM with an environmental learning focus. Developing

skills to use LTSM with this focus appeared to be a key issue that became visible in this case study.

### **6 .3.2 Emerging Issues: Classroom Observations and LTSM**

The use of LSTM in classroom activities encouraged learner centeredness in the activities as discussed in Chapter 5. Learners' participation was improved by the use of LTSM in the classroom. Caduto (1983:15) believes that the presence of practical resources, such as books and charts, help teachers to bring moral development into the classroom. This was evident in some of the lessons, where learners were sharing their values with peers and with the teacher and this helped them to develop values (develop morally) in the process (*ibid* ;1983). Use of LTSM can therefore contribute to the development of values, which are important for Health Promotion involving care for self and the environment as described in Learning Outcome 1.

The availability of LTSM emerged as an important issue that affects classroom practice, as shown in Teacher 2's lessons. This both enhanced and hindered learners participation in the activities.

Making links between what learners were learning through the LTSM and their own environment and experience also seemed to come out as an important aspect of using LTSM in the classroom. The LTSM also helped learners to see what other learners were experiencing in other places. This was important for giving them a broader view of the world.

Assessment was seemingly neglected in the lessons I observed though a few informal comments were made by the teachers as the learners were writing or drawing. The assessment that was done had no structure and was never discussed in the planning session.

An important outcome of the study was curriculum praxis where learners and teachers were discussing realities in their environment. The lessons reflected Cornbleth's view of curriculum as a contextualised social process where teachers were working with the structural factors (the policy statements and available LTSM) and with the socio-cultural

aspects (learners language, and prior knowledge). Motsa (2004) mentions that praxis contributes towards change that supports more critically oriented education in context.

#### **6.4. RECOMMENDATIONS**

Recommendations will be made in the context of the analytic statements discussed in chapter 5. The recommendations are based on the case of *Zanohlanga* Junior Secondary School, and are confined to recommendations that can be used by teachers in this school. They may, however provide useful insights to other researchers interested in the relationship between planning and LTSM in rural schools.

##### **Recommendation 1: LTSM should be used to contribute to planning of classroom activities.**

As indicated in this case study, planning is an important factor in enabling effective use of LTSM. For planning of activities to be successful, it is important to make sure that the LTSM are available in the planning process. Through this teachers can use the LTSM to see how they can be used in the context of local issues, and in the context of curriculum requirements. It is during the planning of activities that teachers can decide on the LTSM to be used during the implementation of lessons. Planning of activities is encouraged by the use of LTSM. It is recommended that teachers continue to use LTSM in team planning as this has shown to directly influence the use of LTSM in classrooms, and the quality of teaching and learning.

##### **Recommendation 2: LTSM should be used to contribute to the teachers' knowledge of Learning Outcomes**

Teachers need to be made aware of what is meant by the environmental focus that exists in the RNCS to make them aware of what the curriculum expects from teachers in order for them to meet this demand. As shown in this study, the use of LTSM in planning, helped teachers to understand the environmental focus in the Life Orientation Learning Area. This study recommends further use of LTSM in planning sessions, to further develop teachers' knowledge of the environmental focus in the Learning Outcomes and Assessment Standards.

### **Recommendation 3: LTSM should be used to assist with achievement of Learning Outcomes and Assessment Standards**

As shown in this case study, when the use of LTSM is well planned and the Learning Outcomes and Assessment Standards that have to be achieved are considered before in the lesson planning process, then the chosen materials can help to achieve the Learning Outcome.

The study recommends that it is necessary to analyse the Learning Outcomes and Assessment Standards that can best be achieved when using the available LTSM. It is also necessary to consider the capability of learners to achieve the Learning Outcome and the Assessment Standards so as to identify the scaffolding necessary (e.g. language support) for those learners in order to achieve the Learning Outcomes and the Assessment Standards.

Teachers can monitor their work by comparing the expected knowledge, skills and values with the actual knowledge, skills and values (as outlined in 5.2). This helps to establish whether Learning Outcomes are being achieved and how teaching and use of LTSM influences the achievement of Learning Outcomes and Assessment Standards. As shown in this study LTSM helped to achieve the Learning Outcomes and Assessment Standards in the lessons. The study recommends that teachers continue to use LTSM to achieve Learning Outcomes and Assessment Standards.

### **Recommendation 4: LTSM should be used to improve learner participation**

Teachers using the LTSM should consider the language used in the materials as this can have both negative and positive impact on participation of learners in their classroom performance. This study wishes to recommend that Foundation Phase teachers more especially those that are not using English as their LoLT try to find practical solutions to using LTSM that are produced in English. This could mean translation, but sometimes the English words can also be used to develop the learners knowledge of English. Teachers should not just reject or not use materials produced in English.

Availability of LTSM also influences learner participation, as shown in this case study. This study recommends that teachers carefully consider how the lesson can be structured to maximize learners' ability to use limited LTSM (for example using group work, sharing materials, and drawing instead of cutting). Teachers can also try to get enough materials for their class when LTSM are handed out by groups such as DWAF.

The study has shown that LTSM improve learner participation, as learners are eager to read and discuss what is in the LTSM. The study recommends further use of LTSM to improve learner participation in classrooms.

**Recommendation 5: Teachers should manage situations where LTSM changes the intended teaching activities carefully**

As shown in this study, use of LTSM in classrooms can change the teaching activities. The teacher should ask guiding questions so as to avoid learners from diverting from the intended activities for that day. This should be made carefully as it may discourage learners' contributions in a discussion and result in poor participation of learners in all the activities. Also it would be wise for the teacher to consider the Assessment Standards to ensure that the lesson stays focused. As shown in this study, the lesson can change without it changing the intended outcome, and teachers need to know how to respond to such changes (as shown in the plastic ropes activity). This study recommends that the learners should be informed of their intended knowledge, skills and values that are the focus for that day. This can be time consuming though it should not limit the construction of knowledge by the learners. The study recommends that teachers manage situations where LTSM change the intended teaching activities carefully in ways that do not reduce learner participation.

**Recommendation 6: A stronger focus on formal assessment should be included in team planning and in the use of LTSM**

As shown in this study, teachers were comfortable doing informal assessment, and in assessing learners' prior knowledge at the start of the lesson. However, little attention was paid to formal assessment or to how LTSM can be used in formal assessment

activities. This study recommends that further attention be given to assessment practice in the team planning sessions.

Assessment helps the teacher to be reflexive. After the teacher has carefully analysed the performance of learners in a lesson that was noted as unsuccessful, she can change the implementation strategies used in the lesson. When the analysis of learners' performance is properly done it can influence the activities of the next lesson. It is recommended that teachers engage in this reflexive process in future planning. This study further recommends that LTSM should be used to develop assessment activities as it is necessary that learners show and make judgments about their own performance.

**Recommendation 7: Team planning should be continued, as it contributes to the use of LTSM**

As shown in this study, team planning helps teachers to solve all the management problems surrounding the use of LTSM in their discussions. These discussions address problems in the context of the school which help teachers to identify how other teachers deal with such problems. It is recommended that these planning activities be continued, and that they be monitored so as to assist teachers to limit problems that may arise in using LTSM. Team planning has been shown to be a useful process in strengthening the use of LTSM, and it is recommended that this process be continued. Team planning and the use of LTSM contribute to the process of curriculum praxis, which addresses the gap between policy and practice raised by Jansen and Christie, and it is recommended that teachers continue this process so as to address this gap.

**6.5. CONCLUSION**

Throughout this interpretive case study, which focused on team planning processes and the practice of two teachers in the Foundation Phase, I have considered the words of Strauss (1996, as cited in Lupele 2002) who mentions that if stories are told with love, wisdom and devotion to the truth, they can be inspiring to the audience. I have explained how the two teachers were involved in team planning processes using LTSM to improve implementation of in the curriculum and to address the environmental health issues in the local community.

I have tried to seek an in-depth understanding of how the two teachers of the Foundation Phase used the LTSM to promote the good health of the learners and later of the whole community. At the start of the research I also investigated the reasons why teachers were not using the LTSM when planning their activities and in their classroom activities, and I discovered that some of the reasons were linked to the context in which we teach (as described in Chapter 1) while other reasons were linked to teachers' confidence and abilities to use LTSM.

I developed rich insights into how the new curriculum can support praxis, and how LTSM can enable more learner centred approaches. Of great interest to me was the enjoyment learners experienced when given the opportunities to use the LTSM, and even how teachers enjoyed teaching the lessons. While this is not part of this study, I can report that at the start of this year teachers have once again conducted their planning using LTSM, and classroom practice is changing in my school.

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## APPENDIX 1

TO : THE FOUNDATION PHASE TEACHERS  
FROM : NOZUKO G. MDLUNGU  
ZANOHLANGA J.S.S  
P.O BOX 2515  
DUTYWA  
500

DATE : 10 NOVEMBER 2004  
SUBJECT : REQUESTING ACCESS TO CONDUCT AN ACTION RESEARCH CASE  
STUDY

Dear teachers,

I am a bone fide Master of Education Students at Rhodes University, Grahamstown. I am required to undertake a case study as part of my course requirements, leading to a leading to a participatory action research for 2005.

THE TOPIC OF MY STUDY IS:

As you know that in my work I am expected amongst other things to monitor the use of LTSM in planning and implementation to improve the quality of teaching and learning in the foundation phase.

I therefore request you to allow me to carry out this exercise with you as it will be more manageable and cost effective if it is done in the school where I work. Team planning will be done by all the foundation phase teachers though the implementation will be done by the two (grade 2 and grade 3) teachers of the foundation phase.

I hope by engaging teacher in this study teachers will benefit in curriculum development activities.

Yours truly  
N.G Mdlungu (principal)

## APPENDIX 2

TO : THE FOUNDATION PHASE TEACHERS THAT WILL BE OBSERVED  
FROM : NOZUKO G. MDLUNGU  
ZANOHLANGA J.S.S  
P.O BOX 2515  
DUTYWA  
5000

DATE : 10 NOVEMBER 2004  
SUBJECT : REQUESTING ACESS TO CONDUCT AN ACTION RESEARCH CASE  
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I hope by engaging teacher in this study teachers will benefit in curriculum development activities.

Yours truly  
N.G Mdlungu (principal)

### APPENDIX 3

TO : THE SCHOOL GOVERNING BODY  
FROM : NOZUKO G. MDLUNGU  
ZANOHLANGA J.S.S  
P.O BOX 2515  
DUTYWA  
5000

DATE : 10 NOVEMBER 2004  
SUBJECT : REQUESTING ACESS TO CONDUCT AN ACTION RESEARCH CASE  
STUDY

Dear teachers,

I am a bone fide Master of Education Students at Rhodes University, Grahamstown. I am requires to undertake a case study as part of my course requirements, leading to a leading to a participatory action research for 2005.

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As you know that in my work I am expected amongst other things to monitor the use of LTSM in planning and implementation to improve the quality of teaching and learning in the foundation phase.

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Yours truly  
N.G Mdlungu (principal)

## APPENDIX 4

### WORKSHOP LESSON PLANNING NOTES

#### **Notes on planning and learning teaching support material**

**Aims** mentioned by the two teachers were that they wanted to improve their performance in as far as the use of LTSM and planning.

Aims :Teacher 1 – to improve learning in the use of learning support material.

Teacher 2-to improve the standard of planning and use of LTSM in the Foundation Phase.

The researcher asked a question as to what they think is the reason for them or teachers not using the LTSM. Both teachers agreed to the following as the things that need to be considered as reasons why they were not using the LTSM

#### **Things to be considered for not using these materials:**

- ❖ lack of support material.
- ❖ The government failed to subsidise materials.
- ❖ Lack of classrooms e.g. mud, unlocked classes.
- ❖ Linear knowledge about the learning area concerned.
- ❖ Lack of LTSM written on the language of instruction.
- ❖ Relevance of the LTSM.
- ❖ Training on the use of LTSM.
- ❖ Need to know the text book before it is ordered as we sometimes order the textbook only to find that it is not relevant to the needs of the curriculum.
- ❖ LTSM written on the language that is not used for that grade or phase.

#### **Discussions**

The government subsidises these materials but they are not used by the teachers because of the infrastructure of the schools. No relevant books and support materials. When planning the educators should bring the support materials. The educator should go through the materials. It is also wise that teachers are trained in the use of LTSM.

Is this material subsidised? No this material is from other sectors because support material is not enough – from DWAF. Where are we going to get our materials? Books, and cupboards, from DWAF also that means we can possibly get it with ease. No, DWAF has gone into partnership with the department of education to fight water issues in the rural areas. I wish they were also providing materials for Mathematics.

In other cases we improvise e.g. shapes the teacher can fold papers, and when doing fractions. Use of concrete objects when measuring. Use advertising papers from the community and nearby town.

25-26 April 2005

### **PLANNING USING SUPPORT MATERIALS**

#### **LIFE ORIENTATION**

Teacher 1 said that Learning Outcome 1, AS 1, 2, 3, 4 were relevant for using the Life Skills text book and according to LO 1 we also include AS 4. Even road signs are also included according to a document used. Use charts and documents hand to hand when doing planning.

Teacher 2 asked: How many lessons will you observe? It would be better if you would do 3 to 4 lessons per teacher so that you can have more valid information on your findings. Teacher 1 added that so that they have more lessons to reflect on as the lessons will be used in their IQMS evaluation.

## PLANNING CLASSROOM ACTIVITIES TO BE DONE TO ACHIEVE LO1 GRADES 2 AND 3

### GRADE 2 TEACHER 1

The learners will be asked to:

1. Name sources of clean and unclean water. (river, spring, *iphiko* 'windmill' dam, tank, dongas and also from the tap.
2. Draw the sources of water they know in their area but looking at the chart.
3. Learners can be guided to a picture discussion by means of questions.
4. Learners can cut and paste if they or the teacher can get magazines.

The researcher drew the attention of teachers that the aim of research is to look exactly what is happening in class. How is actual learning teaching materials used in the classroom.

- The learners discuss the picture.

Teacher 2 is to do recycling of papers, tins, and plastics by making ropes.

### SUGGESTIONS FOR IMPROVING WORKSHOPS

- ❖ Material should be collected long before.
- ❖ Facilitator must have facts.
- ❖ Camera did not work well.
- ❖ Cassette batteries finish before the end of planning session.
- ❖ Consider integration of learning areas so that the learning outcomes are not unnecessarily repeated.

### GENERAL COMMENTS

Facilitator should have more information so that she can be able to answer questions.

They will help us on how to do lesson plans using learning support materials and also they will guide us about the activities done in class.

This concentrates only on people and does not say anything about animals on a daily basis.

I should think I should include health of animals.

The RNCS stresses improving health conditions and yet we are staying in dirty, unhealthy classrooms with no toilets and no water, I am sure that the document was not done by people teaching in rural areas like these.

### LESSON PLANNING NOTES

Material are sent to be fetched from home teacher 1 said: **Teacher 1** asked, "Are we going to wait for the materials, why are we not using the policy document as a source of information?"

**Teacher 2** responded and said that they needed the materials they were going to use during the lesson implementation. The LTSM arrived after 10 to 15 minutes:

**Materials used :**

Books delivered by Department of Education  
Charts

Grade 2

LOS 1 Health promotion

AS 1 Describes sources of clean and unclean water and purification

Activities to be done

-Sources of clean water mentioned by learners

-Mention sources of unclean water by teachers.

Teacher 2 said; "The teachers should give example of clean water like tap and tank water which does not have impurities."

Teacher 1 asked: "Is a tank a source or storage thing. According to our environment a tank is a source of clean water. There is difference between clean and pure water.

Do we find pure water in fountains and under ground. Water from taps".

Water from rain is pure water and Water is only pure when it has been purified by using chemicals, and boiled.

**Unclean water:** Water from floods, Water from rivers & Water from dams

We are actually concentrating on the document and we are going to use what we know comparing it with the LTSM.

**WHAT LEARNERS SHOULD LEARN**

Learners must not wash themselves in rivers, learners must not swim in water, learners should read from their books about water.

Ways of purification: Learners add lime, learners add Jik in water, learners add cement in water, learners can boil water.

Learners draw and colour these sources of water, Learners can cut and paste pictures from magazines.

**CLUSTERING**

Clustering AS1 AS2 and AS3.

Diseases to be done by unclean water:-Diarhea, TB, Cholera, Belhazia

For grade 2 lesson 3, AS 3 road signs.

**Intergration across** ;Home language, LO3 Reading: We know this when the learner uses visual cues e.g reading road signs, learners draw different types 4 colours of road signs

**Teacher 1** mentioned that most of the books that have relevant information are not written in isiXhosa, I then have a problem when I use them. Teacher 2 replied that they all have that problem but the only remedy to that is to translate where the learners do not understand or go on using both languages as long as the learners understand what they are doing.

**Teacher 1 and Teacher 2** were whispering to one another and when I asked them they told me that they fear questions like why do you guide the learner? Let the learner do it by herself and then guide where necessary.

**Teacher 1** said; “Papers should be collected and burnt and plant flowers in the school “  
**Teacher 2 said** ; “To burn papers is not right because people are going to suffer and also paper can be recycled.”

**Maradebe said** ; this outcome does not fit in this lesson, LO4 AG bullet 1+2 with LO3 reading and viewing ; Home language predicting about colours and red means stop green means go, action competence in these grades is very important.

LO3 The learners will be able to read and view for information enjoyment, and respond to the athletic, cultural and emotions values in text

**AS2 Bullet 1** The learner uses visual cues to make meaning

Predicts from the cover of the book what the story would about

**AS2 Bullet 2** Reads simple instructions in the classrooms

What would you said if the learners would dramatize the colours said by Stula and demonstrate what is in the book

The aim is to use support material on the scale.

## APPENDIX 6a-f: LESSON OBSERVATIONS (NOTES TAKEN DURING OBSERVATIONS)

### APPENDIX 6 A

#### OBSERVATIONS 29 April 2005

##### Lesson 1 teacher 1 grade 2

The teacher started her lesson by a song about water.

##### **Questions on water:**

Do you see any water? The child answered that she sees water in all the pictures.

Yes from the tap. A bucket with water. Water.

Watering plants water washing hands

Water from the river, tank, well, sea, dam, wind mill, spring.

All the places are named by the learners looking from the different books and charts .

Teacher corrected them when they said *emthombeni* instead of *emthonjeni* .

Tank water is very clean, tap water also clean but salty because it does not come from the rain.

What causes water to be not clean? Because clean water has no impurities.

Dam water has more impurities, muddy naturally because of mud, dam water is rain water. Dam water is from the floods. Floods will not be available if there is no rain. What is the help of water? Water is helping for making cement, for animals, pigs, goats and sheep and also for human consumption. What does one get from dirty water?

T.B Cholera from the dirty water can be obtained. Water from the tank is from heaven and therefore it is clean. River water is cleaner than the dam water because it is not running but the river water is sometimes soapy because water used for washing gets back to the river.

The livestock like cattle, horses, sheep, goats, donkeys and sometimes pigs walk in the water and drink in the water. All these animals make the water dirty and untidy. These are all causes of impurities. You have not mentioned people that swim, wash, throw dirty things in the river and animals urinate in the river. Wind and rain bring toilet in the river. No you have not seen that you heard it from the radio. That is true I have seen it when it is raining heavily. The river water is clean when the river water is dirty the dirty water goes down and the clean water remains.

No that's not clean water that is remaining it is dirty water where somebody else was washing himself or clothes or even spitting ,or even urinating in the river **YO! THAT'S AIDS...** no there is no aids there because there is no one holding blood without gloves. Water from the windmill is clean but salty. This water is pumped from underground. If it comes from underground it is dirty. When there is much wind there is a lot of water from the windmill. Spring water is clean but has much *ubulembu* but it is nice and cool when it is sieved with a clean cloth this water can cause rash and sores in the body. When water is sieved only visible impurities are removed but germs are not removed. Even the tank water is not free from germs it also needs to be purified before it is used. The learners were asked to mention the sources of impure water which cannot be used without being purified. The teacher asked the learners to draw all the sources of water they know.

They were excited as they were pointing, reading coping from the charts and books in front of them. Others were pointing at the charts saying here is Nomsa swimming at Bolotwa. Some said "I will draw girls swimming " Girls do not swim it is boys that swim Girls wash in the river . That is bad we should watch boys swimming and tell the teacher because it is also dangerous they will die. You must be careful now that you know how bad it is, said one learner to the other. Cholera is making diarrhea and aids is also making diarea I hate people swimming in the river, I hate people washing near the river and let dirty water go back to the river.

Look at these washing their bodies in the river. ' I hate this'. Said one learner looking at the book. "May be he is not aware that it is unhealthy". All these were the comments from the learners. The teacher then told the learners that they must tell parents, brother and sister at home. 'Yes' said the teacher we must teach our parents about ways of keeping the water clean. 'Teacher they must tell those that swim at the dam that they will get worms because also pigs swim there'. No when they have eaten the pigs that were not slaughtered. I will draw a windmill where boys cannot swim. The teacher told the learners that they should only draw sources of water and not people making the water impure. 'We should use this side written in Xhosa as we are reading and as we draw'. Suggested one learner. "No we must read first before we draw". "No we have already read and it is nice to look at the material it is beautiful". *Masiyibuke*.

## **APPENDIX 6 B**

### **Lesson 2 teacher 1**

#### **PURIFICATION OF WATER**

Learners brought different water samples which were all not pure. The teacher asked the learners the sources of the water they have brought. Though the source of water is the same the level of visible impurities was not the same. There was no water from the tank or from the tap. Learners were asked to mention the ways of purifying water that are common to them. They mentioned boiling, sieve, and adding cement and lime to muddy water when they want to wash with it. The learners were asked to mention the diseases that they can get if they use water that is not purified. Learners mentioned Cholera, and T.B

A chart was used where learners were reading some were holding bottles some were holding jik some were holding a bucket of water. Not clear of what is happening. I asked one of the learners what was happening. Experiment *maam, yanton? ye water clean* ok I said the teacher is of a quite side in this class but learners are taking a lead in doing talking and sometimes leading the teacher.

A 20 liter bucket was filled with water. One learner said 'this bucket is not clean'. "No, it is clean but the colour of the bucket is cream". The teacher did not follow that argument as it was going to embarrass the owner of the bucket.

"Let us start leaners" "No" said the teacher I want you to read from the chart and tell me what is said about how to purity water. One must read a boy. Now from what he has read we must try to do it. A boy took a spoon and as jik and poured jik over the bucket. What a mess! about a cup of jik was poured in the 20 liters of water.

"Oh no" The teacher stopped them and asked a question on what can they do to avoid this mess when they are doing this experiment or when they are doing it at home? 'Pour jik ever a cup not over a bucket of water' said on of the learners. The second bucket of

water was filled with water and Jik was poured over the cup in to a spoon. This time was a girl and this was neatly done not a drop fell in to the cup. Jik was poured in to the bucket of water. A comment from one of the girls, this is a girls job not boys work look how neat it was done by girls. The teacher asked which water can be used for human consumption. They all pointed to the one that was purified last. Why? It is because it is done correctly, said one of the girls, and the other one said because it is done by mother, and as a result it does not smell in the water. "If it is not smelling it means it is not enough". "No it enough even if it is not smelling. Because it is pure and free from (*Ntsholongwane*) germs". Said one learner. "It will be free and ready for use after 2hours".

The teacher asked all the groups to comment on the experiment. One group said 'one need to be carefully on the measurement used as this may cause the water to be more killing if the jik is over dosed'. One group said that the spoons used or brought by the learners are not equal and as a results the measurements may not be the same. The other group said: The measure is a chart is done by a lady so lets ladies do their work not men doing the ladies job.

A lot of discussion 'No it is not done with a pairs of trousers it is done with hands". The important thing is that you must be able to do this at home. So if at home there is no girl you will drink dirty water. The teacher told them other methods of purifying water. Learners had to draw all this water purification utensils. The teacher went around trying to help them where it is needed. They were using the chart to refer on and the charts were not enough as a results they were moving up and down in the classroom trying to use the two charts the were available for the whole class why?

## **APPENDIX 6 C**

### **Observation 3 Grade 2 Teacher 1 (13June 2005)**

The teacher started the lesson with a recitations.

The learners recited.

Xa ndiwela umgaqo.

Nokuba kungebhaqo

Umama angabinaxhala

Few questions were asked. Who of you know robots? "I have seen them in town". What are robots used for? For crossing the streets in busy places. Do you know the pedestrian crossings with black and white lines that are used for crossing even where there are no robots no teacher. The teacher gave them the books. The learners turned at the books. Do you know robots?

What colours are in the robots ? Red, yellow orange and green. All the learners by this time were looking at the books attentively discussing the picture of robots.

Do you have robots in town 'yes' one whilst these questions were asked by the teacher learners were busy with the reading books, reading in pairs but no instruction was to them about the books. The books were written in IsiXhosa. The partners were not sharing the books properly. This meant that only those who were carries of the books would tern the books. They started reading looking at the robots, I'm crossing said one. Coca, you are going to cross the robots and come to me. The colours were discussed by the learners with the help of the teacher. Minding of the robots and also what do you do when you cross if there are no robots. "Teacher she is looking at the book to give an

answer, then she had her hand up. 'Yes I am looking why we were given the books'. At the white lines across the street. The teacher discouraged the learners to stand at the centre of the street whenever they want to cross the street they should cross on the white lines teacher here are the white lines for crossing the stree. Teacher asked the learners to explain the meaning on the colours of robots.

Teacher the green colour is telling you HAMBBA the red colour YIMA.

*-yuu-kuba lwe isi Xhosa not isingesi*

No I know stop means *yima* and go means *hamba*.

The teacher told the learners that they are going to demonstration the learning activity in groups. So that the teacher is sure that they are able to cross the robots even when the teacher is not there.

Lions Group A Stood up with a green jersey one said green *hamba* they all moved the red jersey was the red point of the robots. The other one hold a red jersey and said stop – they all stopped.

"Where do you cross when there are no robots". "Where there white and black lines". Said one of the learners. Teacher in town there are no white and black no there are no there. The second group had papers that were painted green, yellow and red. Green *hamba* -go they said. The teacher took out the papers with the coloured circles and the learners had to practice the robots. After this the learners were asked to draw the road signs as they appear on the LTSM.

## **APPENDIX 6 D**

### **TEACHER 2 LESSON 1(28 April,2005). Recycling.**

The teacher issued the charts and didn't immediately give the instruction - learners started immediately reading .A bit upside down as everyone wanted to see and read. There was a chart in each group.

Question were asked like;" Who can not see from the charts that you have been given?"

They were very busy and as a result very few answered the question, as they were all reading on the materials which had many different portions so each one in the group chose a portion where to read. "You have finished turn it around so that I can also read" "No I want to see what is happening in the picture" "Watering in the garden" "No I see someone in the toilet" the teacher was going around with no instructions given to the learners but everybody was busy reading.

After 5 minutes the teacher gave an instruction that the learners should read and then report what is happening in the chart to the teacher .No one group was told what or which part to read.

A lot of fun but not a lot of group or team work was encouraged this resulted in them [learners reporting for a long time as everyone wanted to hold the material stand in front of the class and report on the following issues "about collecting rubbish "no "about water" the reporting was finished quite exciting as they them selves told their teacher that their next activity was about the rubbish that was collected as they wanted to use it as a boxes were fill and they wanted to do what was promised to them and what they saw from the chart .

The learners were regrouped into three groups but what was exciting at the beginning is to understand that they must all audit the material as they have seeing by done this . The teacher insisted on starting from adding first and told them to start the activities some started to cut the papers others on working with plastic. But in course of the lesson the paper and the tin group said

“We also brought plastic we want to work on plastic ”the teacher tried to overlook this. The second one went straight to the teacher and said Miss “ I want to join the plastic group as want to have my own mat ”. Teacher we can make compost with papers. We have a lot of kraal manure at home and we will bring it to school.

Every one was working and class stopped and they agreed that they should all work with plastic first and the other day, they work with paper and the other day work with tins and bottles

Activities done on plastic were “I want to make a skipping rope ” “I want us to make a mat” “no our strips are too big for the mat” make it thinner”

The teacher was helping them here and there but they wanted to do it themselves. “Let me do it my self your stripes are not straight” “No stop I am learning to do” “No you are wasting plastics” “They are many and I’ll bring more” .

The conversations were encouraging as I laughed the way through the lesson . “Come teacher mine is not right” “ Come help” the teacher helped them “Teacher this one is doing it the wrong direction” No the teacher said “but work is nice and neat” so “I told you” with excitement. Not all the learner’s work was neat but the teacher was encouraging them and the learners enjoyed the lesson .

The teacher asked the learners to explain the environmental impact this is going to have? The learners answered that the livestock will not die of chewing undigestible plastics and wires.

“Teacher we have not washed hands after the activity” No water scarce” they went to wash hands .They washed hands with soap and water “why do we need to wash hands” “to remove germs which bring diseases “Cattle will be saved from chewing plastics nice well done tell our parents that we are sawing Cattle said the teacher. My father praised it but said we must burn it so that it is not used again collecting rubbish.

We found plastic, papers, wire, nails, We didn’t pick up bottles as it was going to cut us.

Teachers in our group we picked up orange peels, plastic, paper, nails that are going to damage your wheels and some wire also for protecting your wheels . One of the learners said , “ *Miss asizukwenza igadi efakwe umgquba wamphepha thina siza kuza nomgquba emakhaya asiwudingi umgquba*” teacher we won’t use compost made of papers we will bring kraal manure from our homes as we have a lot of manure at home.

## **APPENDIX 6 E**

### **TEACHER 2, LESSON 2, HEALTHY FOOD**

A chart was pasted on the board with different types of food [vegetables] the teacher hangs the chart on the board

“MM beautiful” said learners Cabbage, Spinach [reading] and discussing pictures.

Two boys and 1 girl helped the teacher to hang but busy reading.

Reading very fast as they were helped by pictures.

Oh teacher I wish they were written in Xhosa one learner said but she was naming the vegetables as they are on the chart.

No I don’t mind as I am able to look at the picture and I am going to write in Xhosa.

The teacher asked “what are these on the chart” ‘Vegetable’ ‘*Imifuno*’Mandibles but not meat .The learners are asked to tell their stories about which type of Vegetables they

know and have son or eaten .My mother buys cabbage from town. There is spinach at home. Nice when cooks with potatoes and carrots and add fish oil. I like Oranges teachers said they help from getting fever. “No I don’t like Cabbage. My stomach runs when I have eaten some cabbage.

The teacher tells the learners to listen from her story. The teacher said, “All Vegetable supply the body with vitamin”. It is right to cook adding fat as they don’t have fat. Vegetable and fruit are obtained from the soil and if the soil does not produce good quantity after they have been planted one need to add comfort *Umgquba* .

“Where do we get umgquba?”. “Cow, goats, sheep, chicken and pigs. “What do all these eat?” ; “ Grass, greens, vegetables so we must give something back to the soil as we have taken something from it

Teacher she says even toilet is umgquba

Reluctant to report. There are no fruit trees in our area .

Teacher; Tell me the reason for the lack of fruit trees in the area.

Learner; All plants need water, Maize die with out water Pumpkins die easily when there is no water [rain] I water Spinach Cabbage but I cannot water Maize .

Homework :

The teacher told learners to bring any type of manure for the space use are preparing as our garden for next year. Learners moved to come closer to the board.

Questions asked and learners reply talking and pointing Vegetables they know and what they don’t know. What planted in which garden ;

Class discussion about vegetable asking the teacher to bring what they have never seen so that they can see

Uses of Vegetables to human health were discussed with the learners taking a lead in almost all the discussions

Learners; Supply roughage, Stop diseases Stop Aids ,Make body strong, Make stomach good .Teacher making some additions on the learners contributions.

## **APPENDIX 6 F**

### **TEACHER 2, LESSON3, STORIES (safety)**

The teacher asked the learners to tell them stories about an ambulance, Pickup (Police van) all were quiet until the teacher told them her own story of an old lady who was raped and police were called. Police came and the old lady was taken to the doctor by police. Free of charge said one learner. The teacher asked ‘Do you know the story’ yes teacher. Where did they phone to get police? They phoned KOMANI which is very fast to respond [Queenstown]. Do you know the number they used? ‘no’ who of you know the number that is used to call police. Yes teacher I know its 101. No 1011 many said the number is written on the police van outside. The teacher then helped to write the number on the board 10111. One learner who was busy turning pages of the book infront of her said, “Teacher here is the number 10111”. The book had the number written by hand on it.

The teacher then said all of you look for the pages that has those numbers. They turned the books. The story did not continue, “What is child help line” teacher it is the numer you phone when a child is in trouble. What trouble? Raped, beaten, ‘oh a child should not be beaten’ one child asked, “Yes she or he should not be badly beaten”.

The teacher asked learners to tell their own stories of children that were abused in their own environments. “The teacher asked one child why she was going like this-----initiating the teacher listened and the whole class burst in laugh”. The child said that she was beaten by the father, the man she was staying with. Oh the child was staying together with the man? *Babehlalisana* ‘hayi’ like father and daughter. The child was taken to the social welfare and they were taken away from that man to a place of safety. ‘Where was the mother of the child?’ “‘Dead’ and the man was an uncle to the child”.

Every time the learners read something from the book. They asked the meaning from the teacher as the book was written in English. ‘There is no book that is written in Xhosa’ ‘No’ ‘Why?’ *Ndifuna ukuqweba elam ibali.* (I want to compose my own story) Oh you don’t want to tell the real stories? ‘Yes, but something that I have heard from the news.’ The child told of a story where a big boy has tried to kill his grand mother after the grand-mother has refused with her pension money. The old lady was taken away to stay with her daughter and now that boy does not have anything to eat

**APPENDIX 7 A: OBSERVATION TOOL – Teacher 1**

**THE USE OF LEARNING SUPPORT MATERIALS TO MEDIATE ENVIRONMENTAL LEARNING IN THE CLASSROOM**

**A LESSON OBSERVATION TOOL:**

**A. Researcher's details:**

Name: *N. G. Mbatia*

Designation: *PRINCIPAL*

Date of observation:

*29 April 2005*

**B. School and educator information**

School name: *Zindibungu Junior Secondary School*

Educators name: *P. F. YEN*

Grade observed: *Grade 2*

Learning area observed: *Life Orientation*

Geographic location of the school: *Voya location Mbashe*

What resources are available for use in this class? *Charts developed by DWP and reading books.*

**C. The learning environment:**

How is the general appearance and arrangement of the classroom?

*Group work, learners working together as groups. Sometimes working as individual as they all wanted to participate*

How are classroom resources arranged and sorted?

*All the charts and books were given to the learners but there were no instructions given immediately. Learners started discussing asking questions, making assumptions on the given materials.*

Are learning support materials readily available for use by learners and the teacher?

*Yes, as the teacher planned the lessons on the charts and books. Learning support materials used developed other assessment standards under the learning outcome for languages. This looked like a comprehension lesson or a reading lesson. Discussions were sometime based on the diseases that we get from dirty water.*

#### D. Methodology:

How does the educator manage the classroom teaching time?

Well, but too much discussion, interaction amongst learners themselves and teacher and learner discussion. Freedom of learn in sharing ideas, Answering of questions. They not orderly but interesting discussions. She outcome was that learners should know sources of clean and unclean water, How water is polluted. Avoid activities that pollute water.

How are the principles of outcomes based education emphasized?

Learners were constructing and discussing from the start. The teacher was helping learners who were taking a lead in the construction of information.

How are the activities relevant to the learning outcomes?

As activities were planned in consideration with the learning outcome, the intended assessment standards were achieved.

How are the activities relevant and applicable to the real world and how are they extended beyond the learner's immediate context?

Discussions were extended to diseases that were obtained from unclean water, Encouraged to discuss on how is water polluted in other places.

How does the teacher apply her role to support environmental learning in class?

The teacher asks questions like, who pollutes water, How can you avoid water pollution? Allowing learners to ask questions and discuss environmental health issues.

### E. Use of learning support material (LSM)

What evidence shows selection of LSM by the teacher?

When entering the classroom the LSM was already on the table. The LSM matched the outcome and the intended assessment standard for the lesson. During planning the LSM used was chosen by all the foundation phase teachers.

How are the learner support material adapted?

More activities were contextualised by both the learners and the teacher. "Here is our windmill" pointing at the chart.

How are the LSM used?

Wonderful participation as learners were reading, referencing when drawing. There is no formal way of using the LSM in class.

How do learners engage with the learning support material during classroom activities?

Good. Though you find others reading and continuing their own discussions within groups. It is not easy to say what will they do as the activities were directed by the interest and the language used in the LSM. When it is Xhosa everyone reads from the chart. In the sides that are written in isiXhosa they do not only do picture discuss but read words.

**F. Assessment:**

How does the educator use the learner's prior knowledge?

Teacher asked the learners where they get water at home. Learners mentioned sources of water like, river, spring, dam and iplaho.

What are the indications of assessment tools and methods?

Learners drew sources of water.  
Learners coloured and labelled sources of water.

**APPENDIX 7 B: OBSERVATION TOOL: Teacher 2**

**THE USE OF LEARNING SUPPORT MATERIALS TO MEDIATE ENVIRONMENTAL LEARNING IN THE CLASSROOM.**

**A LESSON OBSERVATION TOOL:**

**A. Researcher's details:**

Name: *N. G. Mearns*  
Designation: *Principal*  
Date of observation: *28 April 2005*

**B. School and educator information**

School name: *Zanoklanga Junior Secondary School*  
Educators name: *Sihlala Mdlungu*  
Grade observed: *Grade 3*  
Learning area observed: *Life Orientation*  
Geographic location of the school: *Vungo location, Mbashe*  
What resources are available for use in this class? *charts developed by the DWAF.*

**C. The learning environment:**

How is the general appearance and arrangement of the classroom?

*Group work. Groups well organised and working as a team. Presentations done as a team member even if not chosen by the group.*

How are classroom resources arranged and sorted?

*Each group had a chart.*

Are learning support materials readily available for use by learners and the teacher?

*Yes. Charts were in the classroom before the lesson started.*

#### D. Methodology:

How does the educator manage the classroom teaching time?

Not easy as the learners asked to make <sup>all</sup> rope where as the teacher had thought that some will make ropes, others make papers and others use bottles and tins.

Does the teacher state learning outcomes at the beginning of the lesson?

Yes, but the learners diverted because of their own interest of wanting to make ropes and wanted to play with them where as the teacher wanted them to make mats with the ropes.

How are the principles of outcomes based education emphasized?

Learners negotiated learning, learners were taking a lead.

How are the activities relevant to the learning outcomes?

Learners were recycling and this was the way of achieving the assessment standards 1 & 3 for this grade.

How are the activities relevant and applicable to the real world and how are they extended beyond the learner's immediate context?

Yes, the recycling of paper. Making paper though it was not done that day. News papers written on recycled paper.

How does the teacher apply her role to support environmental learning in class?

Ask questions and ~~and~~ allow picture discussion on the activities in the chart.

Encouraging comments on how and why is it necessary that learners recycle or reuse these articles.

### E. Use of learning support material (LSM)

What evidence shows selection of LSM by the teacher?

L.TSM was chosen by teachers during the planning session

How are the learner support material adapted?

Discussing the activities in the chart as though they are in their community as most activities happen. Learners ask questions as to why we do not have a garden.

How are the LSM used?

Reading from the L.TSM, discussing the activities in the L.TSM.

How do learners engage with the learning support material during classroom activities?

The learners were using what was present in their classroom. There were rubbish boxes where learners kept the rubbish they were going to use. The learners refused to make organic matter with papers as they said they have a lot of organic matter at home. They said they would bring kraal manure from their homes.

**F. Assessment:-**

How does the educator use the learner's prior knowledge?

Asked questions on dangers of broken bottles, tins, nails and plastics

What are the indications of assessment tools and methods?

Learners made ropes and later the teacher showed me the 10 sentences learners have wrote on recycling.

## **APPENDICES 8 a-d: INTERVIEWS WITH TEACHERS**

### **APPENDIX 8 a**

A TEACHER 1 GRADE 2, INTERVIEW AFTER THE LESSON PLANNING.

#### **1. How do you view group / team planning session we have done compared to the individual planning?**

Teachers discussed the focus of the EE in the Life Orientation learning outcome and it was clear that you can teach life orientation in language activities. Intergration of learning areas becomes more easy in the use of LTSM as the LTSM is also integrated. I am so keen to go to the implementation part of the lesson to go and see what will be the difference. It also promotes good social relationships.

#### **2. Has the planning helped you to use more LTSM?**

Yes more because I didn't have the idea that I could use the material from other classes as long as that fit for the LO and the assessment standards. Also the case of language where you will find that come other material is written in English the work could be done in Xhosa

This gave chance to even look for more materiel that can EE activities.

#### **3. Were you using the LTSM when planning before?**

No, never as we were only concentrating on the policy documents. In so much that I felt waiting for the material was actually delaying process of planning. It was during the planning process that I saw the use of the LTSM when planning.

#### **4. How is planning going to help the problem of the LTSM not staying at school?**

Know that the chart I am going to use I must bring it early more commitment to the presentation of the lesson. Preparedness helps you to know what you will need in the lesson you will teach and as a result you will arrange you requirements on time.

#### **5. Was the planning only for one learning area?**

No for reading, discussion, story telling, picture reading or discussion which all fall in the learning area for language and the discussions were more of the EE.

#### **6. Does the LTSM solve or address the environmental issues?**

Yes in so much that I wish we had a garden as a resource where most of the things will be practically done like when we are picking up papers put papers in compost heaps and take bottles, plastics, and tins aside as they do not decompose. The learners would practically see the effects of compost.

#### **7. Are there any lessons that can be developed or can help you develop more lessons?**

Yes each picture can be extended to develop more activities through questions that are directed to the focus area of that lesson and the material adapted to accommodate your desired learning outcome and the assessment standard.

**8. Does the LTSM encourage more discussions by teachers during Planning session?**

Yes many heads are better than one. Even the case of translation of the English version to Xhosa version came from the teachers who said you can rather translate the contents of the LTSM than not using it because it is written in a language that is not the instructional language of the foundation phase.

**APPENDIX 8 B**

**INTERVIEW AFTER PLANNING SESSION TEACHER 2**

**1. How do you view the group/team planning session we have done compared to the individual planning?**

The way we were using the LTSM compared to the previous planning sessions was wonderfully working as every suggestion was discussed and more advices about each suggestion received proper attention on how it could be practiced with the curriculum policy and the environmental focus in mind. More commitment in the part of teacher may be because of the presence of the principal. Many learning achieves are development in group work. More suggestion from other people and more information an how to use the LTSM more support material to be is supported by other teachers.

**2. Has the planning helped you to use more material?**

Not more material but more effectively as I know before hand that I need to bring this for the lesson and I no how I can use the material or what I can expect from the learners when they are using the materials though I must admit I am looking forward at the actual implementation of the lessons we have planned. Planning using the suggested LTSM will help learners to all participate during the lesson as I think they will be curious to know what is written in the LTSM. Planning material help me during the planning to know which are the activities I can do with the learners.

**3. Were you using the LTSM material when planning the lesson before?**

No I though I didn't have enough as I didn't know that it was wise to look for more materials. I was only concentrating on charts. I didn't know that learners can use the charts. I thought charts can only be used by teachers. I think the idea that we should always look at how the learners can use the LTSM guided me to be more learner centered.

**4. How is the planning going to help the problem of the LTSM not staying at school?**

Collect it and bring the material before or when coming to school to avoid the waste of time. It is going to help the teacher be prepared before the lesson. It will also save from the embarrassment of having more than one teacher to use the materials at the same time.

**5. Was the planning only for only one learning area?**

No. Many learning areas were integrated but we focused on the language as the LTSM was used in many learning areas LOS.

**6. Does the LTSM solve or address the environment issues?**

Yes, e.g. Vegetables for healthy foods. Charts for vegetables. The charts on sources of water. Books on the ways in which water is polluted in rural areas. All the materials that we have used is addressing the environmental issues in our area.

**7 Are there any lessons that can be developed or can help you develop more lessons?**

Yes e.g which vegetables can be planted in winter .Uses of water to plants which will lead to the importance of water.

**8. Does the LTSM encourage more discussions for teachers during planning?**

Help team work and sharing of ideas and help to build one another and also help to develop the spirit of working to get and even say that I didn't know this develop sound relationships amongst teachers?

**APPENDIX 8 C**

INTERVIEW AFTER LESSON 1 GRADE 2

**1. DID YOU ENJOY THE LESSON?**

Mm – yes but more uncontrollable as every one wanted to have an access to the material reading loudly, reporting, coming to ask how to pronounce some words and some meaning and also others want to estimate the meanings such as shoe 'isihlangu'. The most important part of the lesson is that learners were actively involved.

**2. DID THE LEARNERS ENJOY THE USE OF LTSM?** More than enjoying infect can even redirect your focus for the lesson because of the discussions which some were not relevant to the Learning Outcomes for the day. O-O you want me to explain further? Yes just an example. When the learners were telling a story about the people who ate a pig that had just died, the story was education but they were no supposed to have discussed it then.

**3. DID THE USE OF LTSM DEVELOP THE FOCUSED ASSESSMENT STANDARD?** Yes and many other assessment standards as they did a lot of discussion, reading, interpretation of English words and also the interpretation of the pictures in the LTSM.

**4. WHAT HAVE YOU LEARNT FROM THE USE OF LTSM DURING THE LESSON?** Learners participate easily, activity with out being aware that they are learning. The learners were appreciating the bright colours.

**5. DID YOU ACHIEVE WHAT YOU PLANNED TO ACHIEVE DURING THE ACTIVITIES IN THE CLASSROOM?**

Yes but some of the things the learners drove me to do like discussions made me to take more time and the use of different LTSM is extending the discussions though more is learnt in the process.

6. WERE ALL THE ACTIVITIES DEVELOPED FROM THE LTSM?

Yes, all though some were adapted and developed through the LTSM. The learners' could not all get the LTSM and yet some were quit relevant like the DWAF LTSM.

7. IS IT ADVANTAGEOUS TO HAVE LTSM DURING THE LESSON? Yes as it is helping to developed and integrated work.

8. WHAT ADVANTAGE DID IT MAKE TO CONSIDER THE LTSM DURING THE PLANNING OR TO JUSTLOOK FOR THE ACTIVITIES WHEN YOU WANT TO DO THEM?

Learners develop more skills reading presentation and share of ideas.

9. DID YOU HAVE TO RESCHEDULE YOU TIME TABLE?

Did not change my time table and more so we had to make it normal so that if there is any change for the best should happen during and with in normal working procedures and row time .

10. HOW DID YOU FEEL WHEN YOU HADTO TEACH WITH SOMEONEIN YOUR CLASS?

Not very happy as you know that I am a say person so this made me to concentrate late to my lesson .The shy ones have enough chance to look read and actually discuss the material even after the teacher left . Encouraging other learners to actually practice was in the chart or said in the chart. So better environmental practices and at a later stage built the environmental issues in our rural areas .

## **APPENDIX 8 D**

### **GRADE 3 TEACHER 2**

#### **INTERVIEW AFTER THE LESSON**

1. DID YOU ENJOY THE LESSON ?

She enjoyed the lesson. Learners participating and reading from the chart even before any instruction was given to the learners, the learners started reading, discussing what they saw comparing with what they knew, immediately when they were given the chart.

2. DID THE LEARNERS ENJOY THE USE OF LEARNING SUPPORTING MATERIAL ?

Very well and lots of discussions were going on even amongst the learners them selves as a result I had to discourage the noise because though they were discussing what was about the lesson they were making it difficult to manage the class as most of the activities were done by the learners .

3 .DID THE USE OF LTSM DEVELOP THE FOCUSED ASSESSMENT STANDARDS ?

Yes learning outcome 1 assessment standard no2 this requires learners to participate in the recycling activity. Which they enjoyed doing it in many different types of activities Making ropes though they to do the same activity at the same time as you have seen because the say they all want to skipping ropes and when others are making papers they will not have their own papers to write.

4. WHAT HAVE YOU LEARNT FROM THE USE OF LTSM DURING THE LESSON ?

LSM are important as they add on the information the teacher had about the lesson . They developed more interest of participating to the learners. Everyone is interested to see what is happening in the charts and tell others and they start that discussion.

5. DID YOU ACHIEVE WHAT YOU PLANNED TO ACHIEVE DURING THE ACTIVITIES IN THE CLASSROOM ?

Yes and many activities were developed from this learning activities through their discussion. How can the soil be fertilized. What are those articles that do not decompose on the soil.

6. WERE ALL THE ACTIVITIES DEVELOPED FROM THE LTSM?

Yes the LTSM helped to give a clue on the learning activities that had to be done during the lesson. I can now see the difference since I have started to use the LTSM in almost all the lessons where it is relevant and I can even adapt it to the needs of the lesson. I sometimes use the LTSM developed during the lesson in another lesson as was decide during the planning session.

7. IS IT ADVANTAGEOUS TO HAVE THE LSM DURING THE LESSON?

Yes the learners are able to understand easily and even giving on the activities that can be done. The level of participation of learners is high when the LTSM is used than when it was not used.

8. WHAT ADVANTAGE DID IT MAKE TO CONSIDER THE LSM DURING THE PLANNING OR TO JUST LOOK FOR THE ACTIVITIES WHEN YOU WANT TO DO THEM IN CLASSROOM?

I knew which activities I had to do before and also to bring the LTSM as it is not staying at school. The LTSM helps to direct the teacher and the learners on the prior knowledge of the learners and what can be the next focus area.

9. DID YOU HAVE TO RESCHEDULE YOUR TIME TABLE?

No, this did not negatively affect the time table as the LTSM helped with the integration of learning areas. The learners did enough reading and discussions during the Life Skills lesson. When the learners are allowed to discuss more learning occurs but also more time is used.

10. HOW DID YOU FEEL WHEN YOU HAD TO TEACH WITH SOMEONE IN YOUR CLASS?

I was not affected instead I wanted someone who would help to observe and comment on any lesson so that I can be able to improve any mistakes on the lesson as you did when I was telling the learners to be quite and when they were discussing something that was not in the topic for the day.

## APPENDIX 9: FOCUS GROUP INTERVIEWS

### **1. I WANT YOU TO COMMENT ON THE PLANNING SESSION AS INFLUENCING THE USE OF LTSM IN CLASS .**

"Good more especially if you can always be there when planning Mela said. Encouraging us to look at the EE at a broader aspect as all teachers are aware of the effect of papers and plastics lying about in a bad state so that the change will be affecting all the teachers that were present during the lesson plan if you have notice in all the classes there are boxes labeled for papers and plastics, so we are all committed in the keeping of the school yard clean now. This is happening in the whole school not only in the foundation phase.

### **2 . WHAT IS YOUR COMMENT ON THE USE OF LTSM IN FOSTERING EE ACTIVITIES IN CLASSROOM ?**

Giving is ideas on which activities in can we focus on for the AS . EE is or can be done in all learning areas agree with that . Drawing Mathematics , English and Xhosa some are done even after the lesson as learners are left to discuss what was done in class

### **3 . WERE THE LESSONS WELL ORGANIZED THROUGH THE USE OF LTSM**

Through not quite exact during the session but during the ttime you ask questions [assessment you notice the change which learners see other learners watering with a watering can they ask for their own gardens . The ideas that there is no water is one of the things that warried the learners . It is sort off .

### **4 . WHAT IS THE IMPACT OF USING THE LTSM AT SCHOOL ?**

With enough material learners can develop a culture sharing with their parents at their homes contributing .

### **5. WHAT CAN WE DO TO DEVELOP MORE ACTIVE USE OF LTSM FOR TEACHERS AND LEARNERS IN OUR SCHOOL CLASSROOMS.**

-Work together as a a team in a school

- Get more material

-Get trained on the materials given

Make more plans on how to use the materials through the learners take you away from that .

Do you mean work ship

No just as we did with a person more know ledgeable in curricium issues , sharing idea in a more form all way , the culture of being afraid to ask .

**APPENDIX 10: ALL LTSM USED DURING THE LESSONS**

**CONTROLLING DISEASE WITH GOOD SANITATION**

**GOOD SANITATION** is about protecting our water sources and keeping our water clean and safe.

We must keep our water clean and covered so that it is safe to drink. We must use a clean ladle or jug to scoop out water for drinking.

The water from washing dishes or clothes, or from washing our bodies, can be used for our vegetable gardens.

We must wash food before we prepare it. We must wash our hands before we prepare food and before we eat.

**GOOD SANITATION** is about getting our waste matter in a safe way, so that it does not cause disease and make our environment unhealthy.

We must keep our toilets clean and free from flies, which spread disease.

We must get rid of our rubbish in a way that is safe and healthy. We must not leave it lying around.

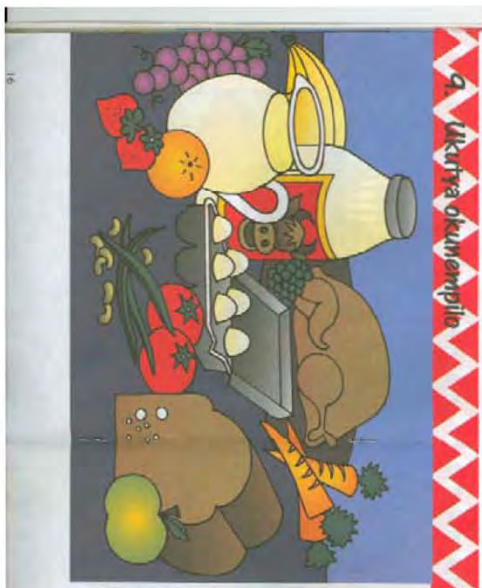
We must wash our hands after we have been to the toilet.

**GOOD SANITATION** is about having clean toilets.

We must control disease and keep our environment safe.

Do this.

to keep our community healthy.



The children run and jump in the river. They splash and play in the water. All the children like to swim. "The river is cool," says Tim. "The water helps to make us cool."

# ables



mushrooms



red  
cabba



cumber



peas



APPENDIX 11 A-F: EXAMPLES OF LEARNERS WORK

APPENDIX 11A Learners work done during Lesson 1, Teacher 1



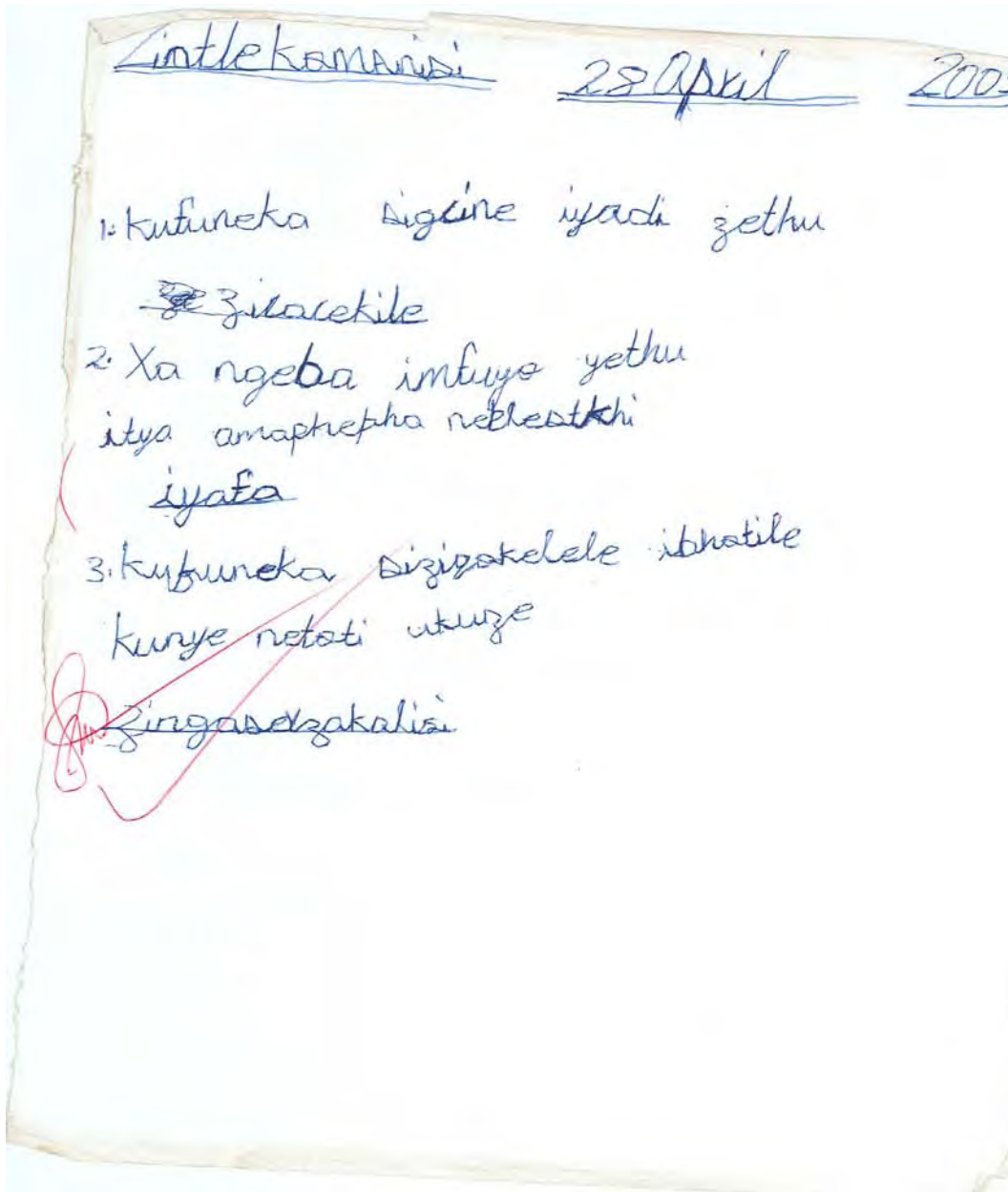
APPENDIX 11 B, Learners work done during Lesson 2, Teacher 1



APPENDIX 11 C: Learners work done during Lesson 3, Teacher 1



APPENDIX 11D: Learners work done during Lesson 1, Teacher 2



APPENDIX 11 E: Learners work done during Lesson 2, Teacher 2



**APPENDIX 11 F: Learners work done during Lesson 3, Teacher 2**



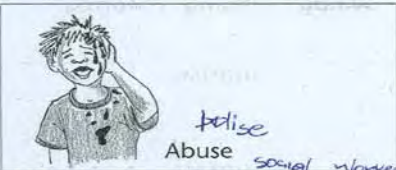


*Mzuntankosi Sule*

Worksheet 2      **Emergency numbers**

*14 June 2005*

Who should you call in an emergency? Under each picture, fill in the number and the name of the person you would call. Find the numbers in a telephone directory.

Doctor    Ambulance    Hospital    Fire brigade    Police    Childline

 <p><i>Police</i></p> <p>Crime</p> <p><i>10111</i></p>	 <p>Fire</p> <p><i>10177</i></p>
 <p><i>Police</i></p> <p>Abuse <i>social worker</i></p>	 <p><i>10177</i></p> <p>Injury</p>
 <p>Illness</p> <p><i>Ambulance</i></p>	

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**14**

## APPENDIX 12 A & B: ANALYTIC MEMOS

### ANALYTIC MEMO

NUMBER	INFORMATION	DATA SOURCE
1.	LESSON [PLANNING TEACHER 1	
1.1	<p>WHAT WAS DISCUSSED DURING THE LESSON</p> <p>Improve the standard of learning-Look for relevant books. Bring LTSM when doing planning-The educator to go through the material. Need the material they are to use- Discuss the activities to respond to change. Leading and discussion of that more activities were developed. Wished to have garden work for practical 3. The relevance of the Learning Outcome to the materials. Teachers advised one another to actually translate. Development of lessons according to the LTSM-Development of integrated work changing affecting all the teachers that EE was now integrated in all the learning areas. The cholera charts and TB were discussed during The purification of water. Guidance was given during the Relevance of the chart. Water pollution. Material match the Learning Outcome. Water Purification discussed-Learners activities draw insufficient LTSM discussed.</p>	<p>L.P. 1</p> <p>L.P. 1</p> <p>L.P. 2</p> <p>INT. 1</p> <p>INT. 2</p> <p>FGIN</p> <p>OBS 1</p> <p>LOT. 1</p> <p>OBS. 2</p> <p>OBS. 2</p>
1.2.	<p>How LTSM in the planning was used.</p> <p>Plan according to the LTSM- Guide on the activities done in class. Working with books and charts- Discuss sources of water LO1 AS1. Discuss clustering of AS 1, AS 2 and AS 3, Diarrhea, TB, Cholera, Bilhazia. Discuss road signs and activities. Discuss the relevance of curriculum to EE – To refer when planning activities use of concrete LTSM. The assessment to be done in groups. All the materials and activities discussed came from the LTSM. Discuss what activities can be done- Teachers discuss with learners disadvantages of swimming in the river. Using the materials as reference to materials.</p>	<p>L.P. 1</p> <p>L.P. 2</p> <p>OBS 1</p>
1.3.	<p>WHAT LESSONS DID TEACHERS PLAN</p> <p>Learners to do recycling- sources of water- washing in the river. Learners draw and colour-can cut and paste pictures. Draw from the chart different types off vegetables. Use of concrete materials- assessment of learners. Look for materials that had EE activities. Which activities can be translated and how can they be translated. Sources of water from the chart- bad habits swimming in the river.</p>	<p>L.P. 1</p> <p>L.P. 2</p> <p>L.P. 2</p> <p>INT. 1</p>
1.4.	<p>KNOWLEDGE ABOUT THE LEARNING AREA AND CURRICULUM</p> <p>Little knowledge about the learning area- Do recycling (more) knowledge about LO 1 Health Promotion- Teachers discussing sources of water-Teacher guides i.e. knowledge of curriculum Presentation. Respond to challenges of own life. To treat own body well. Teachers discuss the focus of EE. Intergration of LO's and AS's. Learners will develop more skills in the reading. Knowledge of curriculum presentations. Encouraging EE in all aspects of life and in the whole school. Commitment</p>	<p>L.P. 1</p> <p>L.P. 2</p> <p>INT. 1</p> <p>INT. 2</p> <p>FG</p>

	of teachers in EE activities. Knowledge of how AIDS is transmitted.	FG
2.	<p>USING THE LTSM LESSON 1 WHAT MATERIALS DID THE TEACHERS USED.</p> <p>Material used for road signs books, charts, materials collected before, text books, charts, pencils and crayons. Look for more material, bring material to be used. Extend from the available material. Translation of the material into a usable language.</p>	LP. 1 INT
2.2	<p>WHAT ACTIVITIES TOOK PLACE</p> <p>Name , draw cut and paste. Reading, Acting robots. Dramatize the colours Describes .Teachers discussed the focus of EE .Intergration PIEKING UP papers the plastic. Reading loudly, Grading, Some holding jik ,Soil water ,Discussion learners investigate from books and charts, Discuss the purification of water . Ask questions and learners book from the book and answer</p>	
2.3	<p>WHAT THE LEARNERS WERE DOING HOW THEY INTERACTED WITH THE LT S M.</p> <p>Fold paper discuss communicable diseases , learners discuss the picture, paper and plastic recycling washing hand, learners will discuss different types of vegetables .Discussing on the picture , discussing from the picture clean water . Discussing about causes of impure water, causes and results of dirty water, discussing in their own in groups. Reading from the books, discuss what they see and what usually happens, discuss what is in the books both pictures and written information. Making own decisions about what they see. Reading discuss how can avoid picture</p>	LPN3  2PL  OBD1  OBST 001
2.4	<p>EVIDENCE OF LEARNING. KNOWLEDGE, SKILLS AND ATTITUDE</p> <p>Knowledge on how to purify water. Causes of impure water. Contextualizing their own learning (water to be sieved) knowledge of the bad effect of swimming. Presentation and reading from the chart. Change noticed (attitude on their daily practices). Learners mentioned that they need to bring water for washing hands. Good to work as a team. Sharing information with parents. Label and draw sources of water.</p>	OBS 1  INT. 1 FOCUS G
3. 3.1.	<p>TEACHER REFLECTION REFLECTION PREPARATION OF LESSON</p> <p>Predicts from the cover of a book. The teachers decided during the lesson plan to translate the English version to Xhosa version. Gave chance to look for more material that had EE or Life Orientation.</p>	INT 1
3.2	<p>REFLECTION ON WORKING TOGETHER</p> <p>Teacher pleased as she said many reads are better than one. Discussed the outcomes that fit on the LTSM. Teacher decided to use their own context in comparison with the LTSM.</p>	LP 1

3.3	<p><b>REFLECTION ON LEARNING</b></p> <p>Teachers mention intergration on the LTSM. Teachers reflect and discuss diseases cause by unclean water. Answer questions referring on the LTSM. Learners mention sources of water. Looking at the books and chart they mention what they see on things that makes the water dirty. Learners mention that water from the windmills is clean and salty. (their own windmill). Learners know that dirty water needs to be sieved. Learn what caused water to be impure. Learn how will they keep water clean. Learn good and bad health habits. Discuss and share their own feeling to develop what is right. Discuss, ask questions, making assumptions on the LTSM. Learners free to share ideas. The outcome was achieved. Learners busy investigating from books and charts. All the assessment standards that were clustered were achieved. Discussed about the diseases in their own world. Materials were considering L.O.1 and almost all the Assessment Standards for Life Orientation (Here is our windmill). Interest directing all the activities done. Learners draw the sources of water after they have mentioned and discussed them. Learners picked up papers, reading and discussing activities were extended and more activities were done.</p>	<p>LPN 1 LP 1 OBS 1</p> <p>OBS TOOL</p> <p>OBS TOOL</p> <p>INT 1 LW 1</p>
3.4	<p><b>REFLECTIONS ON AVAILABILITY OF MATERIALS AND CURRICULUM RELEVANCE</b></p> <p>Lack of support materials, failure of the State to supply LTSM lack of infrastructure, poor training or lack of orientation on the LTSM. LTSM should be brought in the planning session. LTSM available is not enough for all the learners. Teachers not aware that DWAF, Health is supplying such good material. Life Skills text book also includes Assessment Standard 4 of LO 1 of Life Orientation. Cut and Paste, material collected long before. Teacher mentioned the relevance of the material to the Learning Outcome. Material from DWAF enough charts for 5 groups. Contextually relevant to the curriculum. Books relevant to the curriculum. TB, cholera charts available and relevant to the curriculum. Books show water returning to the river after washing with it. Windmill from their own environment. Methods of purifying water shown from the chart. Pointing from the chart. 'Teacher Nosipho is making the water dirty'. LO 1 of Life Orientation or Language as reading and discussion. Intergration easy LTSM for other Grades could be relevant. Pictures and also the content (reading) was more relevant. More activities developed to achieve more Assessment standards. Charts and books relevant to the Life Orientation. Questions asked and learners answer looking at the LTSM. It is easy to infuse EE in all learning areas more especially in Languages. Drawing Mathematics. During the time you ask questions. Get training on the LTSM.</p>	<p>LPN 1 LP 1</p> <p>OBS 1</p> <p>INT 1</p> <p>OBS TOOL</p> <p>FO GRO</p>
3.5	<p><b>REFLECTIONS ON THE PLANNING PROCESS</b></p> <p>Educator should go through the material when planning more activities can be done like folding paper. Planning has helped us to use LBTM when planning. More activities were developed. This gave chance to even look</p>	<p>LPN 1</p> <p>INT 1</p>

	for more material. The teacher thought that planning could be time wasting. All teachers participated in the choice of relevant materials.	
3.6	<p>REFLECTIONS ON THE LANGUAGE USED ON THE LTSM</p> <p>Green (English) Red English on the books but had to teacher corrected learners when they said emthombeni instead of Emthonjeni. Translation of English to Xhosa. Learners had more interest on the material written in their home language 'Turn to the Xhosa side'</p>	<p>LPN 1</p> <p>LP 1</p>
2.1	<p>WHAT MATERIALS THE TEACHER USED</p> <p>Teachers looked for relevant books. Used Life Skills text book, using charts. Books delivered by the Department. Real objects e.g. bucket of water.</p>	
2.2	<p>WHAT ACTIVITIES TOOK PLACE</p> <p>Name, cut and paste, draw washing of hands. Dramatization of robots. Reading. Reading, purifying water, measurement-liquids discussion. Reading loudly, reporting to the teacher. Looked for information and discussing from the book. Questions that helped to notice more. Boxes labeled for collection and grading of rubbish.</p>	<p>LPN 1</p> <p>LP 1</p> <p>OBS 2</p> <p>OBS TOOL</p> <p>FOCUS GR</p>
2.3	<p>WHAT THE LEARNERS WERE DOING AND HOW THEY ARE INTERACTING WITH THE LTSM</p> <p>Learners did experiment that was in the chart. Learners were doing it even telling the teacher. Reading from the chart. Doing what was in the chart. Neatly done i.e. thoroughly measure. Ladies good at measurement. Learners draw the water purification utensils. Use charts to compare information what they are doing. Learners enjoyed use of LTSM, can even redirect the lesson focus. Discussions took lead through not develop more activities like discussions.</p>	<p>OBS 2</p> <p>INT 2</p>
2.4	<p>EVIDENCE OF LEARNING KNOWLEDGE SKILLS AND ATTITUDES</p> <p>'Water clean' water purification. Tell what is written. Retelling the story. Know when discussing and relating it with the media. Reading, researching. Learners draw and label sources of water. Reading, sharing, reporting presenting. Answer when questioning- sharing knowledge gained team work.</p>	<p>OBS 2</p> <p>OBS TOOL</p> <p>INT 2</p> <p>FG</p>

3. 3.1	<p><b>REFLECTIONS ON THE LTSM</b>  <b>REFLECTION ON PREPARATION OF A LESSON</b>          Planning gave chance to look for more EE books. Translation of books information suggested during planning. Teachers referred to the chart and on the books. Help to prepare LTSM. Analyses Assessment 2          Lesson was discussed during planning (jik) Using the chart to refer.</p>	<p>INT 1          OBS 1          LP          OBS 2</p>
3.2	<p><b>REFLECTIONS ON WORKING TOGETHER</b>          Decided on the lesson that will help reach the outcome. Working together to plan work to be done. Good to work together. Sharing ideas.</p>	
3.3	<p><b>REFLECTIONS ON THE LEARNING</b>          Educator should go through the material. Use the material to enforster EE. Teacher knows the water borne diseases on the chart. Learners were purifying water. Answered questions. Know how to measure effects of correct measurement. Learn more methods of purifying water. Learners draw. More activities were developed during planning. Reading discussing health issues. Picking up papers, pictures extended to more exercises. Reading discussion. Easy participation, actively. Materials gave guide on which assessment standards they can focus on. Learners and teachers noted the effects of having no water. Learners discussed the pictures even after the teacher left encourage learners to practice what was in the chart. Freedom of learners in sharing. Avoid the activities that pollute water. Clustered assessment standards were achieved. Teachers helped learners to answer questions. Picture reading learners drew.</p>	
3.4	<p><b>REFLECTIONS ON THE AVAILABILITY OF MATERIALS AND RELEVANCE TO CURRICULUM</b>          Reading about water from their book purification, cut and paste pictures. Relevant to the outcomes, not enough book, poor infrastructure not enough books. Teachers must bring the LTSM. Materials supplied by DWAF materials written according to the Assessment standards and Learning outcomes. Learners were going up and down the classroom using the chart told the learners how to use. Intergration and clustering becomes easy. Each picture could be extended. Relevant to many LA's. Learners refer to the LSM. Teachers need to be trained on the material given.</p>	
3.5	<p><b>REFLECTIONS ON THE PLANNING PROCESS</b>          Educator should go through the material. Improvise to reach the intended outcome. More activities were developed look for more activities. Plan according to available LTSM. Planning together is good if you can always available. Commitment on keeping the yard clean. Plan on how to use the materials.</p>	

3.6	<b>REFLECTIONS ON LANGUAGE USED ON THE LTSM</b> Ntsholongwane LO and Language English and to be done in Xhosa Translate English to Xhosa Reading languages. Keen because of Language Let's read Xhosa	
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**APPENDIX 12 B**

ANALYTIC MEMO

TEACHER 2

USING THE LTSM

WHAT MATERIALS DID THE TEACHERS USED CHARTS

LESSON	COMMENT OR RESPONSE	
1.	<b>WHAT ACTIVITIES TOOK PLACE</b>  Reading, reporting on discussion, discussion asking questions, contextualizing to their situations. Discussions amongst the learners, recycling activity.	OBS 1 INT 1
	<b>WHAT THE LEARNERS WERE DOING AND HOW THEY INTERACTED WITH THE LTSM</b>  LTSM gave a clue to the learning activities. Learners used charts to read. Questions were asked, more concentrated. Picture discussions. Read and report. Everyone encouraged to participate as they wanted to touch the material, comments on what they see. Practice what is in the materials (washing hands). Free communication as they were doing the work. Guiding as learners start doing.  <b>EVIDENCE OF LEARNING KNOWLEDGE SKILLS AND ATTITUDE</b>  Answering questions, comments when reading, reporting. Reminding the teacher about washing hands. Making own ropes, comments when making ropes. Different ways of making ropes. Can discuss and support their reasoning. Sharing information with parents. Can contextualize the information. Discussions.  <b>TEACHER REFLECTION</b> 1. REFLECTION ON PREPARATION  Discussion on the activities discussed on Preparation. Teachers talked about learners discussing when they have not been told to.	INT 1 OBS 1  INT 1  OBS 1  INT 1

2. Teachers positive about working together. Learners working together share positive ideas not a lot of group work done through sited in groups. Interaction. (Teacher pupils)

3. REFLECTIONS ON WORKING TOGETHER

Improved participation of learners. Fun is learning, discussions. Doing what was in the picture, many activities started by the learners, easy understanding. Learning within time frames. Working together with the teacher would help the teacher to improve. All participating. Reading, reporting. Wanted to use the collected rubbish. Free to talk to the teacher about their feeling. Make suggestion on what they can do. Happy to do what was supposed to be done. Do in what ever way as long as they are able to. Learners remind the teacher about washing hands. Passing the information to parents.

USING THE LTSM.